Xcel Energy®

2017

Status Report & Associated Compliance Filings

Minnesota Electric and Natural Gas
Conservation Improvement Program

Docket No. E,G002/CIP-16-115

414 Nicollet Mall
Minneapolis, MN 55401

March 30, 2018

—Via Electronic Filing—

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

RE: 2017 Status Report & Associated Compliance Filings
Minnesota Electric and Natural Gas Conservation Improvement Program
Docket No. E,G002/CIP-16-115.06

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 2017 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 2017 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-16-115.06. 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 Aaron Tinjum at (612) 342-8967 or aaron.j.tinjum@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-16-115.06 & CIP Special Service List

Dated this 30th day of March 2018.

/s/

_____

Jim Erickson
Regulatory Administrator

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tom	Balster	tombalster@alliantenergy.com	Interstate Power & Light Company	PO Box 351 200 1st St SE Cedar Rapids, IA 524060351	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Lisa	Beckner	lbeckner@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
William	Black	bblack@mmua.org	MMUA	Suite 400 3025 Harbor Lane North Plymouth, MN 554475142	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_16-115_G002,E002.CIP-16-115
Gary	Connett	gconnett@grenergy.com	Great River Energy	12300 Elm Creek Blvd N Maple Grove, MN 553694718	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Carl	Cronin	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Jill	Curran	jcurran@mnchamber.com	Minnesota Waste Wise	400 Robert Street North Suite 1500 St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115

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Stephan	Gunn	sgunn@appliedenergygroup.com	Applied Energy Group	1941 Pike Ln De Pere, WI 54115	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
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Tina	Koecher	tkoecher@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
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Martin	Lepak	Martin.Lepak@aeoa.org	Arrowhead Economic Opportunity	702 S 3rd Ave Virginia, MN 55792	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_16-115_G002,E002.CIP-16-115

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tom	Balster	tombalster@alliantenergy.com	Interstate Power & Light Company	PO Box 351 200 1st St SE Cedar Rapids, IA 524060351	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lisa	Beckner	lbeckner@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
William	Black	bblack@mmua.org	MMUA	Suite 400 3025 Harbor Lane North Plymouth, MN 554475142	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Gary	Connett	gconnett@grenergy.com	Great River Energy	12300 Elm Creek Blvd N Maple Grove, MN 553694718	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Carl	Cronin	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Jill	Curran	jcurran@mnchamber.com	Minnesota Waste Wise	400 Robert Street North Suite 1500 St. Paul, Minnesota 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Leigh	Currie	lcurrie@mncenter.org	Minnesota Center for Environmental Advocacy	26 E. Exchange St., Suite 206 St. Paul, Minnesota 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Steve	Downer	sdowner@mmua.org	MMUA	3025 Harbor Ln N Ste 400 Plymouth, MN 554475142	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Charles	Drayton	charles.drayton@enbridge.com	Enbridge Energy Company, Inc.	7701 France Ave S Ste 600 Edina, MN 55435	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jim	Erchul	jerchul@dbnhs.org	Daytons Bluff Neighborhood Housing Sv.	823 E 7th St St. Paul, MN 55106	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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Patty	Hanson	phanson@rpu.org	Rochester Public Utilities	4000 E River Rd NE Rochester, MN 55906	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Norm	Harold	N/A	NKS Consulting	5591 E 180th St Prior Lake, MN 55372	Paper Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Joel W.	Kanvik	joel.kanvik@enbridge.com	Enbridge Energy LLC	4628 Mike Colalillo Dr Duluth, MN 55807	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Scot	McClure	scotmcclure@alliantenergy.com	Interstate Power And Light Company	4902 N Biltmore Ln PO Box 77007 Madison, WI 537071007	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
John	McWilliams	jmm@dairynet.com	Dairyland Power Cooperative	3200 East Ave SPO Box 817 La Crosse, WI 54601-7227	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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Northern States Power Company,
a Minnesota corporation
2017 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 2017. This report addresses:

- Overall CIP achievements including participation, expenditures, energy conserved, demand reduced, and carbon dioxide (CO_2) emissions avoided by each segment and program;
- CIP Trackers, including 2017 expenditures and cost recovery by month;
- Calculation of the CIP Adjustment Factors for the period from October 2018 through September 2019, including estimated expenditures, cost recovery, and financial incentives;
- Calculation of the 2017 CIP Financial Incentives;
- Benefit-cost analyses by program, as well as explanations of deviations from goal and changes during 2017; 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 2017, the electric portfolio met and surpassed the state's 1.5% energy savings target for the sixth year in a row, achieving more than 658 GWh of electric savings or 2.27% of sales. While it was largely a successful performance, the Company does not anticipate the ability to fully replicate the same level of achievement beyond the short term. In recent years, the DSM landscape in Minnesota has significantly changed for customers and utilities as the avoided costs and amount of savings attributable to utility DSM programs have continued to decline. Furthermore, as this report underscores, much of the 2017 electric portfolio's achievement is attributable to home and business LED lighting projects, which will likely level off in the future as customers require fewer lamp replacements each year, due to the longer operating life of LEDs.

In the electric Business Segment, Lighting Efficiency accounted for more than 31% of the business electric portfolio achievement in 2017. The Business New Construction, Commercial Efficiency, and Process Efficiency programs also made significant contributions towards the savings goal. Altogether, those four programs contributed more than 270 GWh of electric savings, accounting for about 70% of savings in the business electric portfolio.

Lighting played an even larger role in the Residential Segment's electric savings achievement. The Home Lighting program alone accounted for nearly 70% of the residential electric portfolio achievement. Other top contributors included the Energy Feedback, Residential Heating, and Residential Cooling programs. Collectively, those four programs achieved more than 176 GWh, which translates to 92% of the residential portfolio's total electric achievement.

The natural gas portfolio also surpassed its filed energy savings goal in 2017. The portfolio achieved 799,597 Dth of total natural gas savings, which is 111% of the approved regulatory goal or 1.11% of sales. In the Business Segment, several programs that offer both electric and natural gas savings

opportunities exceeded their natural gas savings goals, including the Business New Construction, Turn Key Services, and Efficiency Controls programs. Residential Segment gas programs continue to perform well despite increasingly higher building codes and standards. The overall success of the portfolio can be attributed to strong customer and trade engagement.

In 2017, the Company spent a total of $123.29 million to achieve these results, including $109.11 million on electric programs and $14.18 million on gas programs. Electric spending was 113% of the approved regulatory budget and natural gas spending was 86% of the approved regulatory budget.

In sum, the electric programs will provide more than $222 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 more than $28 million in net benefits to our customers.

Our 2017 CIP achievements are summarized in Table 1.

Table 1: Xcel Energy's 2017 CIP Expenditures and Energy Savings

2017	Expenditures ($)	Energy Savings (kWh or Dth)	Demand Savings (kW)
Total Electric Conservation	$87,215,494	654,886,411 kWh	102,447 kW
Total Load Management	$7,029,173	593,959 kWh	36,606 kW
Total Electric Indirect-Impact	$1,834,875	0 kWh	0 kW
Total Other	$13,030,264	2,794,421 kWh	306 kW
Total Electric CIP	**$109,109,805**	**658,274,791 kWh**	**139,359 kW**
Total Gas Conservation	$11,244,733	797,114 Dth	
Total Gas Indirect-Impact	$1,015,365		
Total Other	$1,921,242	2,484 Dth	
Total Gas CIP	**$14,181,339**	**799,597 Dth**	
Total MN CIP	**$123,291,144**		

The Company's cumulative achievements since 1992 exceed 8,900 GWh of electric energy saved, 15.8 million Dth of natural gas saved, and more than $6.1 billion in net benefits achieved, with total spending of $1.6 billion. Our CIP electric achievements also improved over 2016. Figures 1 and 2 highlight total achievements and spending between 2003 and 2017.

Figure 1: Xcel Energy's 2003-2017 Electric CIP Achievements

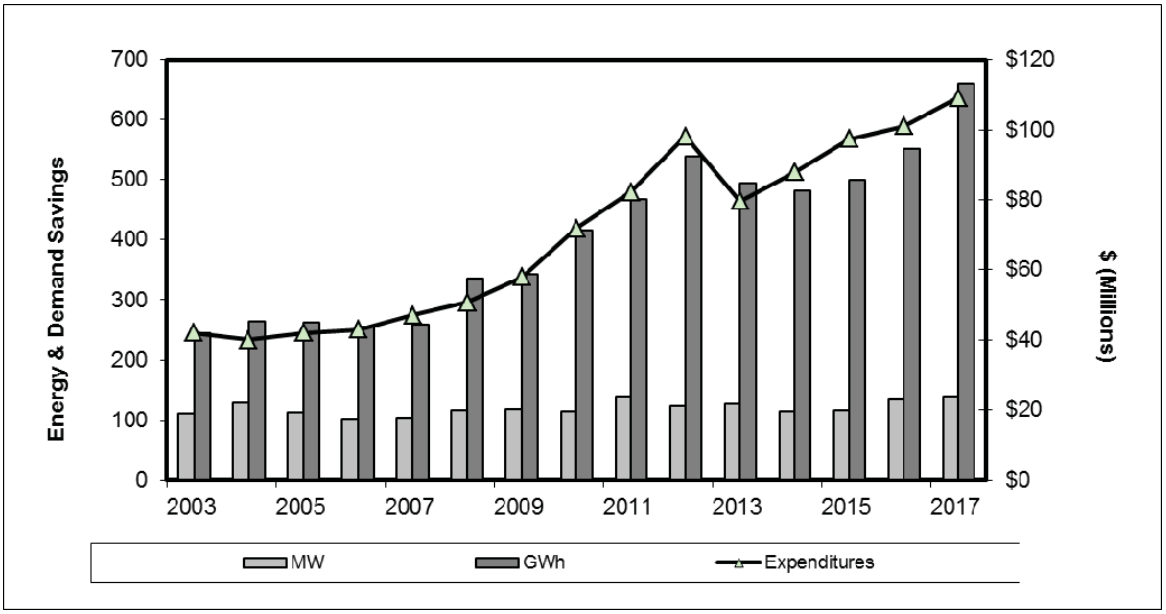
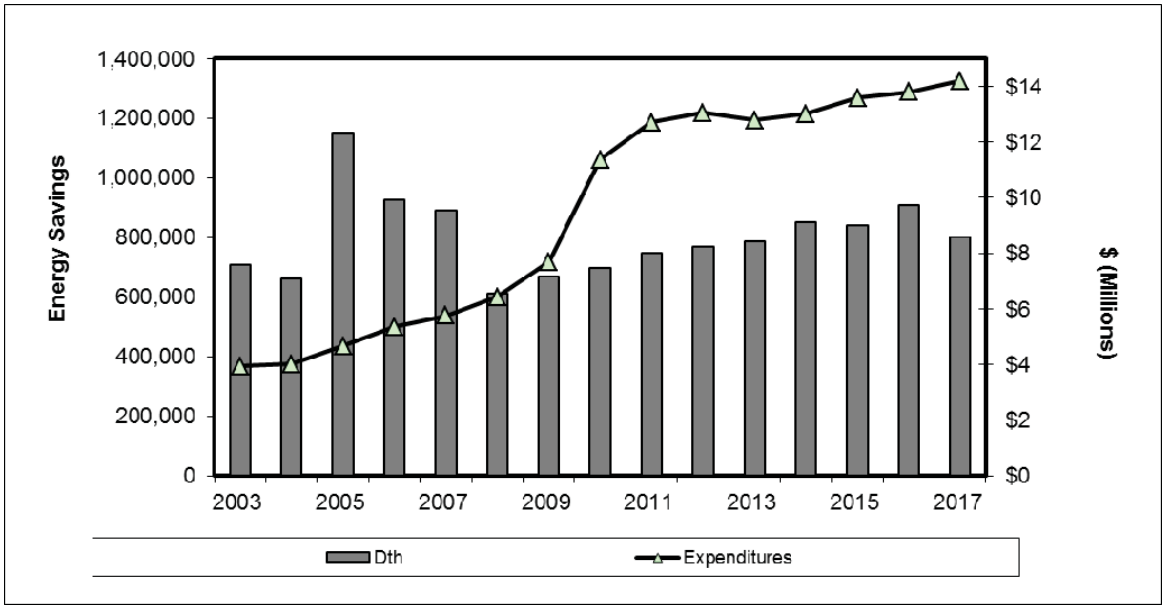


Figure 2: Xcel Energy's 2003-2017 Natural Gas CIP Achievements



The following sections provide greater, in-depth detail on Xcel Energy's 2017 electric and natural gas CIP achievements.

- ***Compliance Reporting*** – 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 November 3, 2016 Decision in this docket.

- ***Conservation Cost Recovery Report*** (Docket No. E002/GR-92-1185) – Provides the 2017 CIP Trackers. Xcel Energy seeks approval to record $109,109,805 in electric spending and $14,181,339 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 2017 conservation expenditures, effective for the period October 2018 through September 2019. Xcel Energy is proposing new electric and gas CIP Adjustment Factors of $0.001730/kWh and $0.011036/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 $30,241,197 in electric and $3,753,592 in natural gas DSM performance incentives in its CIP Trackers.

- ***2017 CIP Status Report*** – Minn. R. 7690.0550 outlines the information that a utility must include in its annual program status report. This report provides 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.

Table 2: Xcel Energy's Electric and Gas CIP Goals

2017	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Gas Participants	Gas Budget	Dth Savings
Business Segment								
Business New Construction	117	$7,600,959	7,420	5,810	37,010,688	19	$524,039	30,503
Commercial Efficiency	163	$3,409,609	3,932	3,385	24,954,472	46	$494,441	41,186
Computer Efficiency - PC Power MGMT	1,391	$547,850	446	472	3,655,837	0	$0	0
Cooling Efficiency	1,638	$2,487,682	2,603	2,160	5,956,175	3	$48,579	5,968
Custom Efficiency	52	$1,141,645	984	783	4,894,015	20	$188,789	16,116
Data Center Efficiency	70	$1,110,092	1,049	849	8,559,913	0	$0	0
Efficiency Controls	58	$1,075,917	1,017	230	7,515,754	16	$176,311	16,062
Fluid Systems Optimization	303	$1,508,902	2,087	1,744	13,175,959	0	$0	0
Foodservice Equipment	51	$46,784	90	58	400,687	67	$93,377	5,992
Heating Efficiency	64	$7,830	40	32	156,350	576	$1,309,208	112,002
Lighting Efficiency	1,242	$5,907,661	8,893	6,230	49,917,124	0	$0	0
Motor Efficiency	357	$2,558,062	4,258	3,493	21,000,592	0	$0	0
Multi-Family Building Efficiency	3,038	$656,606	1,201	219	1,670,172	1,013	$280,740	4,177
Process Efficiency	249	$6,945,865	9,263	5,345	49,559,852	74	$1,104,763	188,853
Recommissioning	99	$869,686	1,183	650	7,643,979	47	$194,693	19,748
Self-Direct	0	$25,789	0	0	0	0	$8,401	0
Turn Key	238	$1,360,293	1,126	665	5,295,166	69	$223,776	4,786
Business Segment Energy Efficiency Total	**9,129**	**$37,261,232**	**45,593**	**32,124**	**241,366,737**	**1,949**	**$4,647,117**	**445,391**
Electric Rate Savings	45	$540,126	9,000	4,593	170,174	0	$0	0
Saver's Switch for Business	933	$2,307,250	18,071	3,823	9,668	0	$0	0
Total	**978**	**$2,847,376**	**27,071**	**8,415**	**179,842**	**0**	**$0**	**0**
Business Education	14,000	$247,498	0	0	0	19,000	$37,412	0
Small Business Lamp Recycling	50,000	$53,960	0	0	0	0	$0	0
Business Indirect	**64,000**	**$301,458**	**0**	**0**	**0**	**19,000**	**$37,412**	**0**
Participants	**74,107**	**$40,410,066**	**72,664**	**40,540**	**241,546,579**	**20,949**	**$4,684,529**	**445,391**
Only	**10,107**	**$40,108,608**	**72,664**	**40,540**	**241,546,579**	**1,949**	**$4,647,117**	**445,391**
Residential Segment								
Energy Efficient Showerhead	1,920	$42,252	111	87	1,057,403	14,080	$286,908	30,294
Energy Feedback Residential	256,320	$2,597,820	3,344	3,534	14,990,307	170,998	$312,982	23,786
Efficient New Home Construction	2,024	$752,292	1,120	974	952,129	960	$1,573,311	30,514
Residential Heating	10,000	$1,216,070	1,906	1,380	7,199,127	12,172	$2,488,238	120,000
Home Energy Squad	4,700	$863,079	3,898	455	4,216,871	1,781	$1,290,788	20,261
Home Lighting	151,040	$7,534,551	72,323	9,870	94,154,929	0	$0	0
Whole Home Efficiency	200	$120,565	174	128	170,892	200	$287,852	8,074
Insulation Rebate	491	$217,026	816	130	1,112,829	641	$275,266	13,776
Refrigerator Recycling	6,650	$939,664	1,165	816	7,114,131	0	$0	0
Residential Cooling	11,857	$4,199,060	5,608	5,534	4,022,319	0	$0	0
School Education Kits	14,000	$461,442	1,212	136	1,559,062	14,000	$307,334	11,391
Water Heater Rebate	0	$0	0	0	0	948	$203,970	3,053
Total	**459,202**	**$18,943,821**	**91,677**	**23,044**	**136,549,998**	**215,780**	**$7,026,650**	**261,148**
Residential Demand Response	33,525	$6,892,994	66,171	24,032	304,326	4,224	$94,768	17,649
Consumer Education	433,854	$765,640	0	0	0	382,912	$540,806	0
Home Energy Audit	3,500	$652,795	0	0	0	2,800	$531,297	0
Lamp Recycling - Residential	300,000	$342,964	0	0	0	0	$0	0
Residential Segment with Indirect Participants	**1,230,081**	**$27,598,214**	**157,848**	**47,076**	**136,854,325**	**605,716**	**$8,193,521**	**278,797**
Only	**492,727**	**$25,836,815**	**157,848**	**47,076**	**136,854,325**	**220,004**	**$7,121,418**	**278,797**
Low Income Segment								
Home Energy Savings Program	1,736	$1,229,548	272	107	800,509	400	$1,208,910	3,612
LI Home Energy Squad	1,900	$327,676	1,305	152	1,374,942	1,500	$409,608	9,777
Multi-Family Energy Savings Program	1,766	$805,646	574	107	978,479			
Low Income Segment Total	**5,402**	**$2,362,870**	**2,151**	**366**	**3,153,930**	**1,900**	**$1,618,518**	**13,390**
Planning Segment								
Application Development and Maintenance	0	$1,238,038	0	0	0	0	$444,971	0
Advertising & Promotion	0	$3,300,000	0	0	0	0	$808,360	0
CIP Training	0	$136,842	0	0	0	0	$54,937	0
Regulatory Affairs	0	$451,321	0	0	0	0	$145,490	0
Planning Segment Total	**0**	**$5,126,201**	**0**	**0**	**0**	**0**	**$1,453,758**	**0**
Research, Evaluations & Pilots Segment								
Market Research	0	$1,825,360	0	0	0	0	$223,006	0
Product Development	0	$1,675,226	0	0	0	0	$207,088	0
Energy Star Retail Products	19,102	$597,010	3,494	715	2,027,194	582	$27,240	291
Energy Information Systems	25	$255,716	289	159	1,957,917	4	$78,692	2,096
Total	**19,127**	**$4,353,312**	**3,783**	**873**	**3,985,111**	**586**	**$536,026**	**2,387**
PORTFOLIO SUBTOTAL	**1,328,718**	**$79,850,663**	**236,445**	**88,855**	**385,539,945**	**629,152**	**$16,486,352**	**739,965**
Anticipated Alternative Filings								
CEE One Stop Efficiency Shop	0	$12,964,780	10,419	10,500	48,000,000	0	$0	0
EnerChange	0	$418,500	0	0	0	0	$46,500	0
Energy Smart	0	$374,000	0	0	0	0	$17,000	0
Trillion BTU	0	$174,600	0	0	0	0	$19,400	0
Energy Intelligence	0	$303,500	0	0	0	0	$33,950	0
Anticipated Alternative Filings Total	**0**	**$14,291,880**	**10,419**	**10,500**	**48,000,000**	**0**	**$116,850**	**0**
Assessments Segment	**0**	**$1,974,981**	**0**	**0**	**0**	**0**	**$345,600**	**0**
Made In Minnesota*	**0**	**$2,850,359**	**0**	**0**	**700,000**	**0**		**0**
Electric Utility Infrastructure	**0**	**$0**	**0**	**0**	**0**	**0**	**$0**	**0**
PORTFOLIO TOTAL	**1,314,582**	**$96,225,301**	**228,749**	**89,564**	**433,513,457**	**625,347**	**$16,547,440**	**719,360**

Table 3: Xcel Energy's Electric and Gas CIP Achievements

2017	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Electric Societal	Electric Utility	Participants	Gas Budget	Dth Savings	Gas Societal	Gas Utility
Business Segment												
Business New Construction	121	$10,029,339	12,648	12,328	56,895,120	1.90	4.10	42	$1,030,824	112,491	2.54	8.95
Commercial Efficiency	251	$3,742,569	4,648	3,701	26,161,704	1.44	4.05	18	$266,223	36,675	4.67	9.05
Computer Efficiency - PC Power MGMT	2,457	$258,848	382	411	3,198,300	1.08	2.77					
Cooling Efficiency	1,192	$2,969,510	3,396	3,138	9,128,858	1.57	2.63	6	$28,812	4,401	4.58	10.03
Custom Efficiency	42	$1,037,899	1,037	827	4,262,934	4.06	2.72	10	$190,606	15,966	5.50	6.73
Data Center Efficiency	20	$610,566	401	368	8,968,605	2.91	4.65					
Efficiency Controls	54	$1,142,621	1,954	364	14,914,651	1.88	4.56	23	$152,611	22,441	1.71	9.66
Fluid Systems Optimization	150	$1,076,067	10,997	1,250	9,297,273	1.94	3.94					
Foodservice Equipment	29	$33,942	111	69	475,378	2.26	7.57	32	$133,095	11,671	2.59	4.98
Heating Efficiency	60	$8,795	49	52	231,695	5.01	16.91	445	$838,515	90,594	1.43	3.31
Lighting Efficiency	2,322	$14,079,921	26,652	19,627	122,379,925	1.65	4.22					
Motor Efficiency	255	$2,296,102	4,015	3,291	18,675,388	1.86	4.68					
Multi-Family Building Efficiency	130	$515,419	1,678	215	2,179,169	1.61	1.88	41	$288,513	7,423	1.79	1.83
Process Efficiency	218	$7,304,791	80,711	8,008	65,177,991	2.71	4.88	22	$975,823	153,877	1.38	3.41
Recommissioning	58	$848,233	1,317	391	10,641,138	2.40	2.61	19	$169,522	16,670	4.84	3.32
Self-Direct	0	$6,164	0	0	0	0.00	0.00	0	$1,204	0	0.00	0.00
Turn Key	205	$4,353,268	6,199	5,168	33,147,934	1.87	4.65	55	$517,887	42,844	1.40	4.71
Business Segment Energy Efficiency Total	**7,564**	**$50,314,054**	**156,195**	**59,206**	**385,736,064**	**2.01**	**4.17**	**713**	**$4,593,635**	**515,052**	**2.11**	**5.44**
Electric Rate Savings	86	$522,524	28,513	14,563	540,348	7.94	7.90					
Saver's Switch for Business	1,194	$1,864,582	18,770	3,929	6,848	1.40	1.40					
Business Segment Load Management Total	**1,280**	**$2,387,106**	**47,283**	**18,492**	**547,196**	**2.83**	**2.82**					
Business Education	16,574	$230,592	0	0	0			19,495	$39,892	0		
Small Business Lamp Recycling	97,053	$44,670	0	0	0							
Business Indirect	**113,627**	**$275,262**	**0**	**0**	**0**			**19,495**	**$39,892**	**0**		
Participants	**122,471**	**$52,976,422**	**203,478**	**77,698**	**386,283,259**			**20,208**	**$4,633,527**	**515,052**		
Only	**8,844**	**$52,701,160**	**203,478**	**77,698**	**386,283,259**			**713**	**$4,593,635**	**515,052**		
Residential Segment												
Energy Efficient Showerhead	2,178	$39,553	87	67	837,634	11.73	4.04	13,244	$321,352	32,907	21.18	4.80
Energy Feedback Residential	234,809	$1,711,572	3,314	4,000	17,115,157	2.01	1.91	158,877	$240,030	36,599	2.61	2.43
Efficient New Home Construction	1,839	$499,617	759	700	1,530,677	2.05	3.06	1,069	$983,229	25,609	1.35	2.14
Residential Heating	13,642	$1,561,335	2,565	1,990	10,239,367	1.37	4.13	7,212	$2,425,381	126,080	1.79	3.95
Home Energy Squad	3,308	$761,044	4,652	623	4,822,301	2.36	1.87	1,266	$572,052	8,600	1.64	0.69
Home Lighting	234,692	$6,333,853	111,096	15,038	142,942,411	3.59	5.02					
Whole Home Efficiency	41	$42,483	34	26	31,239	0.78	0.95	51	$110,063	2,930	1.24	1.86
Insulation Rebate	380	$39,341	142	120	98,766	1.02	4.70	449	$174,256	9,961	1.05	4.12
Refrigerator Recycling	3,618	$619,989	617	432	3,766,746	2.40	1.77					
Residential Cooling	14,497	$4,702,453	8,170	8,005	5,932,566	1.31	2.35					
School Education Kits	14,021	$479,688	2,058	245	2,787,044	1.51	0.77	14,021	$267,912	23,813	18.56	4.17
Water Heater Rebate	1	$0	0	0	0			1,610	$243,848	5,215	0.80	1.37
Total	**523,026**	**$16,790,929**	**133,494**	**31,245**	**190,103,909**	**2.22**	**3.42**	**197,799**	**$5,338,122**	**271,713**	**2.38**	**3.11**
Residential Demand Response	22,507	$4,642,067	55,663	18,114	46,763	2.52	2.51	65	$17,959	456	0.50	1.19
Consumer Education	631,204	$766,362	0	0	0			420,803	$522,542	0		
Home Energy Audit	2,644	$538,748	0	0	0			2,178	$452,931	0		
Lamp Recycling - Residential	549,966	$254,504	0	0	0			0	$0	0		
Residential Segment with Indirect Participants	**1,729,347**	**$22,992,609**	**189,156**	**49,360**	**190,150,672**			**620,845**	**$6,331,554**	**272,169**		
Only	**545,533**	**$21,432,996**	**189,156**	**49,360**	**190,150,672**			**197,864**	**$5,356,081**	**272,169**		
Low Income Segment												
Home Energy Savings Program	716	$692,310	123	80	289,746	0.20	0.27	216	$966,510	5,143	0.31	0.37
LI Home Energy Squad	989	$281,704	845	114	894,799	1.20	0.93	688	$328,506	4,749	1.49	0.66
Multi-Family Energy Savings Program	1,516	$1,391,040	544	124	972,901	0.18	0.29					
Low Income Segment Total	**3,221**	**$2,365,054**	**1,512**	**318**	**2,157,445**	**0.25**	**0.36**	**904**	**$1,295,016**	**9,893**	**0.50**	**0.44**
Planning Segment												
Application Development and Maintenance	0	$653,427	0	0	0			0	$225,844	0		
Advertising & Promotion	0	$3,196,613	0	0	0			0	$758,910	0		
CIP Training	0	$141,898	0	0	0			0	$51,989	0		
Regulatory Affairs	0	$500,405	0	0	0			0	$86,333	0		
Planning Segment Total	**0**	**$4,492,342**	**0**	**0**	**0**			**0**	**$1,123,076**	**0**		
Research, Evaluations & Pilots Segment												
Market Research	0	$738,322	0	0	0			0	$143,079	0		
Product Development	0	$929,065	0	0	0			0	$174,191	0		
Energy Star Retail Products	5	$619,578	4,633	306	2,174,885	0.83	1.45	4	$49,063	2,484	0.34	2.67
Energy Information Systems	1	$219,818	107	0	619,535	0.59	0.47	0	$28,637	0	0.00	0.00
Total	**6**	**$2,506,783**	**4,741**	**306**	**2,794,421**	**0.44**	**0.40**	**4**	**$394,970**	**2,484**	**0.20**	**0.33**
PORTFOLIO SUBTOTAL	**1,855,045**	**$85,333,211**	**398,887**	**127,682**	**581,385,798**	**1.96**	**3.37**	**641,961**	**$13,778,144**	**799,597**	**1.95**	**3.07**
Anticipated Alternative Filings												
CEE One Stop Efficiency Shop	1,983	$17,745,456	10,860	11,677	76,888,994	1.44	2.15	0	$0	0		
EnerChange	0	$406,562	0	0	0			0	$45,069	0		
Energy Smart	0	$365,607	0	0	0			0	$16,305	0		
Trillion BTU	0	$126,261	0	0	0			0	$16,582	0		
Energy Intelligence	0	$331,296	0	0	0			0	$33,304	0		
Anticipated Alternative Filings Total	**1,983**	**$18,975,181**	**10,860**	**11,677**	**76,888,994**			**0**	**$111,258**	**0**		
Assessments Segment	**0**	**$1,951,053**	**0**	**0**	**0**			**0**	**$291,937**	**0**		
Made In Minnesota*	**0**	**$2,850,359**	**0**	**0**	**2,160,365**			**0**		**0**		
Electric Utility Infrastructure	**0**	**$0**	**0**	**0**	**0**			**0**		**0**		
PORTFOLIO TOTAL	**1,857,028**	**$109,109,805**	**409,747**	**139,359**	**658,274,791**	**1.87**	**3.06**	**641,961**	**$14,181,339**	**799,597**	**1.93**	**2.98**

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

Avoided Emissions

In addition to the cost-effectiveness of our 2017 portfolio, we have also analyzed the avoided carbon dioxide (CO_2) emissions resulting from our portfolio's achievement. We have performed the avoided CO_2 analysis to highlight this important benefit of our DSM programs and help inform any future portfolio changes that optimize the avoidance of CO_2 emissions.

As Northern States Power Company's electric generation portfolio continues to evolve, especially with the significant growth in wind generation, the CO_2 emissions avoided by each implemented measure varies according to the time the measure avoids electric consumption. To accurately capture the time variation of avoided CO_2 emissions from 2017, the analysis is based on a 2017 run of the hourly marginal energy costs and total system average emissions (lbs of CO2/MWh) for 2017-2030. Marginal emissions are determined by first examining the marginal energy cost. If the marginal energy cost for a single hour is less than $0/MWh, it is assumed that wind generation is the source of the marginal energy and avoided emissions for those hours is 0 lbs of CO_2. For all other hours, it is assumed that the avoided emissions are the total system average emissions for that hour. Similar to the process used to determine Marginal Energy Avoided Revenue Requirements in the portfolio's cost-effectiveness tests, this hourly data is then applied to an hourly load shape for each measure to determine the first year and lifetime avoided emissions for the measure.

The first year and lifetime avoided CO_2 emissions and emissions intensities for each program and segment in 2017 are summarized in Table 4.

Table 4: Xcel Energy's Electric Avoided CO2 Emissions

2017	Avoided First Year Emissions (short tons of CO_2)	Avoided Lifetime Emissions (short tons of CO_2)	Avoided First Year Emissions Intensities (lbs CO_2/generator MWH)	Avoided Lifetime Emissions Intensities (lbs CO_2/generator MWH)
Business Segment				
Business New Construction	27,189	360,159	956	633
Commercial Efficiency	12,502	149,135	956	652
Computer Efficiency - PC Power MGMT	1,522	7,036	952	878
Cooling Efficiency	4,281	53,703	938	661
Custom Efficiency	2,037	25,206	956	637
Data Center Efficiency	4,135	38,180	922	756
Efficiency Controls	6,724	74,740	902	668
Fluid Systems Optimization	4,298	44,221	925	643
Foodservice Equipment	219	2,701	922	636
Heating Efficiency	107	1,321	922	637
Lighting Efficiency	57,971	588,438	947	690
Motor Efficiency	8,871	98,971	950	699
Multi-Family Building Efficiency	1,015	10,858	932	657
Process Efficiency	31,054	367,808	953	655
Recommissioning	4,798	28,970	902	802
Self-Direct	0	0	0	0
Turn Key	15,708	186,351	948	686
Business Segment Energy Efficiency Total	**182,432**	**2,037,798**	**946**	**669**
Electric Rate Savings	260	1,298	962	961
Saver's Switch for Business	3	40	962	778
Total	**263**	**1,338**	**962**	**954**
Business Education	0	0	0	0
Small Business Lamp Recycling	0	0	0	0
Business Indirect	**0**	**0**	**0**	**0**
Business Segment with Indirect Participants	**182,695**	**2,039,136**	**946**	**670**
Business Segment Direct Participants Only	**182,695**	**2,039,136**	**946**	**670**
Residential Segment				
Energy Efficient Showerhead	400	3,433	954	820
Energy Feedback Residential	7,983	23,949	933	933
Efficient New Home Construction	712	9,501	930	623
Residential Heating	4,764	58,790	930	644
Home Energy Squad	2,243	13,924	930	795
Home Lighting	66,190	341,437	926	803
Whole Home Efficiency	15	156	930	695
Insulation Rebate	46	595	933	701
Refrigerator Recycling	1,740	11,378	924	771
Residential Cooling	2,767	33,049	933	737
School Education Kits	1,300	8,953	933	807
Water Heater Rebate	0	0	0	0
Total	**88,159**	**505,164**	**927**	**776**
Residential Demand Response	22	247	952	788
Consumer Education	0	0	0	0
Home Energy Audit	0	0	0	0
Lamp Recycling - Residential	0	0	0	0
Residential Segment with Indirect Participants	**88,181**	**505,411**	**927**	**776**
Only	**88,181**	**505,411**	**927**	**776**
Low Income Segment				
Home Energy Savings Program	134	1,542	924	649
LI Home Energy Squad	427	2,684	954	834
Multi-Family Energy Savings Program	450	4,317	925	682
Low Income Segment Total	**1,011**	**8,543**	**937**	**716**
Planning Segment				
Application Development and Maintenance	0	0	0	0
Advertising & Promotion	0	0	0	0
CIP Training	0	0	0	0
Regulatory Affairs	0	0	0	0
Planning Segment Total	**0**	**0**	**0**	**0**
Research, Evaluations & Pilots Segment				
Market Research	0	0	0	0
Product Development	0	0	0	0
Energy Star Retail Products	1,030	9,723	947	802
Energy Information Systems	293	1,314	945	897
Research, Evaluations & Pilots Segment Total	**1,323**	**11,037**	**947**	**812**
PORTFOLIO SUBTOTAL	**273,209**	**2,564,127**	**940**	**689**

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 5 shows our spending in relation to our approved minimum spending requirement.

Table 5: Minimum Spending Requirement

	Minimum Spending Requirement	Approved Spend*	Actual Spend	Variance of Actual to Minimum Spend
Electric	$57,007,184	$96,225,301	$109,109,805	$52,102,621
Gas	$2,180,986	$16,547,440	$14,181,339	$12,000,353
Total	$59,188,170	$112,772,741	$123,291,144	$64,102,974

*Approved Spend matches the total approved budgets in the November 3, 2016 Decision filed under this docket plus program modifications.

2017 Achievements as a Percentage of Sales

Table 6 shows our achievements as a percent of our 2014-2016 weather-normalized retail sales, adjusted for exempt customers as of May 15, 2016.

Table 6: Achievements as Percent of Sales

	Electric			Gas		
Year	**Energy Savings Achieved (MWh)**	**Total Adjusted Sales (MWh)**	**Savings as % of Retail Sales**	**Energy Savings Achieved (Dth)**	**Total Adjusted Sales (Dth)**	**Savings as % of Retail Sales**
2017	658,275	28,947,564	2.27%	799,597	71,897,513	1.11%

2017 Low-Income Spending Requirement

The following table compares our 2017 actual spend to the updated requirement. Both the approved low-income spend and actual spend are representative of programs only found in the Low-Income Segment and do 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 provides greater detail on low-income program achievements.

Table 7: Low-Income Spending Requirement

	Minimum Spending Requirement	Approved Low-Income Spend*	Actual Spend	Variance of Actual to Minimum Spend
Electric	$2,159,572	$2,362,870	$2,365,054	$205,482
Gas	$1,268,504	$1,618,518	$1,295,016	$26,512
Total	$3,428,076	$3,981,388	$3,660,070	$231,994

*Approved Spend matches the total approved budgets in the November 3, 2016 Decision filed under this docket plus program modifications.

2017 Research & Development 10% Spending Cap

Minn. Stat. § 216B.241, subd. 2(c) limits spending on Research & Development to 10% of the minimum spending requirement. As discussed on page 110 of the 2017-2019 CIP Triennial Plan, all Product Development spend is subject to this cap, except for pilot programs. Spending details are shown below.

Table 8: Research & Development Spending Cap

	Annual Spending Cap	Approved Spend	Actual Spend	Variance of Actual to Cap
Electric	$5,700,718	$1,675,226	$929,065	-$4,771,653
Gas	$218,099	$207,088	$174,191	-$43,908
Total	$5,918,817	$1,882,314	$1,103,256	-$4,815,561

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).

In 2017, Made in Minnesota program spending made up the Company's distributed resources budget under CIP. Minn. Statute §216C.412 Subd. 2, established in 2013, required 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. Minn. Stat. §216C.412 was repealed on May 31, 2017 by 2017 Minnesota Law Chapter 94, Article 10, Section 30, thus ending the Company's obligation under the statute on a going forward basis. Because Minn. Stat. §216C.412 was in effect for the first half of the year, the Company complied with the statute. Under Minn. Stat. §216C.412, each electric public utility subject to section 216B.241 had to annually pay to the Commissioner of the Department five percent of the minimum amount it is required to spend on energy conservation improvements under section 216B.24. The Department invoiced the Company for these fees on a yearly basis. Table 9 details our compliance towards this statute.

On March 7, 2018 the Department of Commerce issued a 2017 Energy Savings Credit for the Made in Minnesota program. We were allocated 2,007,340 kWh in energy savings at the meter (2,160,365

kWh at the generator). These savings are not included in the portfolio total for the year and are not calculated towards our 2017 incentive.

Table 9: Made in Minnesota Spend

	5% of Minimum Spend	2017 MiM Assessment
Made In Minnesota (CIP Funds)	$2,850,359	$2,850,359

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 (EUI) projects. Because we surpassed the 1.5% electric savings goal, we meet the eligibility guidelines for use of the carry-forward provision.

The following table confirms our eligibility for the carry-forward provision for the 2017 program year and provides an update of the previously approved carry forward savings.

Table 10: Total Savings and Percent of Sales for Customer Program and Electric Utility Infrastructure Savings

2017	kWh	% of Sales
Customer Program Achievements	658,274,791	2.27%
EUI Achievements	0	0.00%
Total	658,274,791	2.27%

On February 20, 2018, the Department issued updated guidance in the matter of claiming energy savings through electric utility infrastructure (EUI) improvements and the energy savings carry forward provision (Docket No. E, G999/CIP-17-856). As the Company noted in our Comments on the new guidance, we are committed to transparency and reporting on our EUI projects and investments specifically motivated by efficiency in our annual CIP status reports, even if not electing to carry forward savings.

In 2017, the Company had two EUI improvement projects. The first project was related to a facility HVAC replacement in White Bear Lake, Minnesota and the second project was related to facility lighting upgrades in Maple Grove, Minnesota. The Company does not claim the estimated savings from either EUI improvement project.

Triennial Decision Requirements

The following requirements were established in the Commissioner's November 3, 2016 Decision approving our 2017-2019 CIP Triennial Plan in Docket No. E,G002/CIP-16-115.

Budget Flexibility
In the November 3, 2016 Decision approving our 2017-2019 CIP Triennial Plan (E,G002/CIP-16-115), the Company was granted additional flexibility to exceed the approved budgets for all direct impact segments as long as the additional spending does not result in the segment becoming non-cost effective from the societal perspective. If exceeding 125 percent of a segment budget, the Company is required to provide a courtesy notification to the Department. The Business Segment exceeded 125 percent of the segment budget in late Q4 due to an unanticipated increase in participation in our lighting program. Going forward, the Company will more closely monitor spikes in program participation to provide a more timely courtesy notification to the Department.

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 the November 3, 2016 Decision on our CIP Triennial Plan (E, G002/CIP-16-115), the Deputy Commissioner discontinued the use of the informal modification process, for a formal modification process and courtesy notifications. In 2017, the Company submitted the following program modification filings and courtesy notifications.

Table 11: Program Modification Filings

Modification Filing Date	Programs Included	Approval Date
April Formal (4/28/17)	Advertising and Promotions	6/26/17
	Home Lighting	
	Lighting Efficiency	
	Saver's Switch	
July Formal (7/7/17)	Home Energy Savings	8/18/17
	Residential Cooling	
July Courtesy Notification (7/7/17)	Insulation Rebate	n/a
September Formal (9/22/17)	Energy Efficient Showerheads, Home Energy Squad & Low-Income Home Energy Squad	10/24/17
	Lighting Efficiency	
December Formal (12/21/17)	Whole Home Efficiency & Multi-Family Building Efficiency	3/29/18
	Lighting Efficiency	
	Whole Home Efficiency & Home Energy Squad	

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.

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 10 projects that met these criteria and required monitoring. We submitted monitoring reports for all of these qualifying projects to the Department, which required approval.

2017 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 2017, the Company had a total of $239,246 in employee expenses related to CIP. These expenses comprise about 0.2% of our total CIP spending for 2017, 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 2017.

Table 12: Summary of 2017 Employee Expenses

Employee Expense Category	Electric Amount	Gas Amount	Total
Airfare	$24,535.71	$2,892.64	$27,428.35
Hotel	$32,735.45	$4,719.03	$37,454.48
Car Rental	$551.73	$57.70	$609.43
Taxi/bus	$2,084.62	$347.45	$2,432.07
Mileage	$34,686.91	$5,388.26	$40,075.17
Parking	$4,568.14	$779.44	$5,347.58
Business Meals- Employees Only	$12,177.11	$2,162.73	$14,339.84
Business Meals- Including Non-Employees	$38,851.34	$7,469.32	$46,320.66
Conferences/Seminars/Training	$53,511.40	$11,727.63	$65,239.03
Total Employee Expenses	**$203,702.41**	**$35,544.20**	**$239,246.61**

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 Minnesota 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; unless there are future compliance obligations related to CIP projects at utility facilities, this will be our last annual update on this item.

2017 Influenced Savings Projects

There are three influenced savings projects to report for 2017. 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 2017. Table 13 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 0.01% of total electric savings.

Table 13: Summary of Influenced Savings Projects

Project OID	Program	Customer KW	Customer kWh	Dth
2747332	Custom Efficiency	3.78	33,073	0
2894445	Custom Efficiency	0.55	1,204	0
2941819	Custom Efficiency	3.79	33,219	0
	Totals	**8.12**	**67,496**	**0**

Influenced Savings Project Descriptions

The 2017 Influenced Savings Project summary trackers comprise the following three pages.

2017 Influenced Savings
Supplementary Information Worksheet

Project Number OID2747332
Program Name Custom Efficiency
Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
October 20, 2017	Air Compressor	0.34

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
8.43	N/A	N/A	2.65

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

Project Description
Smaller air compressor is used and some equipment is turned off during non-operational periods at night. Data before and after implementation of behavior is monitored.

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
3.78	33,073	0	Payback less than 9 months

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
7/1/2015	Achieved energy savings by shutting down main air compressor at night and run on smaller back up compressor
6/19/2017	Energy Intelligence program participant: Provided monitoring that helped the customer understand that they could switch to a backup compressor at night. Year 1 Savings
10/24/2017	Year 2 savings

2017 Influenced Savings
Supplementary Information Worksheet

Project Number OID2894445
Program Name Custom Efficiency
Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
October 17, 2016	Ozone Laundry System	4.04

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
3.37	N/A	N/A	-9.89

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 installed an ozone system at a new laundromat. Ozone laundry systems reduce need for hot water as well as reduce drying time.

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
0.55	1,204	0	negative societal test results

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
2/2/2017	Project saved predominantly natural gas tracked with a rebate under a separate project number. The electric savings did not qualify for a rebate.

2017 Influenced Savings
Supplementary Information Worksheet

Project Number OID2941819

Program Name Custom Efficiency

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
10/17,2016	Air Compressor	0.34

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
8.48	N/A	N/A	2.65

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

Project Description
Smaller air compressor is used and some equipment is turned off during non-operational periods at night. Data before and after implementation of behavior is monitored.

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
3.79	33,219	0	Payback less than 9 months

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
7/1/2015	Achieved energy savings by shutting down main air compressor at night and run on smaller back up compressor
6/19/2017	Energy Intelligence program participant: Provided monitoring that helped the customer understand that they could switch to a backup compressor at night. Year 1 Savings

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, 2012, and again in 2016, the Commission 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.

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 14: 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
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
Data Center Efficiency	Process and Impact Evaluation	Completed in 2017
Heating Efficiency	Process and Impact Evaluation	Completed in 2017
Insulation Rebates	Process and Impact Evaluation	Completed in 2017

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.

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 2017, our M&V efforts mirrored those filed on pages 114-119 of our 2017-2019 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 participation of each project among:

a. Low-income participants; and
b. Renters;

Tables 15 and 16 provide the following information.

Table 15: Low-Income Participation by Project, 2017

Project	Low Income - Electric			Low Income - Gas		
	Participants	Low-Income Participants	Percent of Participation	Participants	Low-Income Participants	Percent of Participation
Residential Segment						
Energy Efficient Showerhead	2,178	10	0.5%	13,244	19	0.1%
Energy Feedback Residential	234,809	9,161	3.9%	158,877	7,433	4.7%
Efficient New Home Construction	1,839	3	0.2%	1,069	4	0.4%
Residential Heating	13,642	139	1.0%	7,212	112	1.6%
Home Energy Squad	3,308	43	1.3%	1,266	11	0.9%
Home Lighting	234,692	1,397	0.6%			
Whole Home Efficiency	41	2	4.9%	51	2	3.9%
Insulation Rebate	380	9	2.4%	449	16	3.6%
Refrigerator Recycling	3,618	67	1.9%			
Residential Cooling	14,497	137	0.9%			
School Education Kits	14,021	5,370	38.3%	14,021	5,370	38.3%
Water Heater Rebate	1	0	0.0%	1,610	48	3.0%
Residential Demand Response	22,507	308	1.4%	65	0	0.0%
Consumer Education	631,204	69,433	11.0%	420,803	46,288	11.0%
Home Energy Audit	2,644	169	6.4%	2,178	158	7.3%
Lamp Recycling - Residential	549,966	3,273	0.6%			
Residential Total	**1,729,347**	**89,521**	**5.2%**	**620,845**	**59,461**	**9.6%**
Low Income Segment						
Home Energy Savings Program	716	716	100.0%	216	216	100.0%
LI Home Energy Squad	989	989	100.0%	688	688	100.0%
Multi-Family Energy Savings Program	1,516	1,516	100.0%			
Low Income Segment Total	**3,221**	**3,221**	**100.0%**	**904**	**904**	**100.0%**

Table 16: Renter Participation by Project, 2017

Project	Renter - Electric			Renter - Gas		
	Participants	Renter Participants	Percent of Participation	Participants	Renter Participants	Percent of Participation
Residential Segment						
Energy Efficient Showerhead	2,178	126	5.8%	13,244	382	2.9%
Energy Feedback Residential	234,809	107,181	45.6%	158,877	73,121	46.0%
Efficient New Home Construction	1,839	0	0.0%	1,069	0	0.0%
Residential Heating	13,642	226	1.7%	7,212	107	1.5%
Home Energy Squad	3,308	106	3.2%	1,266	41	3.2%
Home Lighting	234,692	50,928	21.7%			
Whole Home Efficiency	41	0	0.0%	51	0	0.0%
Insulation Rebate	380	7	1.8%	449	7	1.6%
Refrigerator Recycling	3,618	73	2.0%			
Residential Cooling	14,497	350	2.4%			
School Education Kits	14,021	3,043	21.7%	14,021	3,043	21.7%
Water Heater Rebate	1	0	0.0%	1,610	119	7.4%
Residential Demand Response	22,507	568	2.5%	65	0	0.0%
Consumer Education	631,204	69,433	11.0%	420,803	46,288	11.0%
Home Energy Audit	2,644	287	10.9%	2,178	227	10.4%
Lamp Recycling - Residential	549,966	119,343	21.7%			
Residential Total	**1,729,347**	**351,670**	**20.3%**	**620,845**	**123,335**	**19.9%**
Low Income Segment						
Home Energy Savings Program	716	152	21.2%	216	2	0.9%
LI Home Energy Squad	989	342	34.6%	688	198	28.8%
Multi-Family Energy Savings Program	1,516	1,516	100.0%			
Low Income Segment Total	**3,221**	**2,010**	**62.4%**	**904**	**200**	**22.1%**

Northern States Power Company
a Minnesota corporation
2017 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 2017 spending and cost recovery, as well as the electric tax and rate base factors and calculation of the cost of capital.

Electric Achievements

In 2017, Xcel Energy spent $109,109,805 on its electric CIP efforts. These expenditures provided an overall reduction of over 658 GWh. Xcel Energy is requesting recovery of $109,109,805 in 2017 electric CIP expenses. We are also requesting recovery of $30,241,197 in financial incentives earned for our 2017 electric CIP performance for total electric recovery of $139,351,002.

Gas Achievements

Xcel Energy conserved 799,597 Dth through its 2017 natural gas CIP at a cost of $14,181,339. The Company requests recovery of $14,181,339 in CIP expenditures, as well as $3,753,592 in financial incentive earned for our 2017 gas CIP performance for total natural gas recovery of $17,934,931.

The tables on the following pages include:

- Xcel Energy's 2017 electric (Table 17) and gas (Table 18) CIP Trackers, which document monthly CIP expenditures and recovered costs.
- Summary of the electric tax and rate base factors (Table 19) used in the electric CIP Tracker.
- Calculation of the Cost of Capital (Table 20) 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
2017 Actuals

		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	19,640,542	16,958,326	14,581,181	14,838,264	11,244,123	6,396,289	4,263,923	(2,798,687)	(7,681,482)	(11,895,362)	35,523,067	33,279,767	31,512,526
2.	CIP Program Expenditures	10,118,905	8,328,969	12,347,916	6,875,942	6,685,585	11,132,753	7,615,534	8,386,016	8,796,591	9,969,709	8,641,945	10,209,939	109,109,805
3.	2016 Performance Incentive										48,368,493			48,368,493
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	29,759,448	25,287,295	26,929,096	21,714,206	17,929,708	17,529,042	11,879,457	5,587,329	1,115,110	46,442,840	44,165,012	43,489,705	188,990,824
	RECOVERY													
5.	CCRC Rate ($/MWh)	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.133	3.133	3.133	
6.	CCRC Cost Recovery (CCRC times Sales)	7,571,796	6,332,688	7,151,433	6,192,485	6,820,218	7,843,642	8,677,690	7,843,486	7,689,922	6,838,902	6,817,374	7,500,189	87,279,824
7.	CIP Adjustment Factor Rate ($/MWh)	2.164	2.164	2.164	2.164	2.164	2.164	2.164	2.164	2.164	1.875	1.875	1.875	
8.	CIP Adjustment Factor Recovery (Factor times Sales)	5,234,941	4,378,255	4,944,313	4,281,322	4,715,320	5,422,889	5,999,527	5,422,781	5,316,610	4,092,635	4,078,892	4,487,426	58,374,911
9.	Sub-Balance (Line 4 - 6 - 8)	16,952,710	14,576,352	14,833,351	11,240,399	6,394,170	4,262,511	(2,797,760)	(7,678,938)	(11,891,423)	35,511,303	33,268,746	31,502,091	
10.	Accum Deferred Tax (Line 9 * 41.37%)	7,013,336	6,030,237	6,136,557	4,650,153	2,645,268	1,763,401	(1,157,433)	(3,176,777)	(4,919,482)	14,691,026	13,763,280	13,032,415	
11.	Net Investment (Line 9 - 10)	9,939,374	8,546,115	8,696,794	6,590,246	3,748,902	2,499,110	(1,640,327)	(4,502,161)	(6,971,941)	20,820,277	19,505,466	18,469,676	
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	5,616	4,829	4,914	3,723	2,118	1,412	(927)	(2,544)	(3,939)	11,763	11,021	10,435	48,421
13.	End of Month Balance (Line 9 + 12)	16,958,326	14,581,181	14,838,264	11,244,123	6,396,289	4,263,923	(2,798,687)	(7,681,482)	(11,895,362)	35,523,067	33,279,767	31,512,526	

Table 17: 2017 Electric CIP Tracker (DSM Cost Recovery)

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

EXPENSES	Jan Actual	Feb Actual	Mar Actual	Apr Actual	May Actual	Jun Actual	Jul Actual	Aug Actual	Sept Actual	Oct Actual	Nov Actual	Dec Actual	Total
1. Balance	$1,746,885	($1,661,633)	($3,044,757)	($4,285,188)	($4,876,697)	($4,900,415)	($4,528,118)	($4,350,108)	($3,966,127)	($3,583,767)	$2,393,453	$1,038,615	
2. CIP Program Expenditures	644,284	1,244,905	1,411,386	873,828	967,266	1,170,478	951,186	1,113,837	1,243,171	1,182,632	1,346,136	2,032,229	14,181,339
3. 2016 Performance Incentive										6,145,750			6,145,750
4. **Total Expenses** (Line 1 + 2 + 3)	**2,391,169**	**(416,728)**	**(1,633,371)**	**(3,411,360)**	**(3,909,430)**	**(3,729,938)**	**(3,576,932)**	**(3,236,271)**	**(2,722,956)**	**3,744,614**	**3,739,590**	**3,070,844**	
RECOVERY													
5. CCRC Rate ($/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	691,269	448,030	451,949	249,455	168,522	135,669	131,423	124,076	146,461	232,276	463,895	685,308	3,928,334
7. CIP Adjustment Factor Rate ($/Dth)	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	
8. CIP Adjustment Factor Recovery	3,360,437	2,177,990	2,197,041	1,212,664	819,230	659,524	638,883	603,164	711,986	1,120,464	2,237,764	3,305,828	19,044,975
9. **Total Recovery** (Line 6 + 8)	**4,051,706**	**2,626,020**	**2,648,990**	**1,462,119**	**987,752**	**795,193**	**770,306**	**727,240**	**858,447**	**1,352,740**	**2,701,660**	**3,991,136**	
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(1,660,537)	(3,042,748)	(4,282,361)	(4,873,479)	(4,897,183)	(4,525,130)	(4,347,238)	(3,963,510)	(3,581,403)	2,391,874	1,037,930	(920,291)	
12. Accum Deferred Tax (Line 11 * 41.37%)	(686,964)	(1,258,785)	(1,771,613)	(2,016,158)	(2,025,964)	(1,872,046)	(1,798,452)	(1,639,704)	(1,481,626)	989,518	429,392	(380,725)	(13,513,129)
13. Net Investment (Line 11-12)	(973,573)	(1,783,963)	(2,510,748)	(2,857,321)	(2,871,218)	(2,653,084)	(2,548,786)	(2,323,806)	(2,099,777)	1,402,356	608,538	(539,567)	(19,150,948)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(1,096)	(2,009)	(2,827)	(3,217)	(3,233)	(2,987)	(2,870)	(2,617)	(2,364)	1,579	685	(608)	(21,564)
15. **End of Month Balance** (Line 11+14)	**(1,661,633)**	**(3,044,757)**	**(4,285,188)**	**(4,876,697)**	**(4,900,415)**	**(4,528,118)**	**(4,350,108)**	**(3,966,127)**	**(3,583,767)**	**2,393,453**	**1,038,615**	**(920,899)**	

Table 18: 2017 Gas CIP Tracker (DSM Cost Recovery)

Table 19: 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%	0.0565%			
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	$3.133			

Table 20: 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 17 (2017 Electric CIP Tracker) and 19 (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	$ 3.133*

*CCRC Rate = $3.130 per MWh through Sep 2017, $3.133 per MWh starting Oct 1st 2017.

Northern States Power Company
a Minnesota corporation
2017 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 $0.001875 per customer kWh was approved by the Commission on August 25, 2017 in Docket No. E002/M-17-259. This rate was implemented on October 1, 2017 and is designed to reduce the electric CIP Tracker balance to $0 by September 30, 2018. The current natural gas CIP Adjustment Factor of $0.025277 per therm was approved by the Commission on September 12, 2017 in Docket No. G002/M-17-258 and implemented on October 1, 2017. It was also designed to reduce the natural gas CIP Tracker to $0 by September 30, 2018.

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

- Recovery of $30,241,197 for our 2017 electric DSM financial incentives;
- Recovery of $3,753,592 for our 2017 natural gas DSM financial incentive;
- A change in the electric CIP Adjustment Factor from $0.001875 to $0.001730 per kWh effective the first billing cycle beginning in October 2018 through September 2019; and
- A change in the natural gas CIP Adjustment Factor from $0.025277 per therm to $0.011036 per therm effective the first billing cycle beginning in October 2018 through September 2019.

Proposed Electric CIP Adjustment Factor for Period October 2018 Through September 2019

Xcel Energy requests a new electric CIP Adjustment Factor of $0.001730 per customer kWh to be effective with the first billing cycle of October 2018 and to remain in effect through the September 2019 billing period. This proposed factor is calculated to reduce the electric CIP Tracker balance to $0 by the end of September 2019. It is based on the forecasted September 2019 unrecovered balance in the Company's electric CIP Tracker account. This forecasted balance is $47.85 million, based on the forecasted October 1 beginning balance, October 2018 through September 2019 approved and projected expenditures, forecasted 2018 incentives and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2018)	$25,115,681
Approved expenditures (Oct 2018 - Sept 19)	$95,472,121
Forecasted 2018 incentive	$13,964,073
Less forecasted CCRC recovery (Oct 2018 - Sept 19)	$86,705,715
Forecasted Sept 2019 balance	$47,846,160

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, 2018 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment of $0.001875 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 2019 Electric CIP Tracker Balance	$47,846,160
(2) Forecasted Electric Sales (MWh)– Oct 2018 through Sept 2019[1]	27,674,981
(3) Recalculated Electric CIP Adjustment Rate = (1)/(2)	$1.729/MWh
	$0.001729/kWh

Our above forecasted balance does not include carrying charges. To get as close as possible to a $0 balance by Sept 30, 2019, the calculated rate of $0.001729 per kWh was incrementally increased 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 **$0.001730 per kWh**. As shown in Table 20, this rate results in a forecasted September 30, 2019 Tracker balance of $1,770.

Proposed Natural Gas CIP Adjustment Factor for Period October 2018 Through September 2019

Xcel Energy requests a new natural gas CIP Adjustment Factor of $0.011036 per therm to be effective with the first billing cycle of October 2018 and remaining in effect through the September 2019 billing period. The proposed factor is based on the forecasted October 1, 2018 unrecovered balance in the Company's gas CIP Tracker account. This forecasted balance is -$5.20 million, based on the forecasted October 1 beginning balance, October 2018 through September 2019 approved and projected expenditures, forecasted 2018 incentive and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2018)	($5,200,966)
Approved expenditures (Oct 2018 - Sept 19)	$16,946,655
Forecasted 2018 incentive	$2,115,511
Less forecasted CCRC recovery (Oct 2018 - Sept 19)	$4,452,485
Forecasted Oct 2019 balance	$9,408,715

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, 2018 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment Factor of $0.025277 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 2019 Natural Gas CIP Tracker Balance	$9,408,715
(2) Forecasted Gas Sales[2] – October 2018 through September 2019	84,971,094
(3) Recalculated Gas CIP Adjustment Rate = (1)/(2)	$0.11073/ dth
	$0.011073/therm

Our above forecasted balance does not include carrying charges. To get as close as possible to a $0 balance by Sept 30, 2019, the calculated rate of $0.011073 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 2019 forecasted CIP Tracker balance approached zero ($0) without going negative. The resulting rate is **$0.011036 per therm**. As shown in Table 21, this rate results in a forecasted September 30, 2018 Tracker balance of $20.

[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
2018 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	31,512,526	28,076,996	24,819,304	24,278,134	20,451,745	15,424,905	12,743,198	5,209,920	(1,218,371)	25,115,681	23,128,206	20,335,988	17,703,571
2.	CIP Program Expenditures	8,734,656	7,189,580	10,667,894[1]	5,935,324	5,771,008	9,609,811	6,573,742	7,238,823	7,593,232	8,605,869	7,459,741	8,813,236	94,192,917
3.	2017 Performance Incentive									30,241,197				30,241,197
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	40,247,182	35,266,576	35,487,198	30,213,459	26,222,753	25,034,717	19,316,940	12,448,743	36,616,059	33,721,551	30,587,947	29,149,224	142,137,686
	RECOVERY													
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	
6.	CCRC Cost Recovery (CCRC times Sales)	7,619,473	6,540,945	7,017,409	6,111,156	6,758,319	7,692,202	8,826,417	8,549,881	7,199,828	6,829,723	6,609,189	7,377,668	87,132,211
7.	CIP Adjustment Factor Rate ($/MWh)	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.730	1.730	1.730	
8.	CIP Adjustment Factor Recovery (Factor times Sales)	4,560,010	3,914,546	4,199,694	3,657,331	4,044,637	4,603,536	5,282,328	5,116,830	4,308,866	3,771,280	3,649,504	4,073,848	51,182,410
9.	Sub-Balance (Line 4 - 6 - 8)	28,067,699	24,811,085	24,270,095	20,444,972	15,419,797	12,738,979	5,208,195	(1,217,967)	25,107,364	23,120,547	20,329,253	17,697,708	
10.	Accum Deferred Tax (Line 9 * 41.37%)	11,611,607	10,264,346	10,040,538	8,458,085	6,379,170	5,270,115	2,154,630	(503,873)	10,386,917	9,564,970	8,410,212	7,321,542	
11.	Net Investment (Line 9 - 10)	16,456,092	14,546,739	14,229,556	11,986,887	9,040,627	7,468,863	3,053,565	(714,094)	14,720,448	13,555,577	11,919,041	10,376,166	
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	9,298	8,219	8,040	6,773	5,108	4,220	1,725	(403)	8,317	7,659	6,734	5,863	71,551
13.	End of Month Balance (Line 9 + 12)	28,076,996	24,819,304	24,278,134	20,451,745	15,424,905	12,743,198	5,209,920	(1,218,371)	25,115,681	23,128,206	20,335,988	17,703,571	

1 - Includees Expected Spend March 2018 plus $6,867 in Solar Energy Standard Customer Exclusion Credit (Docket No. E-002/M-17-425) and $2,285 in underestimated CCRA Recovery in November and December 2017 tracker.

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

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2019 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1.	Balance	17,703,571	14,937,483	12,166,294	12,221,028	8,842,677	4,289,153	2,184,627	(4,641,703)	(10,529,663)
2.	CIP Program Expenditures	8,897,030	7,323,232	10,856,884	6,045,660	5,878,290	9,788,455	6,695,945	7,373,390	7,734,388
3.	2018 Performance Incentive									13,964,073
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	26,600,601	22,260,714	23,023,178	18,266,689	14,720,966	14,077,608	8,880,573	2,731,688	11,168,798
	RECOVERY									
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133
6.	CCRC Cost Recovery (CCRC times Sales)	7,517,180	6,505,952	6,961,919	6,073,330	6,721,637	7,662,549	8,710,770	8,541,412	7,194,387
7.	CIP Adjustment Factor Rate ($/MWh)	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730
8.	CIP Adjustment Factor Recovery (Factor times Sales)	4,150,885	3,592,498	3,844,277	3,353,610	3,711,597	4,231,155	4,809,969	4,716,452	3,972,642
9.	Sub-Balance (Line 4 - 6 - 8)	14,932,536	12,162,265	12,216,981	8,839,748	4,287,733	2,183,904	(4,640,166)	(10,526,176)	1,769
10.	Accum Deferred Tax (Line 9 * 41.37%)	6,177,590	5,031,529	5,054,165	3,657,004	1,773,835	903,481	(1,919,636)	(4,354,679)	732
11.	Net Investment (Line 9 - 10)	8,754,946	7,130,736	7,162,816	5,182,744	2,513,898	1,280,423	(2,720,529)	(6,171,497)	1,037
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	4,947	4,029	4,047	2,928	1,420	723	(1,537)	(3,487)	1
13.	End of Month Balance (Line 9 + 12)	14,937,483	12,166,294	12,221,028	8,842,677	4,289,153	2,184,627	(4,641,703)	(10,529,663)	1,770

Table 22: 2019 Electric CIP Tracker Forecast, With Cost Recovery in 2019

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2018

	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	($920,899)	($4,097,707)	($6,173,010)	($7,831,252)	($8,997,145)	($9,473,758)	($9,331,551)	($9,551,112)	($9,402,383)	($5,200,966)	($4,361,958)	($3,776,051)	
2. CIP Program Expenditures	1,097,409	1,444,362	1,637,516	1,013,831	1,122,241	1,358,011	1,103,584	1,292,295	1,442,351	1,372,111	1,561,813	2,357,831	16,803,354
3. 2017 Performance Incentive			99,993 [2]						3,753,592				3,853,585
4. **Total Expenses** (Line 1 + 2 + 3)	**176,510**	**(2,653,344)**	**(4,435,501)**	**(6,817,420)**	**(7,874,904)**	**(8,115,748)**	**(8,227,967)**	**(8,258,817)**	**(4,206,440)**	**(3,828,854)**	**(2,800,145)**	**(1,418,221)**	
RECOVERY													
5. CCRC Rate ($/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	733,451	603,654	582,189	373,256	273,462	207,705	226,112	195,294	170,178	170,704	313,388	557,361	4,406,755
7. CIP Adjustment Factor Rate ($/Dth)	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.11036	0.11036	0.11036	
8. CIP Adjustment Factor Recovery	3,538,062	2,911,939	2,808,396	1,800,533	1,319,142	1,001,941	1,090,732	942,069	820,916	359,521	660,028	1,173,863	18,427,141
9. **Total Recovery** (Line 6 + 8)	**4,271,514**	**3,515,593**	**3,390,585**	**2,173,789**	**1,592,604**	**1,209,646**	**1,316,844**	**1,137,363**	**991,094**	**530,226**	**973,415**	**1,731,224**	
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(4,095,003)	(6,168,937)	(7,826,085)	(8,991,209)	(9,467,508)	(9,325,394)	(9,544,811)	(9,396,180)	(5,197,534)	(4,359,080)	(3,773,560)	(3,149,445)	
12. Accum Deferred Tax (Line 11 * 41.37%)	(1,694,103)	(2,552,089)	(3,237,652)	(3,719,663)	(3,916,708)	(3,857,916)	(3,948,688)	(3,887,200)	(2,150,220)	(1,803,351)	(1,561,122)	(1,302,926)	(33,631,637)
13. Net Investment (Line 11-12)	(2,400,900)	(3,616,848)	(4,588,434)	(5,271,546)	(5,550,800)	(5,467,479)	(5,596,123)	(5,508,980)	(3,047,314)	(2,555,729)	(2,212,438)	(1,846,520)	(47,663,111)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(2,703)	(4,073)	(5,167)	(5,936)	(6,250)	(6,156)	(6,301)	(6,203)	(3,431)	(2,878)	(2,491)	(2,079)	(53,669)
15. **End of Month Balance** (Line 11+14)	**(4,097,707)**	**(6,173,010)**	**(7,831,252)**	**(8,997,145)**	**(9,473,758)**	**(9,331,551)**	**(9,551,112)**	**(9,402,383)**	**(5,200,966)**	**(4,361,958)**	**(3,776,051)**	**(3,151,524)**	

2 - Includes understated 2016 Performance Incentive of $6,145,750 in 2017 Tracker versus $6,245,743 in approved 2016 Performance Incentive (August 25, 2017 Compliance Filing 2017/2018 Natural Gas CIP Adjustment Factor.

Table 23: 2018 Gas 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 ($)
2019 Forecast

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1. Balance	($3,151,524)	($4,644,928)	($4,997,244)	($5,070,925)	($5,285,833)	($4,994,419)	($4,244,333)	($3,779,229)	($3,113,795)
2. CIP Program Expenditures	780,541	1,508,184	1,709,872	1,058,629	1,171,829	1,418,017	1,152,348	1,349,397	1,506,083
3. 2018 Performance Incentive									2,115,511
4. **Total Expenses** (Line 1 + 2 + 3)	**(2,370,983)**	**(3,136,744)**	**(3,287,371)**	**(4,012,296)**	**(4,114,004)**	**(3,576,402)**	**(3,091,985)**	**(2,429,832)**	**507,799**
RECOVERY									
5. CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524
6. CCRC Cost Recovery	731,102	597,920	573,132	408,888	282,386	214,136	220,453	219,538	163,478
7. CIP Adjustment Factor Rate ($/Dth)	0.11036	0.11036	0.11036	0.11036	0.11036	0.11036	0.11036	0.11036	0.11036
8. CIP Adjustment Factor Recovery	1,539,779	1,259,283	1,207,076	861,162	594,734	450,994	464,298	462,370	344,302
9. **Total Recovery** (Line 6 + 8)	**2,270,880**	**1,857,203**	**1,780,208**	**1,270,050**	**877,120**	**665,131**	**684,751**	**681,908**	**507,779**
10. Rate Refund	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(4,641,864)	(4,993,947)	(5,067,580)	(5,282,346)	(4,991,124)	(4,241,533)	(3,776,736)	(3,111,741)	20
12. Accum Deferred Tax (Line 11 * 41.37%)	(1,920,339)	(2,065,996)	(2,096,458)	(2,185,307)	(2,064,828)	(1,754,722)	(1,562,436)	(1,287,327)	8
13. Net Investment (Line 11-12)	(2,721,525)	(2,927,951)	(2,971,122)	(3,097,039)	(2,926,296)	(2,486,811)	(2,214,300)	(1,824,414)	12
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(3,064)	(3,297)	(3,345)	(3,487)	(3,295)	(2,800)	(2,493)	(2,054)	0
15. **End of Month Balance** (Line 11+14)	**(4,644,928)**	**(4,997,244)**	**(5,070,925)**	**(5,285,833)**	**(4,994,419)**	**(4,244,333)**	**(3,779,229)**	**(3,113,795)**	**20**

Table 23: 2019 Gas CIP Tracker Forecast, With Cost Recovery in 2019

Northern States Power Company
a Minnesota corporation
2017 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. The August 5, 2016 ORDER ADOPTING MODIFICATIONS TO SHARED SAVINGS DEMAND-SIDE MANAGEMENT FINANCIAL INCENTIVE PLAN modified the incentive mechanism to set a fixed range of percentages of net benefits based on the % of sales savings achieved, each year for the 2017, 2018 and 2019 DSM Plan years. The percentage of net benefits awarded increases as achievements increase, up to a cap of percent of net benefits awarded and a cap of total spend. Additionally, 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 2017 CIP portfolio achieved electric energy savings of over 658 GWh which will provide net benefits of over $222 million to Xcel Energy electric customers. The Company also achieved gas savings of 799,597 Dth, which will provide Xcel Energy customers with net benefits of more than $28 million. As a result of these achievements, we request approval of a 2017 CIP electric financial incentive of $30,241,197 and a 2017 natural gas financial incentive of $3,753,592.

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
2017 Financial Incentive Calculations

In accordance with the Minnesota PUC Orders dated January 27, 2010 and August 5, 2016 (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 2017, the Company achieved electric energy savings of 658,274,791 kWh at the generator (152% of 1.5% goal) at a cost of $109,109,805 (113% of budget). As a result, we respectfully request approval of our CIP electric financial incentive in the amount of $30,241,197.

CIP Electric Financial Incentive Calculation

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. Further, in the September 12, 2016 Decision in Docket No. E999/CIP-16-541 IN THE MATTER OF AVOIDED TRANSMISSION AND DISTRIBUTION COST STUDY FOR ELECTRIC 2017-2019 CIP TRIENNIAL PLAN allowed for any expenses for the cost of the Transmission and Distribution Cost Study to be backed out of the benefit/cost analysis for the financial incentive. 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.

Model Year Inputs

3-year Weather Normalized Sales Average (kWh)	28,947,563,800

Incentive Mechanism

Max Percent of Net Benefits Awarded	13.5%
Max Percent Expenditures Awarded	40.0%
Earnings Threshold	0.7%
Net Benefits Cap Achievement Level	1.7%
Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level	0.75%

Summary of 2017 Achievements

Actual Spending for Incentive[2]	$103,078,667
Actual Energy Savings (kWh)[3]	658,274,791
Net Benefits Achieved[4]	$224,008,869

[1] Docket No. E,G999/CI-08-133 and Docket No. E,G002/CI-10-81.
[2] Portfolio Subtotal spend plus CEE One-Stop Shop spend.
[3] Portfolio Subtotal energy savings plus CEE One-Stop Shop energy savings.
[4] 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. Excludes any net costs from low-income low-income programs that failed the Utility Test. Excludes costs from Transmission and Distribution Cost Study.

2017 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.

% of Sales Achievement Level =

Actual Energy Savings (kWh) / 3-year Weather Normalized Sales Average (kWh) =

658,274,791/28,947,563,800

= 2.27%

Percent of Net Benefits Awarded =

Max Percent of Net Benefits Awarded – Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level x (% of Sales Achievement Level less than Net Benefits Cap Achievement Level) / 0.1% =

13.5% - 0.75% x (2.27% less than 1.7%) = 13.5% - 0.75% x 0 / 0.1%

= 13.5%

Expenditures Award Cap =

Max Percent Expenditures Awarded x Actual Spend for Incentive =

40% x $103,078,667

= $41,231,467

Incentive Awarded =

Net Benefits Achieved x Percent of Net Benefits Awarded less than Expenditures Award Cap =

$224,008,869 x 13.5% less than $41,231,467

= **$30,241,197**

2017 Electric Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a CIP financial incentive of $30,241,197.

Northern States Power Company
a Minnesota corporation
2017 Natural Gas Incentive Calculation

In accordance with the Minnesota PUC Orders dated January 27, 2010 and August 5, 2016 (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 2017, Xcel Energy achieved energy savings of 799,597 Dth (111% of goal) at a cost of $14,181,339 (86% of budget). As a result, we respectfully request approval of our financial incentive in the amount of $3,753,592.

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.[5]

Model Year Inputs

3-yr Weather Normalized Sales Average (Dth)	71,897,513

Incentive Mechanism

Max Percent of Net Benefits Awarded	13.5%
Max Percent Expenditures Awarded	40.0%
Earnings Threshold	0.7%
Net Benefits Cap Achievement Level	1.2%
Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level	0.75%

Summary of 2017 Achievements

Actual Spending for Incentive	$13,778,144
Actual Energy Savings (Dth)	799,597
Net Benefits Achieved[6]	$29,231,281

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.

% of Sales Achievement Level =

Actual Energy Savings (Dth) / 3-year Weather Normalized Sales Average (Dth) =

799,597 / 71,897,513

[5] Docket No. E,G999/CI-08-133 and Docket No. G002/M-16-108.

[6] 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. Excludes any net costs from low-income low-income programs that failed the Utility Test.

= 1.11213%

Percent of Net Benefits Awarded =

Max Percent of Net Benefits Awarded – Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level x (% of Sales Achievement Level less than Net Benefits Cap Achievement Level) / 0.1% =

13.5% - 0.75% x (1.11213% less than 1.2%) = 13.5% - 0.75% x 0.08787% / 0.1% =

= 12.8410%

Expenditures Award Cap =

Max Percent Expenditures Awarded x Actual Spend for Incentive =

40% x $13,778,144

= $5,511,257

Incentive Awarded =

Net Benefits Achieved x Percent of Net Benefits Awarded less than Expenditures Award Cap =

$29,211,800 x 12.8410% less than $5,511,257

= **$3,753,592**

<u>2017 Gas Incentive Request</u>

Based on the above calculation, Xcel Energy respectfully requests approval of a financial incentive of $3,753,592.

Northern States Power Company
a Minnesota corporation
2017 CIP Status Report
Docket No. E,G002/CIP-16-115

Summary

The 2017 CIP Status Report compares the actual achievements accomplished by Xcel Energy in 2017 to the goals that were approved in the 2017-2019 CIP Triennial 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
- Alternative Filings
- Assessments

Xcel Energy's CIP program continues to encourage energy savings and build awareness of the benefits of energy efficiency. In 2017, the electric portfolio and gas portfolio successfully exceeded their savings goals. The Company achieved more than 658 GWh of electric savings, 139 MW of demand reduction, and 799,597 Dth of gas savings, while spending $109.11 million on its electric programs and $14.18 million on its gas programs.

Summary of Achievements

2017	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$96,225,301	$109,109,805	113%	$16,547,440	$14,181,339	86%
Generator kW	89,564	139,359	156%	n/a	n/a	n/a
kWh/Dth Saved	433,513,457	658,274,791	152%	719,360	799,597	111%
Participation	1,314,582	1,857,028	141%	625,347	641,961	103%

In compliance with Minn. R. 7690.0550, this 2017 CIP Status Report includes the cost-effectiveness of the overall Xcel Energy CIP Plan based on 2017 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 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 analyze, track, 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 aim 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	$40,410,066	$52,976,422	131%	$4,684,529	$4,633,527	99%
Generator kW	40,540	77,698	192%	n/a	n/a	n/a
kWh/Dth Saved	241,546,579	386,283,259	160%	445,391	515,052	116%
Participation	74,107	122,471	165%	20,949	20,208	96%

In 2017, the Business Segment exceeded its electric and natural gas goals. The following program highlights help explain the achievement of portfolio goals.

- The Lighting Efficiency program exceeded its participation, savings, and spending goals in 2017 due to strong performance by LED measures in the prescriptive and custom components of the program. The costs of LED lighting products have declined, making the investment payback faster and driving greater adoption of the technology.
- The Process Efficiency (PE) program continues to provide significant achievement for both electric and gas. It exceeded its electric goal but did not meet its gas goal; yet its gas achievements are nevertheless a major contributor to portfolio achievement. Much of its success can be attributed to a strong pipeline of projects built over time through ongoing efforts to work directly with customers to implement their energy management plans.
- The Business New Construction program significantly exceeded its electric and gas savings goals due to the continued strength of the economy driving the new construction market.
- The Turn Key Services program exceeded its electric and gas goals, achieving a record performance year for the program. This can be attributed to consistent customer outreach, follow-up, and implementation bonuses producing strong participation and implementation results.

- The Efficiency Controls program also exceeded both its electric and gas goals due to efforts focused on increasing trade engagement, as well as recently aligning rebate levels with market needs.

Business Direct Impact Programs

Business New Construction

The Business New Construction program offers free consulting services and electric and gas rebates to customers that incorporate energy efficiency into their new construction project, building addition, or major renovation. The program includes two offerings: Energy Design Assistance (EDA), which is an integrated design approach that utilizes energy modeling to identify whole building energy savings opportunities and provides customized rebates; and, the Energy Efficient Buildings (EEB) program for smaller, less complicated projects. 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-1990s and has an established trade network of design team professionals who regularly participate. Xcel Energy account managers and Business Solutions Center representatives also promote the program to customers.

Deviation from Goal or Budget

Due to the continued strength of the new construction market, the Business New Construction program significantly exceeded its electric and gas savings goals. Spending was commensurate with that achievement. We expect that the continued strength of the economy will support high levels of participation through 2018 and likely beyond.

Changes in 2017

None.

Commercial Efficiency

The Commercial Efficiency program offers large commercial customers customized resources to develop a holistic, sustainable energy management plans. The program also provides funding for studies to identify and scope energy efficiency opportunities. Rebates are available to businesses that 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 exceeded its electric achievement goals in 2017. Electric spend is in line with achievements. The program did not meet its gas goal, primarily due to fewer Commercial Efficiency customers completing low cost gas measures and steam trap audits this year in lieu of electric opportunities. Gas spend is aligned with achievements.

Changes in 2017

None.

Computer Efficiency
The Computer Efficiency program offers prescriptive electric rebates to business customers that install Virtual Desktop Infrastructure (VDI) and PC Power Management software. The program is marketed directly to business customers through our trade partners and sales channels.

Computer Efficiency also offers incentives to manufacturers of desktop personal computers (PC) and energy-efficient server power supplies for those items sold to business customers in Xcel Energy's electric service territory. These incentives are marketed through a third-party implementer that works directly with the various PC and server manufacturers to track and validate equipment sold in Xcel Energy territory.

Deviation from Goal or Budget
In 2017, the program did not meet its electric savings goals and spend aligned with the savings achievement. The company used bill onserts, sales training, and digital outreach to promote downstream participation. The upstream computer power supply portion of the program is based on the Energy Star standard. In 2017, the program moved with the industry recommendation to the Energy Star 6 standard, which caused product savings to decrease. This change also factored into the rebate level adjustments.

Changes in 2017
None.

Cooling Efficiency
The Cooling Efficiency program offers prescriptive and custom rebates as well as study funding to business customers that purchase and install efficient cooling systems for space and process cooling. Rebates help offset the incremental cost of the efficient equipment and help minimize the associated payback period. Marketing efforts focused on developing 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
In 2017, the Cooling Efficiency program exceeded its electric savings and spending goals, but fell short of its gas savings and spending goals. The largest increase in electric rebate spending and energy savings came from increased chiller rebate participation. Natural gas rebate spending and energy savings fell short due to a lack of customer participation in energy recovery ventilators.

Changes in 2017
None.

Custom Efficiency
The Custom Efficiency program offers custom electric and gas rebates to business customers who implement energy saving projects that are not eligible for rebates through our prescriptive programs. The program is an important piece of our portfolio as it provides a place to evaluate unique savings opportunities and serves as a launch pad for new product ideas.

The program is open to all business customers, but is primarily marketed to mid-size customers through direct contact with our account managers, internet resources, and trade partners. Promotional efforts continue to focus on market segments not targeted by our holistic programs as well as energy efficiency equipment and unique strategies that do not have corresponding end-use rebates.

Deviation from Goal or Budget
In 2017, the Custom Efficiency program met the kW goal, but did not meet the kWh and gas goals as some projects were deferred to 2018. Program spending aligned with the achievement.

Changes in 2017
None.

Data Center Efficiency
The Data Center Efficiency program offers study, prescriptive, and custom electric rebates as well as data center design assistance to businesses that implement energy-saving measures in their data centers. This is a unique segment-focused program that is tailored to the specialized needs of data centers. It 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 exceeded the kWh goal, but did not meet its kW goal in 2017. Spending aligned with achievement. The program surpassed its electric goals due to a strong pipeline of projects, including an increase in prescriptive projects.

Changes in 2017
In 2017, the Data Center Efficiency program launched the Data Center Design Assistance program to help meet market demand and the unique structural needs of customers building new data centers or conducting major renovations to existing structures. The program also launched two new prescriptive rebates for waterside economizers and mini-split A/C units.

Efficiency Controls
The Efficiency Controls program offers custom electric and gas rebates to businesses that install automated control systems resulting in energy savings. 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 savings 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, account managers, and energy efficiency specialists.

Deviation from Goal or Budget
In 2017, the program surpassed both its electric and gas goals due to a strong pipeline of projects. Electric spend was higher than the budget, but in line with the level of achievement. The gas spend was below the filed budget.

Changes in 2017
None.

Fluid Systems Optimization
The Fluid Systems Optimization program offers prescriptive and custom electric rebates as well as study funding to customers that make improvements in their fluid and compressed air systems. The program helps customers identify and implement energy-saving improvements in compressed air, blower, fan, vacuum, hydraulic, and pump systems.

The program is primarily marketed directly to customers via account managers, energy efficiency specialists, and trade partners. In 2017, we hosted a Compressed Air Challenge event to educate and build relationships with both customers and trade partners.

Deviation from Goal or Budget
In 2017, the program did not meet its filed goal due to lower participation than estimated. Expenditures were controlled and aligned with performance.

Changes in 2017
None.

Foodservice Equipment
The Foodservice Equipment program offers prescriptive gas and electric rebates to businesses that purchase and install qualifying energy efficient foodservice equipment. The objective of the program is to encourage customers to purchase higher efficiency foodservice equipment. The program is primarily marketed through our account managers, energy efficiency specialists, and trade partners. We also offer a trade incentive to help stimulate greater awareness and increase trade participation.

Deviation from Goal or Budget
In 2017, the program exceeded its savings goals and spending was in line with achievements. The program specifically targeted the trade and customers to increase awareness. We placed advertisements in Foodservice News and also participated with the Minnesota Blue Flame Gas Association.

Changes in 2017
None.

Heating Efficiency
The Heating Efficiency program offers prescriptive and custom natural gas rebates to customers that 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 midsize customers through our energy efficiency specialists. We also work closely with trade partners, including manufacturer representatives, contractors, distributors, and community energy

organizations to market the program. Our work with the Minnesota Blue Flame Association is utilized to assess program engagement, strengths and weaknesses, and gather feedback from the trade market. To increase awareness, the program also leverages customer and trade partner training, bill inserts, as well as digital and social media channels.

Deviation from Goal or Budget
The program did not meet its participation and savings goals in 2017. Ongoing low natural gas prices have increased paybacks and reduced demand for investment in natural gas equipment upgrades.

Changes in 2017
None.

Lighting Efficiency
The Lighting Efficiency program offers prescriptive and custom rebates to motivate customers to purchase and install high efficiency lighting equipment. LED lighting discounts are available for businesses and study funding is available for customers looking to change lighting levels or determine proper lighting levels.

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 2017 due to strong performance in LED measures in the prescriptive and custom components of the program. The additional spending was in line with the increased achievement. The business LED market is seeing rapid technological advances which have led to cost reductions at a swift pace. The reduction in costs have made higher efficiency lighting products more affordable for customers and thus driven greater adoption of LED technology. Business customers now have a variety of LED options at various price points to upgrade their lighting equipment, such as new LED fixtures, LED retrofit kits, and LED tubes.

The LED Instant Rebate offering was very successful representing approximately 30 percent of the product's overall achievement. However, the Company anticipates that the Energy Independence and Security Act legislative backstop will impact the product's achievement and demand for LED lamps will level off in the future as customers require fewer lamp replacements each year as a result of the longer operating life of LEDs.

Changes in 2017
The Company revised the hours of use methodology in the midstream program to use three years of the Company's participant data rather than the census data. Using this data allowed the Company to refine the building types and ensure that they are pertinent to the Company's service area.

Motor and Drive Efficiency

The Motor and Drive Efficiency program offers prescriptive and custom rebates to qualifying electric business customers that install National Electrical Manufacturers Association (NEMA) Premium labeled motors, Enhanced NEMA Premium motors, constant speed motor controllers (CSMCs), HVAC and non-HVAC variable frequency drives (VFDs), and water well pump (WWP) VFDs.

To increase awareness, the program leveraged various channels, such as training for customer and trade partners. Other strategies included Xcel Energy onserts and electronic channels, including email campaigns, e-newsletters, and social media to promote the program changes while controlling program costs. The program is primarily marketed through account managers and energy efficiency specialists, and leverages trade partners as a secondary marketing outlet.

Deviation from Goal or Budget

The program did not meet its savings or spending goals in 2017 due to lower participation than forecasted. Program spending was proportionate with the overall achievement.

Changes in 2017

None.

Multi-Family Building Efficiency

The Multi-Family Building Efficiency (MFBE) program is an innovative, new approach to how we reach the multi-family housing market segment and bring services to market. This program was developed and filed in partnership with CenterPoint Energy, providing a one-stop approach for our joint customers. The program provides rebates, free direct installation services, and audits to qualifying buildings. Unlike other CIP programs, MFBE is focused on the entire multi-family building, including resident spaces and common areas. This whole building focus removes barriers that once kept building owners from participating in CIP.

The program is primarily marketed by activities through the Minnesota Multi Housing Association including events, advertising, and utility outreach activities. A high level of interest is also driven by various stakeholder groups, communities, and the Minneapolis Clean Energy Partnership.

Deviation from Goal or Budget

In the program's second full year, a number of projects were completed and incentives were paid. This helped the program exceed savings goals. Electric spending was under budget and gas spending was slightly over budget. Program performance was also driven by higher participation among Xcel Energy natural gas customers.

Changes in 2017

None.

Process Efficiency

The Process Efficiency program offers customized resources to large and mid-sized industrial customers 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 through account managers.

Deviation from Goal or Budget

Electric - Due to a strong pipeline of projects identified by working directly with customers on their energy management plans, the program significantly exceeded its electric savings goal. Spending was in line with the filed budget due to lower than estimated administrative costs.

Gas – The program did not meet its gas savings goal in 2017. Most of the savings were attributed to highly engaged customers implementing ongoing program plans and schedules for energy conservation. Spending was significantly below the filed budget, primarily due to a few large study-driven credit projects.

Changes in 2017

None.

Recommissioning

The Recommissioning program offers study funding and electric and natural gas implementation rebates to commercial customers who optimize their existing equipment to make it more energy efficient. Recommissioning consists of two main steps: study and implementation. We offer rebates to offset the cost of Recommissioning studies, as well as rebates for the implementation of Recommissioning measures. Through a study provider of the customer's choosing, the program supports a systematic investigation and implementation plan to improve building operations, decrease costs, and reduce peak electric demand and natural gas usage. The program is primarily marketed through our account managers, Business Solutions Center, and study providers.

Deviation from Goal or Budget

In 2017, the program exceeded its kWh goal, but did not meet its kW goal. Electric spending was under budget. The program fell short of its gas savings goal, but spending was proportionate with the overall achievement.

Changes in 2017

None.

Self-Direct

The Self-Direct 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 or other energy partner to assist them with their efforts. The program is primarily promoted via account managers when they identify a customer fit with the needed experience and resources. 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 did not have any participants in 2017, which resulted in a lower than planned spending. The program spend was primarily attributed to account manager time investigating potential projects with customers who have expressed interest in the program. No customers pursued participation beyond initial discussions. Nonetheless, we continue to offer this product to any eligible customer who might be interested in self-managing their energy efficiency projects.

Changes in 2017
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, and prescriptive or custom rebates. Implementation services 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 identifying and implementing energy-saving opportunities. The program is primarily promoted through our account managers, energy efficiency specialists and advertising.

Deviation from Goal or Budget
In 2017, the program exceeded its electric and gas goals, achieving the highest savings since the program launched in 2012. This can be attributed to building a solid pipeline in the past, performing ongoing follow-ups with customers who have completed audits, and offering a bonus to customers who implemented measures within one year of their audit.

Changes in 2017
None.

Business Load Management Programs

Electric Rate Savings

The Electric Rate Savings (ERS) program is offered to any business customer that can reduce their electric loads by at least 50 kW during control periods initiated by the Company or the Independent System Operator (ISO). In return for reducing their loads, customers receive a monthly discount on their demand charges and can potentially save up to 50 percent on their demand charges over the entire year. ERS is promoted directly to customers through Xcel Energy's account management and Business Solutions Center team.

Deviation from Goal or Budget

In the first half of 2017, the program experienced a significant loss of controllable load. This was mainly due to the testing period that occurred from the summer of 2014 through the winter of 2017. As the year progressed, we saw a significant increase in participation, although not a full recovery. The program finished the year under budget, with a small loss in program participation and controllable load.

Changes in 2017

Semi-annual testing was discontinued after the February test event. With this change, we expect program participation to return back to "pre-testing" era levels.

Saver's Switch for Business®

Saver's Switch for Business® is a prescriptive load management program available to business electric customers with central air conditioning. Participating customers receive a monthly discount on their June through September bills. In exchange for the discounts, participants allow Xcel Energy to cycle their air conditioner on and off during control events, which typically occur on hot, humid summer days. The program is marketed via direct mail, customer care agents, account managers, and advertising.

Deviation from Goal or Budget

In 2017, the program met its switch installation targets while coming in slightly below budget for the year. This is primarily due to lower promotional expenditures.

Changes in 2017

None.

Business Indirect Impact Programs

Business Education

The Business Education program focuses on creating awareness of energy efficiency and providing business customers with information on reducing energy use in their buildings. The program encourages customers to make Xcel Energy their first contact when considering equipment or process upgrades, and engages customers to make changes that lower their energy use. The program focuses on removing the barriers to adoption of energy efficiency measures by educating customers and their employees on the impacts of their energy use and offering information on how to take action to achieve long-term energy savings.

The program is primarily marketed to small and mid-sized business customers through sponsorships, customer outreach, advertising campaigns, direct mail, email newsletters, and the energy efficiency specialists at the Business Solutions Center.

Deviation from Goal or Budget

In 2017, we 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 longstanding relationships. We have worked to achieve better analytics, which have also supported increased participation.

Changes in 2017

None.

Small Business Lamp Recycling

The Small Business Lamp Recycling program encourages electric customers in Minnesota to recycle their spent fluorescent bulbs instead of discarding them, which helps reduce the amount of mercury entering the environment. The program's main offerings include free compact fluorescent light (CFL) bulb recycling at participating local hardware stores and partnering county hazardous waste facilities, as well as coupons to offset the recycling fee for each fluorescent tube and HID bulb at participating hardware stores. The coupons are available at participating hardware stores and on the Xcel Energy website. The program is marketed primarily through Xcel Energy's Home Lighting program promotions, participating hardware stores, and on the Xcel Energy website, which includes a search feature that allows customers to find the nearest recycling locations.

Deviation from Goal or Budget

In 2017, the program exceeded its participation and spending goals. Spending was in line with the higher achievement. More customers are becoming aware of the importance of recycling and taking advantage of this eco-friendly option.

Changes in 2017

None.

Residential Segment

The Residential Segment provides cost-effective, direct, and indirect impact energy efficiency and demand response programs that target customers' residences. 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 smarter energy 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	$27,598,214	$22,992,609	83%	$8,193,521	$6,331,554	77%
Generator kW	47,076	49,360	105%	n/a	n/a	n/a
kWh/Dth Saved	136,854,325	190,150,672	139%	278,797	272,169	98%
Participation	1,230,081	1,729,347	141%	605,716	620,845	102%

In 2017, the Residential Segment's electric portfolio exceeded its participation and energy savings goals. The electric segment underspent within a reasonable proportion to the energy and demand savings achievements. Respectively, the Home Lighting, Energy Feedback and Residential Heating System Rebate programs were the leading energy savings performers. The Home Lighting program experienced continued strong customer response to promotions and event marketing. The Residential Cooling and Home Energy Squad programs also contributed significant electric savings. Saver's Switch, Home Lighting and Residential Cooling achieved the most demand savings in this segment.

The Residential Segment's gas portfolio did not meet its filed savings goal, but did exceed its participation goal. Gas segment spending was under the filed budget due to some programs implementing promotional cost efficiencies. Having both far surpassed their savings goals, the Energy Feedback and School Education Kit programs cost per dekatherm of savings were significantly less than planned. Energy Efficient Showerheads, Energy Feedback, Heating System Rebate, and the Water Heating Rebate programs all surpassed their filed savings gas goals as well. Respectively, the Energy Feedback, Energy Efficient Showerheads, and Residential Heating programs were the lead contributors toward the segment's total gas achievements. The Efficient New Home Construction and School Education Kits programs also contributed significantly.

Residential Direct Impact Programs

Efficient New Home Construction

The Efficient New Home Construction program helps local builders construct energy efficient homes for our residential customers by providing incentives based on the "percent better than baseline" savings achieved by the home. The program also provides annual trainings and consulting services for the builders to help them learn and employ better building practices. 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

In 2017, program participation performed well, exceeding the gas goal and coming close to the electric goal. We attribute this to a strong construction market. With the change to a new program structure and vendor, we also had changes to the baseline against which homes' savings were being measured. The result was a positive impact on electric savings and a negative impact on gas savings per home. While the program underspent in both gas and electric, spending could change in the coming years as more homes achieve higher savings and larger rebates.

Changes in 2017

None.

Energy Efficient Showerheads

The Energy Efficient Showerheads program is designed to offer year-round natural gas and electric savings to Xcel Energy customers. Residential natural gas and combination gas and electric customers in Minnesota 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 sign-up, 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 2017, the program met the filed gas goal, but did not meet the filed electric goal. Program spending was on budget for electric and over budget for gas. The increased gas spending was attributable to a larger percentage of customers who reported having a gas water heater than previous years, as well as a need for additional direct mail compared to previous years to meet program goals. The lower electric savings and spend was attributable to a smaller percentage of customers that reported having an electric water heater than previous years.

Changes in 2017

In October 2017, the program began offering an instant rebate for eligible customers that purchase showerheads and aerators online through the Xcel Energy Store. Customers were able to purchase some or all of the items that would be included in the kits. The store offered a broader array of models and finishes that provided the same energy savings as the equipment included in the traditional kits.

Energy Feedback

The Energy Feedback program is a behavioral conservation program based on the Residential Home Energy Reporting System, a patented program developed by Opower. 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 2017, the program was following savings from nine different populations: original print report participants; email report-only participants; 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; electric-only customers added in 2017; combination customers added in 2017; and, customers who visited the My Energy portal on the Company's website.

Deviation from Goal or Budget

In 2017, the program met its electric and gas savings goals and spending was under budget. Internal labor costs were down from previous years as the program matured and needed fewer internal resources.

Changes in 2017

None.

Home Energy Squad

The Home Energy Squad program offers installations services to electric and natural gas customers who seek to improve their homes' energy efficiency and comfort, and lower their utility bills. The program, in partnership with CenterPoint Energy, is co-branded in all territories to eliminate customer confusion. Center for Energy and Environment (CEE) serves as the program implementer and provides program services in all territories. Marketing tactics used to promote the program include mass media advertising, bill onserts, email, neighborhood canvassing, and event marketing.

Deviation from Goal or Budget

In 2017, the Home Energy Squad program exceeded its electric savings goal, but did not achieve its gas savings goal. The program's electric and gas spending was below the percent of savings achieved. The program achieved significantly higher net gen kW savings than expected due to the programmable thermostat's actual average setback temperature being higher than estimated in the technical assumptions. The average electric savings per home increased significantly from the previous year due to the popularity of LED bulbs. The gas savings goal was not achieved primarily due to lower average gas savings per home and having fewer gas customers participating than the previous year, even with a heavy marketing campaign. New marketing tactics are being identified to address this in 2018.

Changes in 2017

The program added a 0.5 gallons per minute (gpm) faucet aerator measure and an additional programmable thermostat measure in 2017.

Home Lighting

The Home Lighting program offers discounted prices on LEDs to customers at participating local retailers. LEDs are an easy and low-cost way for customers to save energy and reduce their monthly electric bills. The Company focused on increasing awareness and sales of LED bulbs to drive market transformation.

The Home Lighting program is widely promoted through a variety of marketing channels including radio, TV, social media, print publications, bill inserts, and point-of-purchase displays. The Company also promotes the program through local events with sports teams, communities and light bulb "giveaways."

Deviation from Goal or Budget

The program exceeded its electric goals while remaining under budget. The budget savings were attributed to the continued reduction in the price of LED bulbs and the cost of incentives. Significant achievements were made in growing LED sales to more than 2.59 million units, which is approximately a 78 percent increase over 2016.

Changes in 2017

In 2017, we no longer offered discounts on CFLs or value LEDs, and discounts were only offered on Energy Star LEDs. The program also received approval on a modification filing to change its operating hours and coincidence factor for the portion of Home Lighting attributed to business customers.

Insulation Rebate

The Insulation Rebate program offers prescriptive electric and natural gas rebates to residential customers that upgrade the insulation and air-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 trade partner communications across various channels including digital and print promotions, newsletters, and annual program training. The program is also cross-marketed with other Xcel Energy residential programs, such as the Residential Heating and Water Heating Rebate programs.

Deviation from Goal or Budget

The Insulation Rebate program did not meet its savings or spend goals in 2017. While the program's newly decoupled rebate structure was expected to increase both participation and spend, the market reacted differently than forecasted. To increase awareness while controlling costs, the program leveraged various digital and social media channels. The spending was proportionate with the overall achievement. To address the reduced number of participating eligible contractors, the program leveraged digital channels to recruit BPI-certified contractors, especially outside the seven county metro area.

Changes in 2017

A courtesy notice was submitted in May 2017 to address the air-sealing and bypass measure and clarify the definition of new construction. The air-sealing and bypass measure, now referred to as "air-sealing," is required to be performed with attic insulation. This modification also included language to clarify what is considered new construction and now includes homes and additions constructed prior to the previous 12 months.

Refrigerator Recycling

The Refrigerator Recycling program offers residential electric customers prescriptive rebates and free pick-up services to dispose of their operable, inefficient refrigerator and freezer units in an environmentally safe and compliant manner. A third-party implementer administers the product, including customer scheduling, pickup, recycling, and rebating. This product is primarily marketed through bill inserts, direct mail, print and radio advertisements, as well as digital and social media channels.

Deviation from Goal or Budget

The program did not meet its participation or savings goals in 2017. Program spending was under budget due to the use of low-cost marketing channels as well as decreased rebate and third-party implementer costs. To boost participation, the Company offered a bonus rebate during the spring months, held a sweepstakes, and utilized low-cost marketing channels such as email and social media. The program remains highly cost-effective, and a revised marketing plan will be implemented in 2018 with continuous advertising throughout the program year.

Changes in 2017

None.

Residential Cooling

The Residential Cooling program encourages customers to purchase new energy efficient cooling equipment and install this equipment using Quality Installation (QI) standards. QI specifications are based on the Air Conditioning Contractors of America (ACCA) Standard 5 which dictates proper sizing, airflow, duct sealing, and refrigeration charge. The program also gives flexibility to customers by offering incentives for air source and ground source heat pumps. This program is marketed to electric customers in single family homes through advertising, cross-promotions with other programs, bill inserts, and trade partners. As customers are required to use a participating contractor to ensure quality installation for most systems, customer awareness and participation rely heavily on our trade relationships.

Deviation from Goal or Budget

In 2017, the program surpassed its filed electric and demand savings goals within the filed budget due to a strong retrofit market.

Changes in 2017

None.

Residential Heating (Heating System Rebate)

The Residential Heating program offers prescriptive electric and natural gas rebates to customers who install new high-efficiency furnaces and water boilers as well as 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. The electric portion is designed to encourage customers to upgrade the fan motor of a forced-air furnace or purchase a new furnace with an ECM.

The program is marketed primarily to homeowners via various forms of mass media messaging including TV, radio and digital advertising, and to 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
In 2017, the program met its natural gas savings goal and exceeded its electric savings goal. The ECM measure continues to outperform projections as manufacturers continue to offer this feature to more furnace models.

Changes in 2017
None.

School Education Kits
The School Education Kits program offers a multi-component kit that combines classroom activities and in-home projects to fifth or sixth grade students and their parents to teach them about energy and water conservation. The kits include energy saving and water conservation measures that students implement at home with their families, including LED bulbs, 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 low-cost incentives are offered to encourage students to return their Home Energy Worksheets, which help drive installations and determine install rates. Marketing and outreach communications are implemented by the program vendor and consist of email and direct mail to teachers at eligible schools.

Deviation from Goal or Budget
This program greatly exceeded its electric and gas savings goals while also meeting its participation and spending goals in 2017. Installation rates increased for several reasons, including replacing CFLs with LED bulbs in the kits and a revised Home Energy Worksheet that accounts for customers planning to install measures in the near future. Previously, these customers were not counted.

Changes in 2017
Home Energy Worksheets were revised to help customers more accurately report their installed measures.

Water Heater Rebate
The Water Heater 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 with the Residential Heating and Insulation Rebate programs.

Deviation from Goal or Budget
In 2017, the program exceeded its filed gas savings and spending goals while savings exceeded the commensurate increased spend. High participation can be attributed to increased awareness of the

program, a strong retailer presence and heightened customer demand for efficient water heating equipment.

Changes in 2017
None.

Whole Home Efficiency
The Whole Home Efficiency (WHE) program is a comprehensive "whole house" retrofit program available 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 offer prescriptive electric and natural gas rebates to customers who implement an insulation measure along with other efficiency options. Participants have one year to implement three required measures and have the option of receiving free direct install measures upon project completion.

Deviation from Goal or Budget
The program did not reach its participation goals in 2017 and consequently fell short on savings goals. Gas spending was commensurate with savings. Electric spending was not proportionate to electric savings. Low participation can be attributed to the reduced number of BPI-certified insulation contractors and the lack of differentiation between WHE and the prescriptive Insulation Rebate program. Many participants had already participated in the Home Energy Squad program and therefore did not need the direct install measures offered by WHE.

Changes in 2017
None.

Residential Load Management Programs

Residential Demand Response

Xcel Energy offers two residential demand response products: Saver's Switch® and AC Rewards. Both products target central air conditioners for reducing system load during demand peaks. Both offerings were promoted primarily via email, direct mail, and the Company's customer care organization.

Saver's Switch 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 their participation year-round. Due to the aging of previously installed switches, most of the program's achievements in 2017 were derived from the replacement of older hardware or hardware identified as no longer working.

AC Rewards also seeks to reduce AC load during demand peaks. Participants can receive up-front rebates on qualifying smart communicating thermostats and receive annual bill credits in exchange for allowing the company to temporarily adjust the set point on the thermostat during control events.

Deviation from Goal or Budget

The Company met its targeted achievements for Saver's Switch while coming in below budget. This is primarily due to lower promotional expenditures. As a new offering, AC Rewards did not reach its spending or enrollment targets.

Changes in 2017

The AC Rewards offering was launched in the summer of 2017 and was grouped with Saver's Switch® as part of our Residential Demand Response program.

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. Xcel Energy provides customers with opportunities to actively engage in energy efficiency through offering product registration at statewide community outreach events, customer surveys, and social media channels. We also use traditional outreach channels like seasonal bill inserts as an integral part of the overall education and outreach strategy.

Deviation from Goal or Budget

In 2017, we exceeded the electric and gas participation targets for this program while staying within the approved budgets. While the program followed tactics outlined in the Plan, additional factors helped drive participation without increasing spend including value-added outreach from continued long-term partnerships with community-based organizations, and increased tracking and reporting from those partnerships.

Changes in 2017

None.

Home Energy Audit

The Home Energy Audit program offers substantially discounted energy auditing services to 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 DSM programs, the Home Energy Audit program is cross-promoted with the other programs. This marketing strategy helps optimize promotional and advertising costs.

Deviation from Goal or Budget

The program did not reach its target participation and spent less than its budget for the year.

Changes in 2017

None.

Residential Lamp Recycling

The Residential Lamp Recycling program encourages electric customers in Minnesota to recycle their spent fluorescent bulbs instead of discarding them, which helps reduce the amount of mercury entering the environment. The program offers free compact fluorescent light (CFL) bulb recycling at participating local hardware stores and partnering county hazardous waste facilities as well as coupons to offset the recycling fee for each fluorescent tube and HID bulb at participating hardware stores. The coupons are available at participating hardware stores and on the Xcel Energy website. The program is marketed primarily through Xcel Energy's Home Lighting program, participating hardware stores, and on the Xcel Energy website, which includes a search feature that allows customers to find the nearest recycling locations.

Deviation from Goal or Budget
In 2017, the program exceeded its participation goal while staying under the filed budget. More customers are becoming aware of the importance of recycling and taking advantage of this environmentally friendly option. Additionally, the average cost of recycling a bulb has slightly declined.

Changes in 2017
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 (LIHES) programs. Through these three programs, customers have significant opportunities for in-home audit analysis, energy usage analysis, direct install of energy efficiency measures, and, educational information. All opportunities can provide energy-savings and lower utility costs for our customers.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$2,362,870	$2,365,054	100%	$1,618,518	$1,295,016	80%
Generator kW	366	318	87%	n/a	n/a	n/a
kWh/Dth Saved	3,153,930	2,157,445	68%	13,390	9,893	74%
Participation	5,402	3,221	60%	1,900	904	48%

Overall, the Low-Income Segment met its minimum electric and gas spending requirements. The segment slightly exceeded its filed electric budget, but was below its filed gas budget. The HESP and LIHES programs spent a high percent of their respective budgets to address participation. Whenever possible this segment cross-promoted its programs to economize promotion and advertising spending while building awareness of the offerings.

The segment did not reach its combined filed savings goals, and the results among the individual programs varied greatly. For the first time in several years, HESP achieved its gas savings goal. MESP achieved 99 percent of its electric savings goal, exceeded its participation and spend goals, and supported numerous customers living in properties larger than the program anticipated. While LIHES did not reach savings or participant goals, the program did reach at least 25 percent more customers that the previous year as a result of partnering with CenterPoint Energy's new low-income program.

Across the three programs within this segment, a broad marketing mix is implemented, including: mass media advertising, bill inserts, direct mail, neighborhood canvassing, and more. In addition, the programs are supported through neighborhood community events, workshops, and partnerships with local non-profit organizations.

Home Energy Savings

The Home Energy Savings program (HESP) offers free home energy education and improvement services to income-qualifying customers. The program is designed to help customers 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

In 2017, the program met its natural gas savings goal, but did not meet the electric savings goal. It did not meet any participation goals. The goal variations can be attributed to moving the home assessment to our Low-Income Home Energy Squad program and removing the lighting measure. These changes drove lower electric participation and savings, resulting in lower spending. The changes also impacted gas participation and spending. The higher gas savings is the result of a change in the data captured and used to calculate savings, moving from deemed values to actual baseline and upgrade values.

Changes in 2017

Two modifications were filed in 2017, adding the LED bulb measure and allowing the home assessment to be performed by the HESP program implementer.

Low-Income Home Energy Squad

The Low-Income Home Energy Squad program offers installation services to electric and gas customers who seek to improve their homes' comfort and lower their utility bills. During a home visit, the program identifies energy saving opportunities, educates customers about energy-saving measures, and then installs the customer's measures of choice. Xcel Energy and CenterPoint Energy partnered where they share a customer base, similar to the Home Energy Squad program. Our budget is used for marketing and promotions, materials, and labor. Primary marketing tactics included mass media advertising, email marketing, bill inserts, and cross-promotion with other programs, such as Saver's Switch.

Deviation from Goal or Budget

In 2017, the Low-Income Home Energy Squad program did not meet its savings or participation goals. In line with achievement, program spending was under budget. The program achieved higher demand savings than expected due to programmable thermostat average setback temperatures being higher than estimated in our technical assumptions. We plan to address program participation with additional marketing tactics going forward.

Changes in 2017

The 0.5 gallons per minute (gpm) faucet aerator measure was added through a program modification filing.

Multi-Family Energy Savings Program

The Multi-Family Energy Savings program (MESP) offers free education and services to qualifying multi-family buildings. MESP provides electric services to income-qualifying renters and is designed to reach these tenants and support low-income housing through building-wide projects. 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 2017.

Deviation from Goal or Budget
Participation remains strong for the program, exceeding goal and budget, while coming in slightly under the savings goal. The program continues to efficiently reach a high number of residents per site visit; the significantly higher participation and spend was primarily due to large properties participating in the program. Savings per participant were lower due to no opportunity for lighting upgrades in the large properties. This drove participation and spending over goal and budget, but did not drive savings at the same increased rate since the remaining opportunities were higher cost measures, such as refrigerators and air conditioners.

The program continues to see strong interest among property management organizations to include all of their qualifying buildings. As a result, there continues to be the need for the careful management of fund allocation, ensuring program funds are fairly distributed across the region. As the program matures, we expect there will be a need to actively promote the program, resulting in increased acquisition costs and a lessened need to manage participation.

Changes in 2017
None.

Planning Segment

The CIP Planning Segment includes Advertising and Promotion, Application Development and Maintenance, CIP Training, and DSM Regulatory Affairs. These programs are all indirect impact and therefore generate no energy savings. The table below provides goal and actual spending in this segment for 2017.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Advertising and Promotion	$3,300,000	$3,196,613	97%	$808,360	$758,910	94%
Application Development and Maintenance	$1,238,038	$653,427	53%	$444,971	$225,844	51%
CIP Training	$136,842	$141,898	104%	$54,937	$51,989	95%
Regulatory Affairs	$451,321	$500,405	111%	$145,490	$86,333	59%
Total	**$5,126,201**	**$4,492,343**	**91%**	**$1,453,758**	**$1,123,076**	**75%**

Advertising and Promotion

The Advertising and Promotion budget drives awareness of electric and gas conservation and energy efficiency options among all types of customers and allows Xcel Energy to implement a variety of residential and business advertising and promotional plans.

In 2017, 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 as well as increase engagement with our programs.

Deviation from Goal or Budget

The program was under budget in 2017. Budgets in both the Business and Residential segments were successful in coordinating promotional opportunities at lower costs than anticipated, such as seasonal cross promotion that allows two or three programs to share one paid media plan with integrated messaging. This "bundling" approach helps to optimize spending and increase awareness of programs across multiple programs at once.

Changes in 2017

Through a modification in early 2017 a request was approved to increase the gas and electric budgets. The modification was due to an error in the filed budget.

Application Development and Maintenance
The Application Development and Maintenance (ADM) budget supports the extensive data and process management necessary to market, manage and deliver energy efficiency programs and report program achievement. The budget provides funds for software purchases that support the DSM programs within our portfolio as well as the internal 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 2017, the Company underspent its ADM budget by implementing cost-saving initiatives across our Information Technology (IT) organization.

Changes in 2017
None.

CIP Training
The CIP Training budget allows Xcel Energy marketing, engineering, regulatory, operations and sales personnel the opportunity for continued education. These educational opportunities include learning more about energy-efficient electric and natural gas equipment as well as new advances in technology and changes in the energy efficiency industry. To enhance our knowledge base, staff may attend internal or external training sessions, conferences and seminars on various technologies, industry best practices, and energy efficiency and conservation topics. With continued education, our workforce is able to stay current on the energy efficiency industry while keeping informed about future technologies and industry trends that may ultimately better serve our customers. The CIP training budget allows us to overcome future challenges and continue to meet our conservation goals.

Deviation from Goal or Budget
In 2017, we underspent on the CIP Training budget by encouraging attendance at more cost-effective local, regional and internal trainings.

Changes in 2017
None.

Regulatory Affairs
Regulatory Affairs manages all DSM regulatory filings, directs and prepares cost-benefit analyses, provides results of energy conservation achievements, manages electric and gas potential studies, and analyzes and prepares cost recovery reports. The group also provides procedures for effectively addressing requirements for the DSM regulatory process. These functions are needed to ensure a cohesive and high-quality DSM portfolio that meets legal requirements, as well as the expectations of Xcel Energy's customers, regulators, and staff.

In addition, Regulatory Affairs supports the DSM component of resource planning, rate cases, and certificates of need, and provides strategic evaluation planning and internal policy guidance. These functions are needed to ensure the cost-effectiveness of DSM, to ensure the quality of DSM impact

estimates, help generate ideas for future DSM projects, establish programmatic consistency, and manage DSM-related marketing information.

Deviation from Goal or Budget
In 2017, Regulatory Affairs over spent on the electric budget due to its funding of the Avoided T&D Costs Study and underspent on the gas budget.

Changes in 2017
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 2017.

Summary of Achievements

Research, Evaluations & Pilots Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Market Research	$1,825,360	$738,322	40%	$223,006	$143,079	64%
Product Development	$1,675,226	$929,065	55%	$207,088	$174,191	84%
Energy Star Retail Products Platform	$597,010	$619,578	104%	$27,240	$49,063	180%
Energy Information Systems Pilot	$255,716	$219,818	86%	$78,692	$28,637	36%
Total	**$4,353,312**	**$2,506,783**	**58%**	**$536,026**	**$394,970**	**74%**

Market Research

DSM Market Research conducts surveys and studies to understand customer needs that relate to DSM conservation efforts. In 2017, the Company conducted the following general research projects:

- Dun & Bradstreet Business list refresh for Salesforce business market segmentation;
- CAMEO residential segmentation subscription;
- Phase one of the Demand Response Potential Study;
- E Source and Navigant Research 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 2017, the Company conducted research on the following programs:

- MN Data Center Efficiency;
- MN Heating Efficiency; and,
- MN Insulation Rebates.

Deviation from Goal or Budget

In 2017, the Market Research program spending was under budget for both gas and electricity. The significant reduction in costs for electric Market Research was realized by partnering with the vendor

conducting the Minnesota statewide demand-side potential study to avoid duplicative work and save customers money.

Changes in 2017
The demand-side potential study work proposed in our Triennial Plan was not conducted as the statewide potential study is expected to provide the needed results at a significantly lower cost.

Product Development

Product Development identifies, assesses, and develops new energy efficiency and demand response products and services for eventual inclusion as new CIP programs, products, and measures. This work enables us to identify and promote promising new energy-saving technologies for customers. The group also develops improvements to existing products.

The Product Development group developed the following products, pilots or measures during 2017:

Business DSM

- Commercial Refrigeration Efficiency

Residential DSM

- AC Rewards
- ENERGY STAR® dehumidifiers

Deviation from Goal or Budget
In 2017, Product Development did not spend all of the filed electric or natural gas budget due to lower than anticipated costs for research, consulting services, and association dues.

Changes in 2017
None.

Energy Information Systems Pilot

The Energy Information Systems (EIS) Pilot program offers custom electric and gas rebates and consulting services to customers that implement behavior change and low cost/no cost operational improvements. 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 helps 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.

Deviation from Goal
The program spending and achievement was below goal due to the prolonged duration for EIS installations. Only one customer completed the 12-month treatment and verification cycle, resulting in program energy savings lower than forecasted.

Changes in 2017
None.

ENERGY STAR® Retail Products Platform Pilot

The ENERGY STAR® Retail Products Platform Pilot program engages retailers through midstream incentive payments to increase the demand and supply for the most energy efficient residential plug-load and appliance products on the market, thereby driving increased market penetration of ENERGY STAR® products. The pilot first launched in 2016 as part of a coordinated effort by the U.S. Environmental Protection Agency and included participating utilities and energy efficiency program implementers from California, the Pacific Northwest, New York, Vermont, Wisconsin, Hawaii, and New Jersey.

Deviation from Target
In 2017, targeted savings were exceeded. This was largely due to several retailers driving sales of the highest efficiency clothes washers, which produce higher-than-average savings compared to the other products in the program.

Changes in 2017
Clothes Washers and Refrigerators were added as product categories. Additionally, Nationwide was added as a retailer. Finally, an emphasis was placed on timely and accurate sales information delivered by the retailers.

Alternative Filings

Summary of Achievements

Alternative Filings Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
One Stop	$12,964,780	$17,745,456	137%	n/a	n/a	n/a
EnerChange	$418,500	$406,562	97%	$46,500	$45,069	97%
Energy Smart	$374,000	$365,607	98%	$17,000	$16,305	96%
Trillion Btu	$174,600	$126,261	72%	$19,400	$16,582	85%
Energy Intelligence	$303,500	$331,296	109%	$33,950	$33,304	98%
Total	**$14,291,880**	**$18,975,181**	**133%**	**$116,850**	**$111,258**	**95%**

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 2017

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 by offering small industrial customers with a maximum demand of 400 kW a better understanding of their energy use, identification of immediate savings opportunities, and implementation support. This customer size is typically located in a light industrial park.

Deviation from Goal or Budget

In 2017, the Energy Intelligence program spent slightly more than the electric budget and slightly underspent on its gas budget due to more electric-only and fewer dual-fuel customers participating than expected. In addition, utility administrative costs were slightly higher than expected due to the active involvement of our small business field representatives.

Changes in 2017

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 and 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 various social media channels.

Deviation from Goal or Budget

The program slightly underspent on its gas and electric budgets. Costs for internal labor and employee expenses were lower than anticipated.

Changes in 2017

None.

One-Stop Efficiency Shop®

The One-Stop Efficiency Shop® (One-Stop) is a full-service lighting and rooftop unit (RTU) rebate program available to small businesses in Xcel Energy's Minnesota service territory with an electric demand of 400 kW or less. The program is designed to save business owners energy and money by specifically targeting barriers that prevent small businesses from investing in energy efficiency products: limited financial resources and time, limited knowledge of efficient products, and lack of access to quality contractors.

To address these issues, the program offers:

- A free audit with objective cost saving recommendations;
- Generous incentives combined with convenient and attractive financing;
- A simple, one-stop service that holds customer time requirements to a minimum;
- A computerized data collection system that generates all site-specific paperwork; and,
- Start-to-finish oversight of the entire retrofit project.

Program staff works to identify the specific needs of each business owner and tailors recommendations accordingly. This combination of services brings education, financial resources, and minimal time commitment directly to the customer.

Deviation from Goal or Budget

In 2017, One-Stop exceeded its energy savings, demand savings, and participation goals. LEDs account for nearly 100 percent of the lighting retrofits completed through the program. Quality of LEDs continues to improve while prices continue to decline. These trends, in conjunction with the services and rebates One-Stop offers, continue to make lighting upgrades an attractive option for business owners.

One-Stop exceeded the approved 25 percent budget flexibility granted by the MN Division of Energy Resources (DER). As ordered, a courtesy letter acknowledging the additional budget was sent to the Department in October. The additional budget did not impact the cost-effectiveness of the program.

Changes in 2017
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 funding awarded to the St. Paul Port Authority (SPPA) by the American Recovery and Reinvestment Act as well as local resources from 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 targets customers looking to implement relatively large energy saving projects and is primarily delivered to customers by the SPPA.

Deviation from Goal or Budget
The Trillion BTU program underspent on its electric and gas budgets because SPPA administrative costs were lower than projected.

Changes in 2017
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	$1,974,981	$1,951,053	99%	$345,600	$291,937	84%

Deviation from Goal or Budget
Assessments from the DER were slightly below the filed electric budget and approximately 15 percent below the filed gas budget.

Changes in 2017
None.

ELECTRIC CIP TOTAL 2017 ELECTRIC GOAL

2017 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	$46,254,496	$46,254,496	$46,254,496	$46,254,496
T & D	N/A	$19,769,331	$19,769,331	$19,769,331	$19,769,331
Marginal Energy	N/A	$121,132,374	$121,132,374	$121,132,374	$121,132,374
Environmental Externality	N/A	N/A	N/A	N/A	$34,671,194
Subtotal	N/A	$187,156,202	$187,156,202	$187,156,202	$221,827,395
Participant Benefits					
Bill Reduction - Electric	$311,756,739	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$34,992,448	N/A	N/A	$34,992,448	$34,992,448
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$43,937,986	N/A	N/A	$22,212,961	$22,212,961
Subtotal	$390,687,174	N/A	N/A	$57,205,409	$57,205,409
Total Benefits	$390,687,174	$187,156,202	$187,156,202	$244,361,611	$279,032,805
Costs					
Utility Project Costs					
Customer Services	N/A	$4,244,923	$4,244,923	$4,244,923	$4,244,923
Project Administration	N/A	$27,448,308	$27,448,308	$27,448,308	$27,448,308
Advertising & Promotion	N/A	$6,626,292	$6,626,292	$6,626,292	$6,626,292
Measurement & Verification	N/A	$1,751,616	$1,751,616	$1,751,616	$1,751,616
Rebates	N/A	$34,992,448	$34,992,448	$34,992,448	$34,992,448
Other	N/A	$2,044,986	$2,044,986	$2,044,986	$2,044,986
Subtotal	N/A	$77,108,574	$77,108,574	$77,108,574	$77,108,574
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$311,756,739	N/A	N/A
Subtotal	N/A	N/A	$311,756,739	N/A	N/A
Participant Costs					
Incremental Capital Costs	$104,919,080	N/A	N/A	$84,763,446	$84,763,446
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$104,919,080	N/A	N/A	$84,763,446	$84,763,446
Total Costs	$104,919,080	$77,108,574	$388,865,314	$161,872,020	$161,872,020
Net Benefit (Cost)	$285,768,094	$110,047,628	($201,709,112)	$82,489,591	$117,160,784
Benefit/Cost Ratio	3.72	2.43	0.48	1.51	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	12.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.38%
Gross Load Factor at Customer	E	18.69%
Transmission Loss Factor (Energy)	F	7.277%
Transmission Loss Factor (Demand)	G	7.819%
Societal Net Benefit (Cost)	H	$536.62

Program Summary per Participant

Gross kW Saved at Customer	I	0.17 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	272 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	293 kWh

Program Summary All Participants

Total Participants	J	1,314,582
Total Budget	K	**$77,108,574**
Gross kW Saved at Customer	(J x I)	218,330 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**79,064 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	357,461,540 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**385,513,457 kWh**
Societal Net Benefits	(J x I x H)	**$117,160,784**

Utility Program Cost per kWh Lifetime	**$0.0155**
Utility Program Cost per kW at Gen	**$975**

ELECTRIC CIP TOTAL — 2017 ELECTRIC — ACTUAL

2017 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	$71,613,572	$71,613,572	$71,613,572	$71,613,572
T & D	N/A	$32,441,247	$32,441,247	$32,441,247	$32,441,247
Marginal Energy	N/A	$183,242,001	$183,242,001	$183,242,001	$183,242,001
Environmental Externality	N/A	N/A	N/A	N/A	$52,140,593
Subtotal	N/A	$287,296,820	$287,296,820	$287,296,820	$339,437,414
Participant Benefits					
Bill Reduction - Electric	$463,404,007	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$49,658,563	N/A	N/A	$49,658,563	$49,658,563
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$67,283,571	N/A	N/A	$67,283,571	$67,283,571
Subtotal	$580,346,141	N/A	N/A	$116,942,134	$116,942,134
Total Benefits	$580,346,141	$287,296,820	$287,296,820	$404,238,954	$456,379,548
Costs					
Utility Project Costs					
Customer Services	N/A	$5,465,082	$5,465,082	$5,465,082	$5,465,082
Project Administration	N/A	$21,295,568	$21,295,568	$21,295,568	$21,295,568
Advertising & Promotion	N/A	$4,815,476	$4,815,476	$4,815,476	$4,815,476
Measurement & Verification	N/A	$2,943,442	$2,943,442	$2,943,442	$2,943,442
Rebates	N/A	$49,658,563	$49,658,563	$49,658,563	$49,658,563
Other	N/A	$1,155,080	$1,155,080	$1,155,080	$1,155,080
Subtotal	N/A	$85,333,211	$85,333,211	$85,333,211	$85,333,211
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$463,404,007	N/A	N/A
Subtotal	N/A	N/A	$463,404,007	N/A	N/A
Participant Costs					
Incremental Capital Costs	$148,019,836	N/A	N/A	$148,019,836	$148,019,836
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$148,019,836	N/A	N/A	$148,019,836	$148,019,836
Total Costs	$148,019,836	$85,333,211	$548,737,219	$233,353,047	$233,353,047
Net Benefit (Cost)	$432,326,306	$201,963,609	($261,440,398)	$170,885,908	$223,026,501
Benefit/Cost Ratio	3.92	3.37	0.52	1.73	1.96

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	12.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	29.49%
Gross Load Factor at Customer	E	15.46%
Transmission Loss Factor (Energy)	F	7.083%
Transmission Loss Factor (Demand)	G	7.866%
Societal Net Benefit (Cost)	H	$559.12

Program Summary per Participant

Gross kW Saved at Customer	I	0.21 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)	291 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	313 kWh

Program Summary All Participants

Total Participants	J	1,857,028
Total Budget	K	**$85,333,211**
Gross kW Saved at Customer	(J x I)	398,887 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**127,682 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	540,204,457 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**581,385,798 kWh**
Societal Net Benefits	(J x I x H)	**$223,026,501**

Utility Program Cost per kWh Lifetime	**$0.0115**
Utility Program Cost per kW at Gen	**$668**

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$9,554,094		
Incentive Costs =	$6,530,896		
16) Total Utility Project Costs =	$16,084,990		
17) Direct Participant Costs ($/Part.) =	$44		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$2		
Escalation Rate =	1.73%		
20) Project Life (Years) =	10.9		
21) Avg. Dth/Part. Saved =	1.15		
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 =	625,347		
24) Total Annual Dth Saved =	719,360		
25) Incentive/Participant =	$10.44		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$26		
Cost per Participant per Dth =	$60.39		
Lifetime Energy Reduction (Dth)	7,806,492		
Societal Cost per Dth	$3.89		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($25,068,802)	0.58
Utility Cost Test	$18,131,594	2.13
Societal Test	$32,145,301	2.06
Participant Test	$50,141,710	2.82

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$7,810,340		
Incentive Costs =	$5,967,804		
16) Total Utility Project Costs =	$13,778,144		
17) Direct Participant Costs ($/Part.) =	$46		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$2		
Escalation Rate =	1.73%		
20) Project Life (Years) =	12.2		
21) Avg. Dth/Part. Saved =	1.25		
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 =	641,961		
24) Total Annual Dth Saved =	799,597		
25) Incentive/Participant =	$9.30		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$21		
Cost per Participant per Dth =	$54.37		
Lifetime Energy Reduction (Dth)	8,677,224		
Societal Cost per Dth	$4.33		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($24,880,767)	0.63
Utility Cost Test	$28,508,340	3.07
Societal Test	$35,851,153	1.95
Participant Test	$56,452,851	2.90

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$6,799,281		
Incentive Costs =	$6,493,003		
16) Total Utility Project Costs =	$13,292,285		
17) Direct Participant Costs ($/Part.) =	$124		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$6		
Escalation Rate =	1.73%		
20) Project Life (Years) =	10.9		
21) Avg. Dth/Part. Saved =	3.26		
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 =	220,049		
24) Total Annual Dth Saved =	716,973		
25) Incentive/Participant =	$29.51		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$60		
Cost per Participant per Dth =	$56.48		
Lifetime Energy Reduction (Dth)	7,788,326		
Societal Cost per Dth	$3.53		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($22,253,093)	0.61
Utility Cost Test	$20,836,684	2.57
Societal Test	$34,697,321	2.26
Participant Test	$49,275,102	2.80

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$5,354,628		
Incentive Costs =	$5,967,804		
16) Total Utility Project Costs =	$11,322,432		
17) Direct Participant Costs ($/Part.) =	$149		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$6		
Escalation Rate =	1.73%		
20) Project Life (Years) =	12.2		
21) Avg. Dth/Part. Saved =	4.01		
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 =	199,485		
24) Total Annual Dth Saved =	799,597		
25) Incentive/Participant =	$29.92		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$57		
Cost per Participant per Dth =	$51.30		
Lifetime Energy Reduction (Dth)	8,685,856		
Societal Cost per Dth	$4.04		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($22,425,055)	0.65
Utility Cost Test	$30,964,051	3.73
Societal Test	$38,306,864	2.09
Participant Test	$56,452,851	2.90

ELECTRIC CIP CONSERVATION TOTAL 2017 ELECTRIC GOAL

2017 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	$32,152,449	$32,152,449	$32,152,449	$32,152,449
T & D	N/A	$19,540,468	$19,540,468	$19,540,468	$19,540,468
Marginal Energy	N/A	$120,133,100	$120,133,100	$120,133,100	$120,133,100
Environmental Externality	N/A	N/A	N/A	N/A	$34,406,484
Subtotal	N/A	$171,826,017	$171,826,017	$171,826,017	$206,232,500
Participant Benefits					
Bill Reduction - Electric	$309,086,768	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$34,467,788	N/A	N/A	$34,467,788	$34,467,788
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$41,419,937	N/A	N/A	$22,215,493	$22,215,493
Subtotal	$384,974,493	N/A	N/A	$56,683,281	$56,683,281
Total Benefits	$384,974,493	$171,826,017	$171,826,017	$228,509,297	$262,915,781
Costs					
Utility Project Costs					
Customer Services	N/A	$4,244,923	$4,244,923	$4,244,923	$4,244,923
Project Administration	N/A	$13,729,241	$13,729,241	$13,729,241	$13,729,241
Advertising & Promotion	N/A	$3,310,567	$3,310,567	$3,310,567	$3,310,567
Measurement & Verification	N/A	$1,395,152	$1,395,152	$1,395,152	$1,395,152
Rebates	N/A	$34,467,788	$34,467,788	$34,467,788	$34,467,788
Other	N/A	$1,420,252	$1,420,252	$1,420,252	$1,420,252
Subtotal	N/A	$58,567,923	$58,567,923	$58,567,923	$58,567,923
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$309,086,768	N/A	N/A
Subtotal	N/A	N/A	$309,086,768	N/A	N/A
Participant Costs					
Incremental Capital Costs	$102,594,469	N/A	N/A	$82,453,519	$82,453,519
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$102,594,469	N/A	N/A	$82,453,519	$82,453,519
Total Costs	$102,594,469	$58,567,923	$367,654,691	$141,021,442	$141,021,442
Net Benefit (Cost)	$282,380,024	$113,258,093	($195,828,675)	$87,487,855	$121,894,339
Benefit/Cost Ratio	3.75	2.93	0.47	1.62	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	13.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.27%
Gross Load Factor at Customer	E	28.97%
Transmission Loss Factor (Energy)	F	7.274%
Transmission Loss Factor (Demand)	G	8.233%
Societal Net Benefit (Cost)	H	$874.91

Program Summary per Participant

Gross kW Saved at Customer	I	0.29 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)	747 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	806 kWh

Program Summary All Participants

Total Participants	J	473,097
Total Budget	K	**$58,567,923**
Gross kW Saved at Customer	(J x I)	139,322 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**55,073 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	353,572,127 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**381,310,136 kWh**
Societal Net Benefits	(J x I x H)	**$121,894,339**

Utility Program Cost per kWh Lifetime	**$0.0118**
Utility Program Cost per kW at Gen	**$1,063**

ELECTRIC CIP CONSERVATION TOTAL — 2017 ELECTRIC — ACTUAL

2017 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	$53,382,481	$53,382,481	$53,382,481	$53,382,481
T & D	N/A	$32,441,247	$32,441,247	$32,441,247	$32,441,247
Marginal Energy	N/A	$183,078,379	$183,078,379	$183,078,379	$183,078,379
Environmental Externality	N/A	N/A	N/A	N/A	$52,114,208
Subtotal	N/A	$268,902,107	$268,902,107	$268,902,107	$321,016,316
Participant Benefits					
Bill Reduction - Electric	$463,049,201	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$49,599,650	N/A	N/A	$49,599,650	$49,599,650
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$67,283,571	N/A	N/A	$67,283,571	$67,283,571
Subtotal	$579,932,422	N/A	N/A	$116,883,221	$116,883,221
Total Benefits	$579,932,422	$268,902,107	$268,902,107	$385,785,328	$437,899,536
Costs					
Utility Project Costs					
Customer Services	N/A	$5,465,082	$5,465,082	$5,465,082	$5,465,082
Project Administration	N/A	$10,680,521	$10,680,521	$10,680,521	$10,680,521
Advertising & Promotion	N/A	$1,374,391	$1,374,391	$1,374,391	$1,374,391
Measurement & Verification	N/A	$2,426,698	$2,426,698	$2,426,698	$2,426,698
Rebates	N/A	$49,599,650	$49,599,650	$49,599,650	$49,599,650
Other	N/A	$763,092	$763,092	$763,092	$763,092
Subtotal	N/A	$70,309,434	$70,309,434	$70,309,434	$70,309,434
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$463,049,201	N/A	N/A
Subtotal	N/A	N/A	$463,049,201	N/A	N/A
Participant Costs					
Incremental Capital Costs	$148,017,124	N/A	N/A	$148,017,124	$148,017,124
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$148,017,124	N/A	N/A	$148,017,124	$148,017,124
Total Costs	$148,017,124	$70,309,434	$533,358,636	$218,326,558	$218,326,558
Net Benefit (Cost)	$431,915,298	$198,592,673	($264,456,528)	$167,458,770	$219,572,978
Benefit/Cost Ratio	3.92	3.82	0.50	1.77	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	12.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.37%
Gross Load Factor at Customer	E	20.82%
Transmission Loss Factor (Energy)	F	7.084%
Transmission Loss Factor (Demand)	G	7.827%
Societal Net Benefit (Cost)	H	$741.95

Program Summary per Participant

Gross kW Saved at Customer	I	0.55 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.17 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,007 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,084 kWh

Program Summary All Participants

Total Participants	J	535,800
Total Budget	K	**$70,309,434**
Gross kW Saved at Customer	(J x I)	295,941 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**91,075 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	539,649,600 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**580,791,838 kWh**
Societal Net Benefits	(J x I x H)	**$219,572,978**

Utility Program Cost per kWh Lifetime	**$0.0094**
Utility Program Cost per kW at Gen	**$772**

ELECTRIC CIP LOAD MANAGEMENT TOTAL 2017 ELECTRIC GOAL

2017 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	$13,724,245	$13,724,245	$13,724,245	$13,724,245
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$70,597	$70,597	$70,597	$70,597
Environmental Externality	N/A	N/A	N/A	N/A	$11,968
Subtotal	N/A	$13,794,842	$13,794,842	$13,794,842	$13,806,809
Participant Benefits					
Bill Reduction - Electric	$156,590	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	$156,590	N/A	N/A	$0	$0
Total Benefits	$156,590	$13,794,842	$13,794,842	$13,794,842	$13,806,809
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$7,242,118	$7,242,118	$7,242,118	$7,242,118
Advertising & Promotion	N/A	$690,508	$690,508	$690,508	$690,508
Measurement & Verification	N/A	$350,000	$350,000	$350,000	$350,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$8,282,626	$8,282,626	$8,282,626	$8,282,626
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$156,590	N/A	N/A
Subtotal	N/A	N/A	$156,590	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	$8,282,626	$8,439,216	$8,282,626	$8,282,626
Net Benefit (Cost)	$156,590	$5,512,216	$5,355,625	$5,512,216	$5,524,183
Benefit/Cost Ratio	INF	1.67	1.63	1.67	1.67

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	7.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.58%
Gross Load Factor at Customer	E	0.03%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$73.44

Program Summary per Participant

Gross kW Saved at Customer	I	3.58 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.10 kW
Gross Annual kWh Saved at Customer	(B x E x I)	10 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	10 kWh

Program Summary All Participants

Total Participants	J	21,003
Total Budget	K	**$8,282,626**
Gross kW Saved at Customer	(J x I)	75,225 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**23,117 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	203,809 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**218,210 kWh**
Societal Net Benefits	(J x I x H)	**$5,524,183**

Utility Program Cost per kWh Lifetime	**$5.2708**
Utility Program Cost per kW at Gen	**$358**

ELECTRIC CIP LOAD MANAGEMENT TOTAL — 2017 ELECTRIC — ACTUAL

2017 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	$18,231,091	$18,231,091	$18,231,091	$18,231,091
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$163,622	$163,622	$163,622	$163,622
Environmental Externality	N/A	N/A	N/A	N/A	$26,385
Subtotal	N/A	$18,394,713	$18,394,713	$18,394,713	$18,421,098
Participant Benefits					
Bill Reduction - Electric	$354,806	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$58,913	N/A	N/A	$58,913	$58,913
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$413,720	N/A	N/A	$58,913	$58,913
Total Benefits	$413,720	$18,394,713	$18,394,713	$18,453,626	$18,480,011
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$6,627,095	$6,627,095	$6,627,095	$6,627,095
Advertising & Promotion	N/A	$215,391	$215,391	$215,391	$215,391
Measurement & Verification	N/A	$121,472	$121,472	$121,472	$121,472
Rebates	N/A	$58,913	$58,913	$58,913	$58,913
Other	N/A	$6,302	$6,302	$6,302	$6,302
Subtotal	N/A	$7,029,173	$7,029,173	$7,029,173	$7,029,173
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$354,806	N/A	N/A
Subtotal	N/A	N/A	$354,806	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,712	N/A	N/A	$2,712	$2,712
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,712	N/A	N/A	$2,712	$2,712
Total Costs	$2,712	$7,029,173	$7,383,979	$7,031,884	$7,031,884
Net Benefit (Cost)	$411,008	$11,365,540	$11,010,734	$11,421,742	$11,448,127
Benefit/Cost Ratio	152.57	2.62	2.49	2.62	2.63

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	5.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	32.72%
Gross Load Factor at Customer	E	0.06%
Transmission Loss Factor (Energy)	F	6.583%
Transmission Loss Factor (Demand)	G	7.977%
Societal Net Benefit (Cost)	H	$111.21

Program Summary per Participant

Gross kW Saved at Customer	I	4.33 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.54 kW
Gross Annual kWh Saved at Customer	(B x E x I)	23 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	25 kWh

Program Summary All Participants

Total Participants	J	23,787
Total Budget	K	**$7,029,173**
Gross kW Saved at Customer	(J x I)	102,946 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**36,606 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	554,856 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**593,959 kWh**
Societal Net Benefits	(J x I x H)	**$11,448,127**

Utility Program Cost per kWh Lifetime	**$2.0486**
Utility Program Cost per kW at Gen	**$192**

BUSINESS SEGMENT TOTAL — 2017 ELECTRIC — GOAL

2017 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	$26,243,926	$26,243,926	$26,243,926	$26,243,926
T & D	N/A	$13,656,155	$13,656,155	$13,656,155	$13,656,155
Marginal Energy	N/A	$92,673,737	$92,673,737	$92,673,737	$92,673,737
Environmental Externality	N/A	N/A	N/A	N/A	$27,363,721
Subtotal	N/A	$132,573,818	$132,573,818	$132,573,818	$159,937,539
Participant Benefits					
Bill Reduction - Electric	$217,805,168	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$22,977,741	N/A	N/A	$22,977,741	$22,977,741
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$41,197,167	N/A	N/A	$23,138,215	$23,138,215
Subtotal	$281,980,076	N/A	N/A	$46,115,956	$46,115,956
Total Benefits	$281,980,076	$132,573,818	$132,573,818	$178,689,774	$206,053,495
Costs					
Utility Project Costs					
Customer Services	N/A	$3,367,400	$3,367,400	$3,367,400	$3,367,400
Project Administration	N/A	$10,499,878	$10,499,878	$10,499,878	$10,499,878
Advertising & Promotion	N/A	$933,692	$933,692	$933,692	$933,692
Measurement & Verification	N/A	$1,213,603	$1,213,603	$1,213,603	$1,213,603
Rebates	N/A	$22,977,741	$22,977,741	$22,977,741	$22,977,741
Other	N/A	$1,417,752	$1,417,752	$1,417,752	$1,417,752
Subtotal	N/A	$40,410,066	$40,410,066	$40,410,066	$40,410,066
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$217,805,168	N/A	N/A
Subtotal	N/A	N/A	$217,805,168	N/A	N/A
Participant Costs					
Incremental Capital Costs	$80,781,734	N/A	N/A	$61,926,140	$61,926,140
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$80,781,734	N/A	N/A	$61,926,140	$61,926,140
Total Costs	$80,781,734	$40,410,066	$258,215,234	$102,336,207	$102,336,207
Net Benefit (Cost)	$201,198,342	$92,163,752	($125,641,417)	$76,353,567	$103,717,289
Benefit/Cost Ratio	3.49	3.28	0.51	1.75	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	16.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.87%
Gross Load Factor at Customer	E	35.16%
Transmission Loss Factor (Energy)	F	6.608%
Transmission Loss Factor (Demand)	G	7.028%
Societal Net Benefit (Cost)	H	$1,427.36

Program Summary per Participant

Gross kW Saved at Customer	I	0.98 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.55 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,020 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,234 kWh

Program Summary All Participants

Total Participants	J	74,107
Total Budget	K	**$40,410,066**
Gross kW Saved at Customer	(J x I)	72,664 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**40,540 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	223,796,043 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**239,629,655 kWh**
Societal Net Benefits	(J x I x H)	**$103,717,289**

Utility Program Cost per kWh Lifetime	**$0.0102**
Utility Program Cost per kW at Gen	**$997**

BUSINESS SEGMENT TOTAL — 2017 ELECTRIC — ACTUAL

2017 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	$46,736,882	$46,736,882	$46,736,882	$46,736,882
T & D	N/A	$24,410,682	$24,410,682	$24,410,682	$24,410,682
Marginal Energy	N/A	$145,269,788	$145,269,788	$145,269,788	$145,269,788
Environmental Externality	N/A	N/A	N/A	N/A	$42,372,004
Subtotal	N/A	$216,417,352	$216,417,352	$216,417,352	$258,789,356
Participant Benefits					
Bill Reduction - Electric	$337,245,637	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$37,565,505	N/A	N/A	$37,565,505	$37,565,505
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$68,558,055	N/A	N/A	$68,558,055	$68,558,055
Subtotal	$443,369,197	N/A	N/A	$106,123,560	$106,123,560
Total Benefits	$443,369,197	$216,417,352	$216,417,352	$322,540,912	$364,912,916
Costs					
Utility Project Costs					
Customer Services	N/A	$3,277,409	$3,277,409	$3,277,409	$3,277,409
Project Administration	N/A	$10,047,376	$10,047,376	$10,047,376	$10,047,376
Advertising & Promotion	N/A	$567,828	$567,828	$567,828	$567,828
Measurement & Verification	N/A	$781,370	$781,370	$781,370	$781,370
Rebates	N/A	$37,565,505	$37,565,505	$37,565,505	$37,565,505
Other	N/A	$736,934	$736,934	$736,934	$736,934
Subtotal	N/A	$52,976,422	$52,976,422	$52,976,422	$52,976,422
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$337,245,637	N/A	N/A
Subtotal	N/A	N/A	$337,245,637	N/A	N/A
Participant Costs					
Incremental Capital Costs	$127,941,220	N/A	N/A	$127,941,220	$127,941,220
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$127,941,220	N/A	N/A	$127,941,220	$127,941,220
Total Costs	$127,941,220	$52,976,422	$390,222,059	$180,917,642	$180,917,642
Net Benefit (Cost)	$315,427,977	$163,440,930	($173,804,707)	$141,623,270	$183,995,274
Benefit/Cost Ratio	3.47	4.09	0.55	1.78	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	15.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.51%
Gross Load Factor at Customer	E	20.24%
Transmission Loss Factor (Energy)	F	6.609%
Transmission Loss Factor (Demand)	G	7.015%
Societal Net Benefit (Cost)	H	$904.25

Program Summary per Participant

Gross kW Saved at Customer	I	1.66 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.63 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,946 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,154 kWh

Program Summary All Participants

Total Participants	J	122,471
Total Budget	K	**$52,976,422**
Gross kW Saved at Customer	(J x I)	203,478 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**77,698 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	360,753,687 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**386,283,259 kWh**
Societal Net Benefits	(J x I x H)	**$183,995,274**

Utility Program Cost per kWh Lifetime	**$0.0087**
Utility Program Cost per kW at Gen	**$682**

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

Company: **Xcel Energy**
Project: **Business Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$2,336,285		
Incentive Costs =	$2,348,244		
16) Total Utility Project Costs =	$4,684,529		
17) Direct Participant Costs ($/Part.) =	$690		
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) =	8.5		
21) Avg. Dth/Part. Saved =	21.26		
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 =	20,949		
24) Total Annual Dth Saved =	445,391		
25) Incentive/Participant =	$112.09		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$224		
Cost per Participant per Dth =	$42.97		
Lifetime Energy Reduction (Dth)	3,773,256		
Societal Cost per Dth	$2.86		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($9,120,638)	0.65
Utility Cost Test	$12,211,249	3.61
Societal Test	$18,919,373	2.75
Participant Test	$20,460,118	2.39

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

Company: **Xcel Energy**
Project: **Business Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$1,774,499		
Incentive Costs =	$2,859,029		
16) Total Utility Project Costs =	$4,633,527		
17) Direct Participant Costs ($/Part.) =	$831		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$16		
Escalation Rate =	1.73%		
20) Project Life (Years) =	11.1		
21) Avg. Dth/Part. Saved =	25.49		
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 =	20,208		
24) Total Annual Dth Saved =	515,052		
25) Incentive/Participant =	$141.48		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$229		
Cost per Participant per Dth =	$41.59		
Lifetime Energy Reduction (Dth)	4,363,407		
Societal Cost per Dth	$4.27		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($11,192,664)	0.69
Utility Cost Test	$20,348,209	5.39
Societal Test	$20,548,393	2.10
Participant Test	$27,261,658	2.62

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$2,298,873		
Incentive Costs =	$2,348,244		
16) Total Utility Project Costs =	$4,647,117		
17) Direct Participant Costs ($/Part.) =	$7,416		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$299		
Escalation Rate =	1.73%		
20) Project Life (Years) =	8.5		
21) Avg. Dth/Part. Saved =	228.50		
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 =	1,949		
24) Total Annual Dth Saved =	445,391		
25) Incentive/Participant =	$1,204.72		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$2,384		
Cost per Participant per Dth =	$42.89		
Lifetime Energy Reduction (Dth)	3,773,256		
Societal Cost per Dth	$2.85		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($9,083,226)	0.65
Utility Cost Test	$12,248,661	3.64
Societal Test	$18,956,785	2.76
Participant Test	$20,460,118	2.39

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$1,734,607		
Incentive Costs =	$2,859,029		
16) Total Utility Project Costs =	$4,593,635		
17) Direct Participant Costs ($/Part.) =	$23,544		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$448		
Escalation Rate =	1.73%		
20) Project Life (Years) =	11.1		
21) Avg. Dth/Part. Saved =	722.37		
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 =	713		
24) Total Annual Dth Saved =	515,052		
25) Incentive/Participant =	$4,009.86		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$6,443		
Cost per Participant per Dth =	$41.51		
Lifetime Energy Reduction (Dth)	4,363,407		
Societal Cost per Dth	$4.26		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($11,152,772)	0.69
Utility Cost Test	$20,388,101	5.44
Societal Test	$20,588,285	2.11
Participant Test	$27,261,658	2.62

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL 2017 ELECTRIC GOAL

2017 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	$22,452,496	$22,452,496	$22,452,496	$22,452,496
T & D	N/A	$13,656,155	$13,656,155	$13,656,155	$13,656,155
Marginal Energy	N/A	$92,625,056	$92,625,056	$92,625,056	$92,625,056
Environmental Externality	N/A	N/A	N/A	N/A	$27,356,068
Subtotal	N/A	$128,733,707	$128,733,707	$128,733,707	$156,089,774
Participant Benefits					
Bill Reduction - Electric	$217,701,302	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$22,977,741	N/A	N/A	$22,977,741	$22,977,741
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$41,197,167	N/A	N/A	$23,138,215	$23,138,215
Subtotal	$281,876,210	N/A	N/A	$46,115,956	$46,115,956
Total Benefits	$281,876,210	$128,733,707	$128,733,707	$174,849,663	$202,205,730
Costs					
Utility Project Costs					
Customer Services	N/A	$3,367,400	$3,367,400	$3,367,400	$3,367,400
Project Administration	N/A	$7,959,738	$7,959,738	$7,959,738	$7,959,738
Advertising & Promotion	N/A	$501,048	$501,048	$501,048	$501,048
Measurement & Verification	N/A	$1,037,553	$1,037,553	$1,037,553	$1,037,553
Rebates	N/A	$22,977,741	$22,977,741	$22,977,741	$22,977,741
Other	N/A	$1,417,752	$1,417,752	$1,417,752	$1,417,752
Subtotal	N/A	$37,261,232	$37,261,232	$37,261,232	$37,261,232
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$217,701,302	N/A	N/A
Subtotal	N/A	N/A	$217,701,302	N/A	N/A
Participant Costs					
Incremental Capital Costs	$80,781,734	N/A	N/A	$61,926,140	$61,926,140
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$80,781,734	N/A	N/A	$61,926,140	$61,926,140
Total Costs	$80,781,734	$37,261,232	$254,962,534	$99,187,373	$99,187,373
Net Benefit (Cost)	$201,094,476	$91,472,475	($126,228,827)	$75,662,290	$103,018,358
Benefit/Cost Ratio	3.49	3.45	0.50	1.76	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	16.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	65.49%
Gross Load Factor at Customer	E	55.99%
Transmission Loss Factor (Energy)	F	6.608%
Transmission Loss Factor (Demand)	G	7.045%
Societal Net Benefit (Cost)	H	$2,259.52

Program Summary per Participant

Gross kW Saved at Customer	I	4.99 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.52 kW
Gross Annual kWh Saved at Customer	(B x E x I)	24,496 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	26,229 kWh

Program Summary All Participants

Total Participants	J	9,129
Total Budget	K	**$37,261,232**
Gross kW Saved at Customer	(J x I)	45,593 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**32,124 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	223,628,071 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**239,449,813 kWh**
Societal Net Benefits	(J x I x H)	**$103,018,358**

Utility Program Cost per kWh Lifetime	**$0.0094**
Utility Program Cost per kW at Gen	**$1,160**

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL 2017 ELECTRIC ACTUAL

2017 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	$40,142,319	$40,142,319	$40,142,319	$40,142,319
T & D	N/A	$24,410,682	$24,410,682	$24,410,682	$24,410,682
Marginal Energy	N/A	$145,128,573	$145,128,573	$145,128,573	$145,128,573
Environmental Externality	N/A	N/A	N/A	N/A	$42,350,331
Subtotal	N/A	$209,681,574	$209,681,574	$209,681,574	$252,031,906
Participant Benefits					
Bill Reduction - Electric	$336,947,978	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$37,565,505	N/A	N/A	$37,565,505	$37,565,505
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$68,558,055	N/A	N/A	$68,558,055	$68,558,055
Subtotal	$443,071,538	N/A	N/A	$106,123,560	$106,123,560
Total Benefits	$443,071,538	$209,681,574	$209,681,574	$315,805,134	$358,155,465
Costs					
Utility Project Costs					
Customer Services	N/A	$3,277,409	$3,277,409	$3,277,409	$3,277,409
Project Administration	N/A	$7,829,161	$7,829,161	$7,829,161	$7,829,161
Advertising & Promotion	N/A	$223,418	$223,418	$223,418	$223,418
Measurement & Verification	N/A	$681,626	$681,626	$681,626	$681,626
Rebates	N/A	$37,565,505	$37,565,505	$37,565,505	$37,565,505
Other	N/A	$736,934	$736,934	$736,934	$736,934
Subtotal	N/A	$50,314,054	$50,314,054	$50,314,054	$50,314,054
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$336,947,978	N/A	N/A
Subtotal	N/A	N/A	$336,947,978	N/A	N/A
Participant Costs					
Incremental Capital Costs	$127,941,220	N/A	N/A	$127,941,220	$127,941,220
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$127,941,220	N/A	N/A	$127,941,220	$127,941,220
Total Costs	$127,941,220	$50,314,054	$387,262,033	$178,255,274	$178,255,274
Net Benefit (Cost)	$315,130,318	$159,367,520	($177,580,459)	$137,549,860	$179,900,191
Benefit/Cost Ratio	3.46	4.17	0.54	1.77	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	15.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.24%
Gross Load Factor at Customer	E	26.33%
Transmission Loss Factor (Energy)	F	6.609%
Transmission Loss Factor (Demand)	G	7.019%
Societal Net Benefit (Cost)	H	$1,151.77

Program Summary per Participant

Gross kW Saved at Customer	I	20.65 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	7.83 kW
Gross Annual kWh Saved at Customer	(B x E x I)	47,626 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	50,996 kWh

Program Summary All Participants

Total Participants	J	7,564
Total Budget	K	**$50,314,054**
Gross kW Saved at Customer	(J x I)	156,195 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**59,206 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	360,242,606 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**385,736,064 kWh**
Societal Net Benefits	(J x I x H)	**$179,900,191**

Utility Program Cost per kWh Lifetime	**$0.0083**
Utility Program Cost per kW at Gen	**$850**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$2,298,873		
Incentive Costs =	$2,348,244		
16) Total Utility Project Costs =	$4,647,117		
17) Direct Participant Costs ($/Part.) =	$7,416		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$299		
Escalation Rate =	1.73%		
20) Project Life (Years) =	8.5		
21) Avg. Dth/Part. Saved =	228.50		
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 =	1,949		
24) Total Annual Dth Saved =	445,391		
25) Incentive/Participant =	$1,204.72		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$2,384		
Cost per Participant per Dth =	$42.89		
Lifetime Energy Reduction (Dth)	3,773,256		
Societal Cost per Dth	$2.85		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($9,083,226)	0.65
Utility Cost Test	$12,248,661	3.64
Societal Test	$18,956,785	2.76
Participant Test	$20,460,118	2.39

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$1,734,607		
Incentive Costs =	$2,859,029		
16) Total Utility Project Costs =	$4,593,635		
17) Direct Participant Costs ($/Part.) =	$23,544		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$448		
Escalation Rate =	1.73%		
20) Project Life (Years) =	11.1		
21) Avg. Dth/Part. Saved =	722.37		
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 =	713		
24) Total Annual Dth Saved =	515,052		
25) Incentive/Participant =	$4,009.86		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$6,443		
Cost per Participant per Dth =	$41.51		
Lifetime Energy Reduction (Dth)	4,363,407		
Societal Cost per Dth	$4.26		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($11,152,772)	0.69
Utility Cost Test	$20,388,101	5.44
Societal Test	$20,588,285	2.11
Participant Test	$27,261,658	2.62

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL 2017 ELECTRIC GOAL

2017 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	$3,791,429	$3,791,429	$3,791,429	$3,791,429
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$48,681	$48,681	$48,681	$48,681
Environmental Externality	N/A	N/A	N/A	N/A	$7,654
Subtotal	N/A	$3,840,111	$3,840,111	$3,840,111	$3,847,765
Participant Benefits					
Bill Reduction - Electric	$103,866	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	$103,866	N/A	N/A	$0	$0
Total Benefits	$103,866	$3,840,111	$3,840,111	$3,840,111	$3,847,765
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,456,868	$2,456,868	$2,456,868	$2,456,868
Advertising & Promotion	N/A	$215,508	$215,508	$215,508	$215,508
Measurement & Verification	N/A	$175,000	$175,000	$175,000	$175,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,847,376	$2,847,376	$2,847,376	$2,847,376
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$103,866	N/A	N/A
Subtotal	N/A	N/A	$103,866	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	$2,847,376	$2,951,242	$2,847,376	$2,847,376
Net Benefit (Cost)	$103,866	$992,735	$888,869	$992,735	$1,000,389
Benefit/Cost Ratio	INF	1.35	1.30	1.35	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	5.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.91%
Gross Load Factor at Customer	E	0.07%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$36.95

Program Summary per Participant

Gross kW Saved at Customer	I	27.67 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.60 kW
Gross Annual kWh Saved at Customer	(B x E x I)	172 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	184 kWh

Program Summary All Participants

Total Participants	J	978
Total Budget	K	**$2,847,376**
Gross kW Saved at Customer	(J x I)	27,071 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,415 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	167,973 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**179,842 kWh**
Societal Net Benefits	(J x I x H)	**$1,000,389**

Utility Program Cost per kWh Lifetime	**$2.8591**
Utility Program Cost per kW at Gen	**$338**

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL — 2017 — ELECTRIC — ACTUAL

2017 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	$6,594,562	$6,594,562	$6,594,562	$6,594,562
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$141,216	$141,216	$141,216	$141,216
Environmental Externality	N/A	N/A	N/A	N/A	$21,673
Subtotal	N/A	$6,735,778	$6,735,778	$6,735,778	$6,757,451
Participant Benefits					
Bill Reduction - Electric	$297,658	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	$297,658	N/A	N/A	$0	$0
Total Benefits	$297,658	$6,735,778	$6,735,778	$6,735,778	$6,757,451
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,114,743	$2,114,743	$2,114,743	$2,114,743
Advertising & Promotion	N/A	$172,619	$172,619	$172,619	$172,619
Measurement & Verification	N/A	$99,744	$99,744	$99,744	$99,744
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,387,106	$2,387,106	$2,387,106	$2,387,106
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$297,658	N/A	N/A
Subtotal	N/A	N/A	$297,658	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	$2,387,106	$2,684,764	$2,387,106	$2,387,106
Net Benefit (Cost)	$297,658	$4,348,672	$4,051,014	$4,348,672	$4,370,345
Benefit/Cost Ratio	INF	2.82	2.51	2.82	2.83

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	5.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.37%
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	$92.43

Program Summary per Participant

Gross kW Saved at Customer	I	36.94 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	14.45 kW
Gross Annual kWh Saved at Customer	(B x E x I)	399 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	427 kWh

Program Summary All Participants

Total Participants	J	1,280
Total Budget	K	**$2,387,106**
Gross kW Saved at Customer	(J x I)	47,283 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**18,492 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	511,081 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**547,196 kWh**
Societal Net Benefits	(J x I x H)	**$4,370,345**

Utility Program Cost per kWh Lifetime	**$0.8512**
Utility Program Cost per kW at Gen	**$129**

BUSINESS NEW CONSTRUCTION 2017 ELECTRIC GOAL

2017 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	$4,638,075	$4,638,075	$4,638,075	$4,638,075
T & D	N/A	$2,824,299	$2,824,299	$2,824,299	$2,824,299
Marginal Energy	N/A	$16,448,059	$16,448,059	$16,448,059	$16,448,059
Environmental Externality	N/A	N/A	N/A	N/A	$4,868,434
Subtotal	N/A	$23,910,433	$23,910,433	$23,910,433	$28,778,867
Participant Benefits					
Bill Reduction - Electric	$39,844,933	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,871,728	N/A	N/A	$3,871,728	$3,871,728
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$43,716,661	N/A	N/A	$3,871,728	$3,871,728
Total Benefits	$43,716,661	$23,910,433	$23,910,433	$27,782,161	$32,650,595
Costs					
Utility Project Costs					
Customer Services	N/A	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Project Administration	N/A	$604,029	$604,029	$604,029	$604,029
Advertising & Promotion	N/A	$99,202	$99,202	$99,202	$99,202
Measurement & Verification	N/A	$695,000	$695,000	$695,000	$695,000
Rebates	N/A	$3,871,728	$3,871,728	$3,871,728	$3,871,728
Other	N/A	$331,000	$331,000	$331,000	$331,000
Subtotal	N/A	$7,600,959	$7,600,959	$7,600,959	$7,600,959
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$39,844,933	N/A	N/A
Subtotal	N/A	N/A	$39,844,933	N/A	N/A
Participant Costs					
Incremental Capital Costs	$13,660,037	N/A	N/A	$8,091,032	$8,091,032
Incremental O&M Costs	$66,809	N/A	N/A	$26,892	$26,892
Subtotal	$13,726,845	N/A	N/A	$8,117,924	$8,117,924
Total Costs	$13,726,845	$7,600,959	$47,445,892	$15,718,883	$15,718,883
Net Benefit (Cost)	$29,989,816	$16,309,474	($23,535,460)	$12,063,278	$16,931,712
Benefit/Cost Ratio	3.18	3.15	0.50	1.77	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	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	72.82%
Gross Load Factor at Customer	E	53.18%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,281.96

Program Summary per Participant

Gross kW Saved at Customer	I	63.42 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	49.66 kW
Gross Annual kWh Saved at Customer	(B x E x I)	295,453 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	316,331 kWh

Program Summary All Participants

Total Participants	J	117
Total Budget	K	**$7,600,959**
Gross kW Saved at Customer	(J x I)	7,420 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,810 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	34,567,983 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**37,010,688 kWh**
Societal Net Benefits	(J x I x H)	**$16,931,712**

Utility Program Cost per kWh Lifetime	**$0.0103**
Utility Program Cost per kW at Gen	**$1,308**

BUSINESS NEW CONSTRUCTION 2017 ELECTRIC ACTUAL

2017 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	$9,841,657	$9,841,657	$9,841,657	$9,841,657
T & D	N/A	$5,992,955	$5,992,955	$5,992,955	$5,992,955
Marginal Energy	N/A	$25,284,974	$25,284,974	$25,284,974	$25,284,974
Environmental Externality	N/A	N/A	N/A	N/A	$7,484,058
Subtotal	N/A	$41,119,587	$41,119,587	$41,119,587	$48,603,644
Participant Benefits					
Bill Reduction - Electric	$61,252,098	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,974,985	N/A	N/A	$6,974,985	$6,974,985
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$68,227,083	N/A	N/A	$6,974,985	$6,974,985
Total Benefits	$68,227,083	$41,119,587	$41,119,587	$48,094,572	$55,578,630
Costs					
Utility Project Costs					
Customer Services	N/A	$1,462,523	$1,462,523	$1,462,523	$1,462,523
Project Administration	N/A	$722,486	$722,486	$722,486	$722,486
Advertising & Promotion	N/A	$28,723	$28,723	$28,723	$28,723
Measurement & Verification	N/A	$561,749	$561,749	$561,749	$561,749
Rebates	N/A	$6,974,985	$6,974,985	$6,974,985	$6,974,985
Other	N/A	$278,873	$278,873	$278,873	$278,873
Subtotal	N/A	$10,029,339	$10,029,339	$10,029,339	$10,029,339
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$61,252,098	N/A	N/A
Subtotal	N/A	N/A	$61,252,098	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,829,163	N/A	N/A	$18,829,163	$18,829,163
Incremental O&M Costs	$433,357	N/A	N/A	$433,357	$433,357
Subtotal	$19,262,520	N/A	N/A	$19,262,520	$19,262,520
Total Costs	$19,262,520	$10,029,339	$71,281,437	$29,291,859	$29,291,859
Net Benefit (Cost)	$48,964,563	$31,090,248	($30,161,850)	$18,802,712	$26,286,770
Benefit/Cost Ratio	3.54	4.10	0.58	1.64	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	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.65%
Gross Load Factor at Customer	E	47.96%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,078.30

Program Summary per Participant

Gross kW Saved at Customer	I	104.53 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	101.89 kW
Gross Annual kWh Saved at Customer	(B x E x I)	439,174 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	470,208 kWh

Program Summary All Participants

Total Participants	J	121
Total Budget	K	**$10,029,339**
Gross kW Saved at Customer	(J x I)	12,648 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**12,328 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	53,140,042 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**56,895,120 kWh**
Societal Net Benefits	(J x I x H)	**$26,286,770**

Utility Program Cost per kWh Lifetime	**$0.0088**
Utility Program Cost per kW at Gen	**$814**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$343,078		
Incentive Costs =	$180,961		
16) Total Utility Project Costs =	$524,039		
17) Direct Participant Costs ($/Part.) =	$73,370		
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 =	1,605.41		
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 =	19		
24) Total Annual Dth Saved =	30,503		
25) Incentive/Participant =	$9,524.27		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$27,581		
Cost per Participant per Dth =	$62.88		
Lifetime Energy Reduction (Dth)	610,054		
Societal Cost per Dth	$1.49		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,180,825)	0.68
Utility Cost Test	$1,977,457	4.77
Societal Test	$3,038,836	4.34
Participant Test	$2,179,885	2.56

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$363,871		
Incentive Costs =	$666,952		
16) Total Utility Project Costs =	$1,030,824		
17) Direct Participant Costs ($/Part.) =	$127,545		
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 =	2,678.35		
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 =	42		
24) Total Annual Dth Saved =	112,491		
25) Incentive/Participant =	$15,879.82		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$24,543		
Cost per Participant per Dth =	$56.78		
Lifetime Energy Reduction (Dth)	2,249,816		
Societal Cost per Dth	$2.54		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($3,452,981)	0.73
Utility Cost Test	$8,194,431	8.95
Societal Test	$8,837,891	2.54
Participant Test	$8,004,841	2.49

COMMERCIAL EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$2,454,463	$2,454,463	$2,454,463	$2,454,463
T & D	N/A	$1,492,854	$1,492,854	$1,492,854	$1,492,854
Marginal Energy	N/A	$10,275,128	$10,275,128	$10,275,128	$10,275,128
Environmental Externality	N/A	N/A	N/A	N/A	$2,989,782
Subtotal	N/A	$14,222,445	$14,222,445	$14,222,445	$17,212,227
Participant Benefits					
Bill Reduction - Electric	$24,126,167	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,634,298	N/A	N/A	$2,634,298	$2,634,298
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$834,475	N/A	N/A	$465,291	$465,291
Subtotal	$27,594,940	N/A	N/A	$3,099,589	$3,099,589
Total Benefits	$27,594,940	$14,222,445	$14,222,445	$17,322,034	$20,311,816
Costs					
Utility Project Costs					
Customer Services	N/A	$75,000	$75,000	$75,000	$75,000
Project Administration	N/A	$637,811	$637,811	$637,811	$637,811
Advertising & Promotion	N/A	$25,000	$25,000	$25,000	$25,000
Measurement & Verification	N/A	$30,000	$30,000	$30,000	$30,000
Rebates	N/A	$2,634,298	$2,634,298	$2,634,298	$2,634,298
Other	N/A	$7,500	$7,500	$7,500	$7,500
Subtotal	N/A	$3,409,609	$3,409,609	$3,409,609	$3,409,609
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$24,126,167	N/A	N/A
Subtotal	N/A	N/A	$24,126,167	N/A	N/A
Participant Costs					
Incremental Capital Costs	$9,288,554	N/A	N/A	$5,437,980	$5,437,980
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$9,288,554	N/A	N/A	$5,437,980	$5,437,980
Total Costs	$9,288,554	$3,409,609	$27,535,776	$8,847,589	$8,847,589
Net Benefit (Cost)	$18,306,386	$10,812,836	($13,313,331)	$8,474,445	$11,464,227
Benefit/Cost Ratio	2.97	4.17	0.52	1.96	2.30

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	80.07%
Gross Load Factor at Customer	E	67.67%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,915.88

Program Summary per Participant

Gross kW Saved at Customer	I	24.12 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	20.77 kW
Gross Annual kWh Saved at Customer	(B x E x I)	142,991 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	153,095 kWh

Program Summary All Participants

Total Participants	J	163
Total Budget	K	**$3,409,609**
Gross kW Saved at Customer	(J x I)	3,932 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,385 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	23,307,477 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**24,954,472 kWh**
Societal Net Benefits	(J x I x H)	**$11,464,227**

Utility Program Cost per kWh Lifetime	**$0.0079**
Utility Program Cost per kW at Gen	**$1,007**

COMMERCIAL EFFICIENCY 2017 ELECTRIC ACTUAL

2017 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	$2,696,613	$2,696,613	$2,696,613	$2,696,613
T & D	N/A	$1,640,157	$1,640,157	$1,640,157	$1,640,157
Marginal Energy	N/A	$10,837,256	$10,837,256	$10,837,256	$10,837,256
Environmental Externality	N/A	N/A	N/A	N/A	$3,156,991
Subtotal	N/A	$15,174,026	$15,174,026	$15,174,026	$18,331,017
Participant Benefits					
Bill Reduction - Electric	$25,455,378	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,158,248	N/A	N/A	$3,158,248	$3,158,248
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$250,744	N/A	N/A	$250,744	$250,744
Subtotal	$28,864,371	N/A	N/A	$3,408,993	$3,408,993
Total Benefits	$28,864,371	$15,174,026	$15,174,026	$18,583,019	$21,740,010
Costs					
Utility Project Costs					
Customer Services	N/A	$66,086	$66,086	$66,086	$66,086
Project Administration	N/A	$499,267	$499,267	$499,267	$499,267
Advertising & Promotion	N/A	$2,988	$2,988	$2,988	$2,988
Measurement & Verification	N/A	$15,979	$15,979	$15,979	$15,979
Rebates	N/A	$3,158,248	$3,158,248	$3,158,248	$3,158,248
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$3,742,569	$3,742,569	$3,742,569	$3,742,569
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$25,455,378	N/A	N/A
Subtotal	N/A	N/A	$25,455,378	N/A	N/A
Participant Costs					
Incremental Capital Costs	$11,365,231	N/A	N/A	$11,365,231	$11,365,231
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$11,365,231	N/A	N/A	$11,365,231	$11,365,231
Total Costs	$11,365,231	$3,742,569	$29,197,948	$15,107,801	$15,107,801
Net Benefit (Cost)	$17,499,140	$11,431,457	($14,023,921)	$3,475,218	$6,632,209
Benefit/Cost Ratio	2.54	4.05	0.52	1.23	1.44

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	17.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	74.05%
Gross Load Factor at Customer	E	60.01%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,426.94

Program Summary per Participant

Gross kW Saved at Customer	I	18.52 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	14.74 kW
Gross Annual kWh Saved at Customer	(B x E x I)	97,351 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	104,230 kWh

Program Summary All Participants

Total Participants	J	251
Total Budget	K	**$3,742,569**
Gross kW Saved at Customer	(J x I)	4,648 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,701 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	24,435,032 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**26,161,704 kWh**
Societal Net Benefits	(J x I x H)	**$6,632,209**

Utility Program Cost per kWh Lifetime	**$0.0082**
Utility Program Cost per kW at Gen	**$1,011**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$263,738		
Incentive Costs =	$230,703		
16) Total Utility Project Costs =	$494,441		
17) Direct Participant Costs ($/Part.) =	$33,219		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$5,288		
Escalation Rate =	1.73%		
20) Project Life (Years) =	14.9		
21) Avg. Dth/Part. Saved =	895.35		
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 =	46		
24) Total Annual Dth Saved =	41,186		
25) Incentive/Participant =	$5,015.29		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$10,749		
Cost per Participant per Dth =	$49.11		
Lifetime Energy Reduction (Dth)	612,933		
Societal Cost per Dth	$1.62		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,199,436)	0.69
Utility Cost Test	$2,190,666	5.43
Societal Test	$6,290,264	7.32
Participant Test	$6,702,557	5.39

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$131,189		
Incentive Costs =	$135,033		
16) Total Utility Project Costs =	$266,223		
17) Direct Participant Costs ($/Part.) =	$34,884		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$399		
Escalation Rate =	1.73%		
20) Project Life (Years) =	15.0		
21) Avg. Dth/Part. Saved =	2,037.48		
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 =	18		
24) Total Annual Dth Saved =	36,675		
25) Incentive/Participant =	$7,501.86		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$14,790		
Cost per Participant per Dth =	$24.38		
Lifetime Energy Reduction (Dth)	545,795		
Societal Cost per Dth	$1.39		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($898,892)	0.73
Utility Cost Test	$2,143,419	9.05
Societal Test	$2,784,135	4.67
Participant Test	$3,691,353	6.88

COMPUTER EFFICIENCY - PC POWER MGMT 2017 ELECTRIC GOAL

2017 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	$142,330	$142,330	$142,330	$142,330
T & D	N/A	$86,088	$86,088	$86,088	$86,088
Marginal Energy	N/A	$693,116	$693,116	$693,116	$693,116
Environmental Externality	N/A	N/A	N/A	N/A	$160,215
Subtotal	N/A	$921,533	$921,533	$921,533	$1,081,748
Participant Benefits					
Bill Reduction - Electric	$1,363,791	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$212,000	N/A	N/A	$212,000	$212,000
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$776,058	N/A	N/A	$816,708	$816,708
Subtotal	$2,351,849	N/A	N/A	$1,028,708	$1,028,708
Total Benefits	$2,351,849	$921,533	$921,533	$1,950,241	$2,110,456
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$136,850	$136,850	$136,850	$136,850
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	$212,000	$212,000	$212,000	$212,000
Other	N/A	$193,000	$193,000	$193,000	$193,000
Subtotal	N/A	$547,850	$547,850	$547,850	$547,850
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,363,791	N/A	N/A
Subtotal	N/A	N/A	$1,363,791	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,025,502	N/A	N/A	$1,025,502	$1,025,502
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,025,502	N/A	N/A	$1,025,502	$1,025,502
Total Costs	$1,025,502	$547,850	$1,911,641	$1,573,352	$1,573,352
Net Benefit (Cost)	$1,326,347	$373,683	($990,108)	$376,889	$537,104
Benefit/Cost Ratio	2.29	1.68	0.48	1.24	1.34

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	5.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	98.38%
Gross Load Factor at Customer	E	87.40%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,204.31

Program Summary per Participant

Gross kW Saved at Customer	I	0.32 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.34 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,455 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,628 kWh

Program Summary All Participants

Total Participants	J	1,391
Total Budget	K	**$547,850**
Gross kW Saved at Customer	(J x I)	446 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**472 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,414,552 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,655,837 kWh**
Societal Net Benefits	(J x I x H)	**$537,104**

Utility Program Cost per kWh Lifetime	**$0.0267**
Utility Program Cost per kW at Gen	**$1,161**

COMPUTER EFFICIENCY - PC POWER MGMT 2017 ELECTRIC ACTUAL

2017 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	$112,835	$112,835	$112,835	$112,835
T & D	N/A	$68,211	$68,211	$68,211	$68,211
Marginal Energy	N/A	$536,329	$536,329	$536,329	$536,329
Environmental Externality	N/A	N/A	N/A	N/A	$124,151
Subtotal	N/A	$717,375	$717,375	$717,375	$841,526
Participant Benefits					
Bill Reduction - Electric	$1,058,718	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$5,477	N/A	N/A	$5,477	$5,477
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,064,194	N/A	N/A	$5,477	$5,477
Total Benefits	$1,064,194	$717,375	$717,375	$722,851	$847,002
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$85,357	$85,357	$85,357	$85,357
Advertising & Promotion	N/A	$1,690	$1,690	$1,690	$1,690
Measurement & Verification	N/A	$2,434	$2,434	$2,434	$2,434
Rebates	N/A	$5,477	$5,477	$5,477	$5,477
Other	N/A	$163,890	$163,890	$163,890	$163,890
Subtotal	N/A	$258,848	$258,848	$258,848	$258,848
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,058,718	N/A	N/A
Subtotal	N/A	N/A	$1,058,718	N/A	N/A
Participant Costs					
Incremental Capital Costs	$519,362	N/A	N/A	$519,362	$519,362
Incremental O&M Costs	$2,519	N/A	N/A	$2,519	$2,519
Subtotal	$521,881	N/A	N/A	$521,881	$521,881
Total Costs	$521,881	$258,848	$1,317,566	$780,729	$780,729
Net Benefit (Cost)	$542,313	$458,527	($600,191)	($57,877)	$66,273
Benefit/Cost Ratio	2.04	2.77	0.54	0.93	1.08

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	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	89.26%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$173.48

Program Summary per Participant

Gross kW Saved at Customer	I	0.16 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)	1,216 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,302 kWh

Program Summary All Participants

Total Participants	J	2,457
Total Budget	K	**$258,848**
Gross kW Saved at Customer	(J x I)	382 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**411 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,987,212 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,198,300 kWh**
Societal Net Benefits	(J x I x H)	**$66,273**

Utility Program Cost per kWh Lifetime	**$0.0161**
Utility Program Cost per kW at Gen	**$630**

COOLING EFFICIENCY — 2017 — ELECTRIC — GOAL

2017 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	$1,669,635	$1,669,635	$1,669,635	$1,669,635
T & D	N/A	$1,016,356	$1,016,356	$1,016,356	$1,016,356
Marginal Energy	N/A	$2,618,307	$2,618,307	$2,618,307	$2,618,307
Environmental Externality	N/A	N/A	N/A	N/A	$739,755
Subtotal	N/A	$5,304,297	$5,304,297	$5,304,297	$6,044,052
Participant Benefits					
Bill Reduction - Electric	$6,142,120	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,805,252	N/A	N/A	$1,805,252	$1,805,252
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$37,901	N/A	N/A	$9,564	$9,564
Subtotal	$7,985,273	N/A	N/A	$1,814,816	$1,814,816
Total Benefits	$7,985,273	$5,304,297	$5,304,297	$7,119,114	$7,858,869
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$429,169	$429,169	$429,169	$429,169
Advertising & Promotion	N/A	$63,261	$63,261	$63,261	$63,261
Measurement & Verification	N/A	$18,000	$18,000	$18,000	$18,000
Rebates	N/A	$1,805,252	$1,805,252	$1,805,252	$1,805,252
Other	N/A	$172,000	$172,000	$172,000	$172,000
Subtotal	N/A	$2,487,682	$2,487,682	$2,487,682	$2,487,682
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,142,120	N/A	N/A
Subtotal	N/A	N/A	$6,142,120	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,210,904	N/A	N/A	$3,804,957	$3,804,957
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,210,904	N/A	N/A	$3,804,957	$3,804,957
Total Costs	$4,210,904	$2,487,682	$8,629,802	$6,292,639	$6,292,639
Net Benefit (Cost)	$3,774,369	$2,816,615	($3,325,505)	$826,475	$1,566,230
Benefit/Cost Ratio	1.90	2.13	0.61	1.13	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	18.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	77.16%
Gross Load Factor at Customer	E	24.39%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$601.61

Program Summary per Participant

Gross kW Saved at Customer	I	1.59 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.32 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,396 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,636 kWh

Program Summary All Participants

Total Participants	J	1,638
Total Budget	K	**$2,487,682**
Gross kW Saved at Customer	(J x I)	2,603 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,160 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,563,067 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,956,175 kWh**
Societal Net Benefits	(J x I x H)	**$1,566,230**

Utility Program Cost per kWh Lifetime	**$0.0227**
Utility Program Cost per kW at Gen	**$1,152**

COOLING EFFICIENCY — 2017 — ELECTRIC — ACTUAL

2017 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	$2,424,130	$2,424,130	$2,424,130	$2,424,130
T & D	N/A	$1,475,696	$1,475,696	$1,475,696	$1,475,696
Marginal Energy	N/A	$3,917,636	$3,917,636	$3,917,636	$3,917,636
Environmental Externality	N/A	N/A	N/A	N/A	$1,101,700
Subtotal	N/A	$7,817,462	$7,817,462	$7,817,462	$8,919,162
Participant Benefits					
Bill Reduction - Electric	$9,147,820	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,536,084	N/A	N/A	$2,536,084	$2,536,084
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$11,683,904	N/A	N/A	$2,536,084	$2,536,084
Total Benefits	$11,683,904	$7,817,462	$7,817,462	$10,353,546	$11,455,246
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$306,011	$306,011	$306,011	$306,011
Advertising & Promotion	N/A	$27,633	$27,633	$27,633	$27,633
Measurement & Verification	N/A	$9,593	$9,593	$9,593	$9,593
Rebates	N/A	$2,536,084	$2,536,084	$2,536,084	$2,536,084
Other	N/A	$90,189	$90,189	$90,189	$90,189
Subtotal	N/A	$2,969,510	$2,969,510	$2,969,510	$2,969,510
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$9,147,820	N/A	N/A
Subtotal	N/A	N/A	$9,147,820	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,308,045	N/A	N/A	$4,308,045	$4,308,045
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,308,045	N/A	N/A	$4,308,045	$4,308,045
Total Costs	$4,308,045	$2,969,510	$12,117,329	$7,277,555	$7,277,555
Net Benefit (Cost)	$7,375,858	$4,847,952	($4,299,868)	$3,075,991	$4,177,691
Benefit/Cost Ratio	2.71	2.63	0.65	1.42	1.57

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	17.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	85.94%
Gross Load Factor at Customer	E	28.66%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,230.33

Program Summary per Participant

Gross kW Saved at Customer	I	2.85 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.63 kW
Gross Annual kWh Saved at Customer	(B x E x I)	7,153 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	7,658 kWh

Program Summary All Participants

Total Participants	J	1,192
Total Budget	K	**$2,969,510**
Gross kW Saved at Customer	(J x I)	3,396 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,138 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,526,353 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,128,858 kWh**
Societal Net Benefits	(J x I x H)	**$4,177,691**

Utility Program Cost per kWh Lifetime	**$0.0183**
Utility Program Cost per kW at Gen	**$946**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$15,000		
Incentive Costs =	$33,579		
16) Total Utility Project Costs =	$48,579		
17) Direct Participant Costs ($/Part.) =	$38,413		
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) =	15.0		
21) Avg. Dth/Part. Saved =	1,989.31		
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 =	3		
24) Total Annual Dth Saved =	5,968		
25) Incentive/Participant =	$11,192.86		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$16,193		
Cost per Participant per Dth =	$27.45		
Lifetime Energy Reduction (Dth)	89,519		
Societal Cost per Dth	$1.13		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($151,531)	0.72
Utility Cost Test	$343,534	8.07
Societal Test	$458,851	5.54
Participant Test	$582,656	6.06

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$1,812		
Incentive Costs =	$27,000		
16) Total Utility Project Costs =	$28,812		
17) Direct Participant Costs ($/Part.) =	$14,735		
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) =	15.0		
21) Avg. Dth/Part. Saved =	733.42		
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 =	6		
24) Total Annual Dth Saved =	4,401		
25) Incentive/Participant =	$4,500.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$4,802		
Cost per Participant per Dth =	$26.64		
Lifetime Energy Reduction (Dth)	66,008		
Societal Cost per Dth	$1.37		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($104,724)	0.73
Utility Cost Test	$260,315	10.03
Societal Test	$322,703	4.58
Participant Test	$428,426	5.85

CUSTOM EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$592,847	$592,847	$592,847	$592,847
T & D	N/A	$360,756	$360,756	$360,756	$360,756
Marginal Energy	N/A	$2,086,595	$2,086,595	$2,086,595	$2,086,595
Environmental Externality	N/A	N/A	N/A	N/A	$612,297
Subtotal	N/A	$3,040,199	$3,040,199	$3,040,199	$3,652,496
Participant Benefits					
Bill Reduction - Electric	$4,968,385	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$341,571	N/A	N/A	$341,571	$341,571
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$6,342,173	N/A	N/A	$2,498,639	$2,498,639
Subtotal	$11,652,130	N/A	N/A	$2,840,210	$2,840,210
Total Benefits	$11,652,130	$3,040,199	$3,040,199	$5,880,409	$6,492,706
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$755,658	$755,658	$755,658	$755,658
Advertising & Promotion	N/A	$27,860	$27,860	$27,860	$27,860
Measurement & Verification	N/A	$14,404	$14,404	$14,404	$14,404
Rebates	N/A	$341,571	$341,571	$341,571	$341,571
Other	N/A	$2,152	$2,152	$2,152	$2,152
Subtotal	N/A	$1,141,645	$1,141,645	$1,141,645	$1,141,645
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,968,385	N/A	N/A
Subtotal	N/A	N/A	$4,968,385	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,386,935	N/A	N/A	$569,527	$569,527
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,386,935	N/A	N/A	$569,527	$569,527
Total Costs	$1,386,935	$1,141,645	$6,110,030	$1,711,172	$1,711,172
Net Benefit (Cost)	$10,265,194	$1,898,554	($3,069,831)	$4,169,237	$4,781,534
Benefit/Cost Ratio	8.40	2.66	0.50	3.44	3.79

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	18.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	73.96%
Gross Load Factor at Customer	E	53.00%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$4,856.95

Program Summary per Participant

Gross kW Saved at Customer	I	18.93 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	15.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	87,904 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	94,116 kWh

Program Summary All Participants

Total Participants	J	52
Total Budget	K	**$1,141,645**
Gross kW Saved at Customer	(J x I)	984 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**783 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,571,010 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,894,015 kWh**
Societal Net Benefits	(J x I x H)	**$4,781,534**

Utility Program Cost per kWh Lifetime	**$0.0126**
Utility Program Cost per kW at Gen	**$1,458**

CUSTOM EFFICIENCY — 2017 — ELECTRIC — ACTUAL

2017 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	$626,580	$626,580	$626,580	$626,580
T & D	N/A	$381,283	$381,283	$381,283	$381,283
Marginal Energy	N/A	$1,817,529	$1,817,529	$1,817,529	$1,817,529
Environmental Externality	N/A	N/A	N/A	N/A	$533,342
Subtotal	N/A	$2,825,393	$2,825,393	$2,825,393	$3,358,734
Participant Benefits					
Bill Reduction - Electric	$4,327,714	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$409,598	N/A	N/A	$409,598	$409,598
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$11,387,655	N/A	N/A	$11,387,655	$11,387,655
Subtotal	$16,124,967	N/A	N/A	$11,797,253	$11,797,253
Total Benefits	$16,124,967	$2,825,393	$2,825,393	$14,622,646	$15,155,988
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$601,082	$601,082	$601,082	$601,082
Advertising & Promotion	N/A	$1,533	$1,533	$1,533	$1,533
Measurement & Verification	N/A	$8,301	$8,301	$8,301	$8,301
Rebates	N/A	$409,598	$409,598	$409,598	$409,598
Other	N/A	$17,385	$17,385	$17,385	$17,385
Subtotal	N/A	$1,037,899	$1,037,899	$1,037,899	$1,037,899
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,327,714	N/A	N/A
Subtotal	N/A	N/A	$4,327,714	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,698,157	N/A	N/A	$2,698,157	$2,698,157
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,698,157	N/A	N/A	$2,698,157	$2,698,157
Total Costs	$2,698,157	$1,037,899	$5,365,613	$3,736,056	$3,736,056
Net Benefit (Cost)	$13,426,810	$1,787,494	($2,540,220)	$10,886,590	$11,419,932
Benefit/Cost Ratio	5.98	2.72	0.53	3.91	4.06

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	74.24%
Gross Load Factor at Customer	E	43.85%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$11,016.72

Program Summary per Participant

Gross kW Saved at Customer	I	24.68 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	19.70 kW
Gross Annual kWh Saved at Customer	(B x E x I)	94,800 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	101,498 kWh

Program Summary All Participants

Total Participants	J	42
Total Budget	K	**$1,037,899**
Gross kW Saved at Customer	(J x I)	1,037 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**827 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,981,580 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,262,934 kWh**
Societal Net Benefits	(J x I x H)	**$11,419,932**

Utility Program Cost per kWh Lifetime	**$0.0131**
Utility Program Cost per kW at Gen	**$1,254**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$89,905		
Incentive Costs =	$98,883		
16) Total Utility Project Costs =	$188,789		
17) Direct Participant Costs ($/Part.) =	$64,533		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$2,599		
Escalation Rate =	1.73%		
20) Project Life (Years) =	19.5		
21) Avg. Dth/Part. Saved =	805.79		
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		
24) Total Annual Dth Saved =	16,116		
25) Incentive/Participant =	$4,944.16		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$9,439		
Cost per Participant per Dth =	$91.80		
Lifetime Energy Reduction (Dth)	313,712		
Societal Cost per Dth	$2.84		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($528,893)	0.71
Utility Cost Test	$1,106,563	6.86
Societal Test	$2,071,513	3.32
Participant Test	$2,153,890	2.67

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$108,461		
Incentive Costs =	$82,145		
16) Total Utility Project Costs =	$190,606		
17) Direct Participant Costs ($/Part.) =	$40,968		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$4,667		
Escalation Rate =	1.73%		
20) Project Life (Years) =	19.5		
21) Avg. Dth/Part. Saved =	1,596.57		
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 =	10		
24) Total Annual Dth Saved =	15,966		
25) Incentive/Participant =	$8,214.54		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$19,061		
Cost per Participant per Dth =	$37.60		
Lifetime Energy Reduction (Dth)	310,791		
Societal Cost per Dth	$1.67		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($527,543)	0.71
Utility Cost Test	$1,092,684	6.73
Societal Test	$2,330,073	5.50
Participant Test	$2,899,697	8.08

DATA CENTER EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$464,309	$464,309	$464,309	$464,309
T & D	N/A	$281,695	$281,695	$281,695	$281,695
Marginal Energy	N/A	$2,456,182	$2,456,182	$2,456,182	$2,456,182
Environmental Externality	N/A	N/A	N/A	N/A	$763,912
Subtotal	N/A	$3,202,187	$3,202,187	$3,202,187	$3,966,098
Participant Benefits					
Bill Reduction - Electric	$5,499,795	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$610,432	N/A	N/A	$610,432	$610,432
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$255,445	N/A	N/A	$255,445	$255,445
Subtotal	$6,365,672	N/A	N/A	$865,877	$865,877
Total Benefits	$6,365,672	$3,202,187	$3,202,187	$4,068,063	$4,831,975
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$387,797	$387,797	$387,797	$387,797
Advertising & Promotion	N/A	$26,603	$26,603	$26,603	$26,603
Measurement & Verification	N/A	$36,860	$36,860	$36,860	$36,860
Rebates	N/A	$610,432	$610,432	$610,432	$610,432
Other	N/A	$48,400	$48,400	$48,400	$48,400
Subtotal	N/A	$1,110,092	$1,110,092	$1,110,092	$1,110,092
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,499,795	N/A	N/A
Subtotal	N/A	N/A	$5,499,795	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,907,033	N/A	N/A	$1,907,033	$1,907,033
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,907,033	N/A	N/A	$1,907,033	$1,907,033
Total Costs	$1,907,033	$1,110,092	$6,609,887	$3,017,125	$3,017,125
Net Benefit (Cost)	$4,458,639	$2,092,095	($3,407,700)	$1,050,939	$1,814,850
Benefit/Cost Ratio	3.34	2.88	0.48	1.35	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	11.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	75.24%
Gross Load Factor at Customer	E	86.99%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,729.71

Program Summary per Participant

Gross kW Saved at Customer	I	14.99 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	12.13 kW
Gross Annual kWh Saved at Customer	(B x E x I)	114,214 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	122,284 kWh

Program Summary All Participants

Total Participants	J	70
Total Budget	K	**$1,110,092**
Gross kW Saved at Customer	(J x I)	1,049 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**849 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,994,959 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,559,913 kWh**
Societal Net Benefits	(J x I x H)	**$1,814,850**

Utility Program Cost per kWh Lifetime	**$0.0111**
Utility Program Cost per kW at Gen	**$1,308**

DATA CENTER EFFICIENCY 2017 ELECTRIC ACTUAL

2017 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	$198,766	$198,766	$198,766	$198,766
T & D	N/A	$120,574	$120,574	$120,574	$120,574
Marginal Energy	N/A	$2,522,482	$2,522,482	$2,522,482	$2,522,482
Environmental Externality	N/A	N/A	N/A	N/A	$779,981
Subtotal	N/A	$2,841,822	$2,841,822	$2,841,822	$3,621,803
Participant Benefits					
Bill Reduction - Electric	$5,601,744	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$339,521	N/A	N/A	$339,521	$339,521
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,941,265	N/A	N/A	$339,521	$339,521
Total Benefits	$5,941,265	$2,841,822	$2,841,822	$3,181,343	$3,961,324
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$222,278	$222,278	$222,278	$222,278
Advertising & Promotion	N/A	$45,925	$45,925	$45,925	$45,925
Measurement & Verification	N/A	$1,583	$1,583	$1,583	$1,583
Rebates	N/A	$339,521	$339,521	$339,521	$339,521
Other	N/A	$1,260	$1,260	$1,260	$1,260
Subtotal	N/A	$610,566	$610,566	$610,566	$610,566
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,601,744	N/A	N/A
Subtotal	N/A	N/A	$5,601,744	N/A	N/A
Participant Costs					
Incremental Capital Costs	$749,080	N/A	N/A	$749,080	$749,080
Incremental O&M Costs	$3,477	N/A	N/A	$3,477	$3,477
Subtotal	$752,556	N/A	N/A	$752,556	$752,556
Total Costs	$752,556	$610,566	$6,212,310	$1,363,122	$1,363,122
Net Benefit (Cost)	$5,188,708	$2,231,256	($3,370,488)	$1,818,220	$2,598,202
Benefit/Cost Ratio	7.89	4.65	0.46	2.33	2.91

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	11.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	85.28%
Gross Load Factor at Customer	E	238.17%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$6,471.32

Program Summary per Participant

Gross kW Saved at Customer	I	20.07 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	18.41 kW
Gross Annual kWh Saved at Customer	(B x E x I)	418,834 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	448,430 kWh

Program Summary All Participants

Total Participants	J	20
Total Budget	K	**$610,566**
Gross kW Saved at Customer	(J x I)	401 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**368 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,376,677 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,968,605 kWh**
Societal Net Benefits	(J x I x H)	**$2,598,202**

Utility Program Cost per kWh Lifetime	**$0.0060**
Utility Program Cost per kW at Gen	**$1,658**

EFFICIENCY CONTROLS 2017 ELECTRIC GOAL

2017 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	$152,543	$152,543	$152,543	$152,543
T & D	N/A	$92,684	$92,684	$92,684	$92,684
Marginal Energy	N/A	$2,429,972	$2,429,972	$2,429,972	$2,429,972
Environmental Externality	N/A	N/A	N/A	N/A	$828,717
Subtotal	N/A	$2,675,198	$2,675,198	$2,675,198	$3,503,915
Participant Benefits					
Bill Reduction - Electric	$5,273,693	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$655,024	N/A	N/A	$655,024	$655,024
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$635,529	N/A	N/A	$246,600	$246,600
Subtotal	$6,564,246	N/A	N/A	$901,624	$901,624
Total Benefits	$6,564,246	$2,675,198	$2,675,198	$3,576,822	$4,405,539
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$339,241	$339,241	$339,241	$339,241
Advertising & Promotion	N/A	$58,652	$58,652	$58,652	$58,652
Measurement & Verification	N/A	$5,000	$5,000	$5,000	$5,000
Rebates	N/A	$655,024	$655,024	$655,024	$655,024
Other	N/A	$18,000	$18,000	$18,000	$18,000
Subtotal	N/A	$1,075,917	$1,075,917	$1,075,917	$1,075,917
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,273,693	N/A	N/A
Subtotal	N/A	N/A	$5,273,693	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,511,426	N/A	N/A	$981,533	$981,533
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,511,426	N/A	N/A	$981,533	$981,533
Total Costs	$2,511,426	$1,075,917	$6,349,610	$2,057,450	$2,057,450
Net Benefit (Cost)	$4,052,820	$1,599,281	($3,674,412)	$1,519,371	$2,348,088
Benefit/Cost Ratio	2.61	2.49	0.42	1.74	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	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.05%
Gross Load Factor at Customer	E	78.78%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,308.43

Program Summary per Participant

Gross kW Saved at Customer	I	17.54 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.97 kW
Gross Annual kWh Saved at Customer	(B x E x I)	121,030 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	129,582 kWh

Program Summary All Participants

Total Participants	J	58
Total Budget	K	**$1,075,917**
Gross kW Saved at Customer	(J x I)	1,017 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**230 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,019,714 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,515,754 kWh**
Societal Net Benefits	(J x I x H)	**$2,348,088**

Utility Program Cost per kWh Lifetime	**$0.0095**
Utility Program Cost per kW at Gen	**$4,673**

EFFICIENCY CONTROLS 2017 ELECTRIC ACTUAL

2017 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	$240,885	$240,885	$240,885	$240,885
T & D	N/A	$146,361	$146,361	$146,361	$146,361
Marginal Energy	N/A	$4,822,161	$4,822,161	$4,822,161	$4,822,161
Environmental Externality	N/A	N/A	N/A	N/A	$1,644,549
Subtotal	N/A	$5,209,407	$5,209,407	$5,209,407	$6,853,956
Participant Benefits					
Bill Reduction - Electric	$10,465,389	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$833,779	N/A	N/A	$833,779	$833,779
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$877,749	N/A	N/A	$877,749	$877,749
Subtotal	$12,176,917	N/A	N/A	$1,711,528	$1,711,528
Total Benefits	$12,176,917	$5,209,407	$5,209,407	$6,920,935	$8,565,484
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$250,432	$250,432	$250,432	$250,432
Advertising & Promotion	N/A	$972	$972	$972	$972
Measurement & Verification	N/A	$482	$482	$482	$482
Rebates	N/A	$833,779	$833,779	$833,779	$833,779
Other	N/A	$56,957	$56,957	$56,957	$56,957
Subtotal	N/A	$1,142,621	$1,142,621	$1,142,621	$1,142,621
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$10,465,389	N/A	N/A
Subtotal	N/A	N/A	$10,465,389	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,422,810	N/A	N/A	$3,422,810	$3,422,810
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,422,810	N/A	N/A	$3,422,810	$3,422,810
Total Costs	$3,422,810	$1,142,621	$11,608,010	$4,565,431	$4,565,431
Net Benefit (Cost)	$8,754,107	$4,066,786	($6,398,603)	$2,355,504	$4,000,053
Benefit/Cost Ratio	3.56	4.56	0.45	1.52	1.88

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	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	17.30%
Gross Load Factor at Customer	E	81.38%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,047.01

Program Summary per Participant

Gross kW Saved at Customer	I	36.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.73 kW
Gross Annual kWh Saved at Customer	(B x E x I)	257,968 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	276,197 kWh

Program Summary All Participants

Total Participants	J	54
Total Budget	K	**$1,142,621**
Gross kW Saved at Customer	(J x I)	1,954 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**364 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	13,930,284 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**14,914,651 kWh**
Societal Net Benefits	(J x I x H)	**$4,000,053**
Utility Program Cost per kWh Lifetime		**$0.0051**
Utility Program Cost per kW at Gen		**$3,143**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$45,300		
Incentive Costs =	$131,011		
16) Total Utility Project Costs =	$176,311		
17) Direct Participant Costs ($/Part.) =	$62,372		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$1,665		
Escalation Rate =	1.73%		
20) Project Life (Years) =	15.0		
21) Avg. Dth/Part. Saved =	1,003.85		
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 =	16		
24) Total Annual Dth Saved =	16,062		
25) Incentive/Participant =	$8,188.20		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$11,019		
Cost per Participant per Dth =	$73.11		
Lifetime Energy Reduction (Dth)	240,924		
Societal Cost per Dth	$2.73		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($453,388)	0.70
Utility Cost Test	$878,988	5.99
Societal Test	$1,227,015	2.86
Participant Test	$1,299,026	2.30

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$25,642		
Incentive Costs =	$126,969		
16) Total Utility Project Costs =	$152,611		
17) Direct Participant Costs ($/Part.) =	$70,423		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$2,170		
Escalation Rate =	1.73%		
20) Project Life (Years) =	15.0		
21) Avg. Dth/Part. Saved =	975.71		
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 =	22,441		
25) Incentive/Participant =	$5,520.41		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$6,635		
Cost per Participant per Dth =	$78.98		
Lifetime Energy Reduction (Dth)	336,621		
Societal Cost per Dth	$4.89		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($539,745)	0.73
Utility Cost Test	$1,321,862	9.66
Societal Test	$1,168,730	1.71
Participant Test	$1,713,569	2.06

FLUID SYSTEMS OPTIMIZATION 2017 ELECTRIC GOAL

2017 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	$1,220,522	$1,220,522	$1,220,522	$1,220,522
T & D	N/A	$742,782	$742,782	$742,782	$742,782
Marginal Energy	N/A	$4,643,176	$4,643,176	$4,643,176	$4,643,176
Environmental Externality	N/A	N/A	N/A	N/A	$1,498,065
Subtotal	N/A	$6,606,481	$6,606,481	$6,606,481	$8,104,546
Participant Benefits					
Bill Reduction - Electric	$11,291,404	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,056,032	N/A	N/A	$1,056,032	$1,056,032
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$23,052	N/A	N/A	$23,052	$23,052
Subtotal	$12,370,488	N/A	N/A	$1,079,084	$1,079,084
Total Benefits	$12,370,488	$6,606,481	$6,606,481	$7,685,565	$9,183,630
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$386,870	$386,870	$386,870	$386,870
Advertising & Promotion	N/A	$20,000	$20,000	$20,000	$20,000
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$1,056,032	$1,056,032	$1,056,032	$1,056,032
Other	N/A	$26,000	$26,000	$26,000	$26,000
Subtotal	N/A	$1,508,902	$1,508,902	$1,508,902	$1,508,902
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$11,291,404	N/A	N/A
Subtotal	N/A	N/A	$11,291,404	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,037,872	N/A	N/A	$3,037,872	$3,037,872
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,037,872	N/A	N/A	$3,037,872	$3,037,872
Total Costs	$3,037,872	$1,508,902	$12,800,306	$4,546,774	$4,546,774
Net Benefit (Cost)	$9,332,617	$5,097,579	($6,193,825)	$3,138,791	$4,636,857
Benefit/Cost Ratio	4.07	4.38	0.52	1.69	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	17.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	77.71%
Gross Load Factor at Customer	E	67.31%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,221.69

Program Summary per Participant

Gross kW Saved at Customer	I	6.90 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.76 kW
Gross Annual kWh Saved at Customer	(B x E x I)	40,675 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	43,550 kWh

Program Summary All Participants

Total Participants	J	303
Total Budget	K	**$1,508,902**
Gross kW Saved at Customer	(J x I)	2,087 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,744 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	12,306,346 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**13,175,959 kWh**
Societal Net Benefits	(J x I x H)	**$4,636,857**

Utility Program Cost per kWh Lifetime	**$0.0067**
Utility Program Cost per kW at Gen	**$865**

FLUID SYSTEMS OPTIMIZATION 2017 ELECTRIC ACTUAL

2017 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	$809,879	$809,879	$809,879	$809,879
T & D	N/A	$492,707	$492,707	$492,707	$492,707
Marginal Energy	N/A	$2,937,019	$2,937,019	$2,937,019	$2,937,019
Environmental Externality	N/A	N/A	N/A	N/A	$927,425
Subtotal	N/A	$4,239,604	$4,239,604	$4,239,604	$5,167,029
Participant Benefits					
Bill Reduction - Electric	$7,032,691	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$690,913	N/A	N/A	$690,913	$690,913
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$112,001	N/A	N/A	$112,001	$112,001
Subtotal	$7,835,604	N/A	N/A	$802,914	$802,914
Total Benefits	$7,835,604	$4,239,604	$4,239,604	$5,042,518	$5,969,943
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$340,021	$340,021	$340,021	$340,021
Advertising & Promotion	N/A	$15,749	$15,749	$15,749	$15,749
Measurement & Verification	N/A	$10,519	$10,519	$10,519	$10,519
Rebates	N/A	$690,913	$690,913	$690,913	$690,913
Other	N/A	$18,865	$18,865	$18,865	$18,865
Subtotal	N/A	$1,076,067	$1,076,067	$1,076,067	$1,076,067
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,032,691	N/A	N/A
Subtotal	N/A	N/A	$7,032,691	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,006,806	N/A	N/A	$2,006,806	$2,006,806
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,006,806	N/A	N/A	$2,006,806	$2,006,806
Total Costs	$2,006,806	$1,076,067	$8,108,757	$3,082,873	$3,082,873
Net Benefit (Cost)	$5,828,798	$3,163,537	($3,869,153)	$1,959,645	$2,887,070
Benefit/Cost Ratio	3.90	3.94	0.52	1.64	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	14.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.57%
Gross Load Factor at Customer	E	9.01%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$262.54

Program Summary per Participant

Gross kW Saved at Customer	I	73.31 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.33 kW
Gross Annual kWh Saved at Customer	(B x E x I)	57,891 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	61,982 kWh

Program Summary All Participants

Total Participants	J	150
Total Budget	K	**$1,076,067**
Gross kW Saved at Customer	(J x I)	10,997 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,250 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,683,653 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,297,273 kWh**
Societal Net Benefits	(J x I x H)	**$2,887,070**

Utility Program Cost per kWh Lifetime	**$0.0078**
Utility Program Cost per kW at Gen	**$861**

FOODSERVICE EQUIPMENT 2017 ELECTRIC GOAL

2017 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	$41,713	$41,713	$41,713	$41,713
T & D	N/A	$25,373	$25,373	$25,373	$25,373
Marginal Energy	N/A	$143,387	$143,387	$143,387	$143,387
Environmental Externality	N/A	N/A	N/A	N/A	$47,157
Subtotal	N/A	$210,473	$210,473	$210,473	$257,629
Participant Benefits					
Bill Reduction - Electric	$345,783	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$21,132	N/A	N/A	$21,132	$21,132
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$255,435	N/A	N/A	$13,446	$13,446
Subtotal	$622,350	N/A	N/A	$34,578	$34,578
Total Benefits	$622,350	$210,473	$210,473	$245,051	$292,208
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$11,766	$11,766	$11,766	$11,766
Advertising & Promotion	N/A	$7,886	$7,886	$7,886	$7,886
Measurement & Verification	N/A	$5,000	$5,000	$5,000	$5,000
Rebates	N/A	$21,132	$21,132	$21,132	$21,132
Other	N/A	$1,000	$1,000	$1,000	$1,000
Subtotal	N/A	$46,784	$46,784	$46,784	$46,784
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$345,783	N/A	N/A
Subtotal	N/A	N/A	$345,783	N/A	N/A
Participant Costs					
Incremental Capital Costs	$179,286	N/A	N/A	$88,090	$88,090
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$179,286	N/A	N/A	$88,090	$88,090
Total Costs	$179,286	$46,784	$392,567	$134,874	$134,874
Net Benefit (Cost)	$443,064	$163,689	($182,094)	$110,177	$157,334
Benefit/Cost Ratio	3.47	4.50	0.54	1.82	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	17.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	60.39%
Gross Load Factor at Customer	E	47.55%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,751.13

Program Summary per Participant

Gross kW Saved at Customer	I	1.76 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.14 kW
Gross Annual kWh Saved at Customer	(B x E x I)	7,338 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	7,857 kWh

Program Summary All Participants

Total Participants	J	51
Total Budget	K	**$46,784**
Gross kW Saved at Customer	(J x I)	90 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**58 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	374,242 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**400,687 kWh**
Societal Net Benefits	(J x I x H)	**$157,334**
Utility Program Cost per kWh Lifetime		**$0.0069**
Utility Program Cost per kW at Gen		**$802**

FOODSERVICE EQUIPMENT 2017 ELECTRIC ACTUAL

2017 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	$50,907	$50,907	$50,907	$50,907
T & D	N/A	$30,977	$30,977	$30,977	$30,977
Marginal Energy	N/A	$175,071	$175,071	$175,071	$175,071
Environmental Externality	N/A	N/A	N/A	N/A	$57,949
Subtotal	N/A	$256,955	$256,955	$256,955	$314,904
Participant Benefits					
Bill Reduction - Electric	$426,115	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$17,225	N/A	N/A	$17,225	$17,225
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$19,661	N/A	N/A	$19,661	$19,661
Subtotal	$463,002	N/A	N/A	$36,886	$36,886
Total Benefits	$463,002	$256,955	$256,955	$293,842	$351,791
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$14,166	$14,166	$14,166	$14,166
Advertising & Promotion	N/A	$898	$898	$898	$898
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$17,225	$17,225	$17,225	$17,225
Other	N/A	$1,654	$1,654	$1,654	$1,654
Subtotal	N/A	$33,942	$33,942	$33,942	$33,942
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$426,115	N/A	N/A
Subtotal	N/A	N/A	$426,115	N/A	N/A
Participant Costs					
Incremental Capital Costs	$121,947	N/A	N/A	$121,947	$121,947
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$121,947	N/A	N/A	$121,947	$121,947
Total Costs	$121,947	$33,942	$460,057	$155,889	$155,889
Net Benefit (Cost)	$341,055	$223,013	($203,102)	$137,952	$195,901
Benefit/Cost Ratio	3.80	7.57	0.56	1.88	2.26

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	17.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	57.28%
Gross Load Factor at Customer	E	45.53%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,759.87

Program Summary per Participant

Gross kW Saved at Customer	I	3.84 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.36 kW
Gross Annual kWh Saved at Customer	(B x E x I)	15,310 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	16,392 kWh

Program Summary All Participants

Total Participants	J	29
Total Budget	K	**$33,942**
Gross kW Saved at Customer	(J x I)	111 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**69 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	444,003 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**475,378 kWh**
Societal Net Benefits	(J x I x H)	**$195,901**

Utility Program Cost per kWh Lifetime	**$0.0040**
Utility Program Cost per kW at Gen	**$495**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$63,194		
Incentive Costs =	$30,183		
16) Total Utility Project Costs =	$93,377		
17) Direct Participant Costs ($/Part.) =	$2,753		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$23		
Escalation Rate =	1.73%		
20) Project Life (Years) =	12.3		
21) Avg. Dth/Part. Saved =	89.43		
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 =	67		
24) Total Annual Dth Saved =	5,992		
25) Incentive/Participant =	$450.50		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$1,394		
Cost per Participant per Dth =	$46.37		
Lifetime Energy Reduction (Dth)	73,643		
Societal Cost per Dth	$3.19		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($180,485)	0.65
Utility Cost Test	$238,390	3.55
Societal Test	$240,180	2.02
Participant Test	$453,611	3.46

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$74,095		
Incentive Costs =	$59,000		
16) Total Utility Project Costs =	$133,095		
17) Direct Participant Costs ($/Part.) =	$8,892		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$14		
Escalation Rate =	1.73%		
20) Project Life (Years) =	12.7		
21) Avg. Dth/Part. Saved =	364.73		
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 =	32		
24) Total Annual Dth Saved =	11,671		
25) Incentive/Participant =	$1,843.75		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$4,159		
Cost per Participant per Dth =	$35.78		
Lifetime Energy Reduction (Dth)	143,438		
Societal Cost per Dth	$2.50		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($307,279)	0.68
Utility Cost Test	$530,320	4.98
Societal Test	$568,701	2.59
Participant Test	$872,723	4.07

HEATING EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$21,507	$21,507	$21,507	$21,507
T & D	N/A	$13,075	$13,075	$13,075	$13,075
Marginal Energy	N/A	$54,788	$54,788	$54,788	$54,788
Environmental Externality	N/A	N/A	N/A	N/A	$17,958
Subtotal	N/A	$89,370	$89,370	$89,370	$107,328
Participant Benefits					
Bill Reduction - Electric	$216,085	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$7,780	N/A	N/A	$7,780	$7,780
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$223,865	N/A	N/A	$7,780	$7,780
Total Benefits	$223,865	$89,370	$89,370	$97,150	$115,108
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$0	$0	$0	$0
Advertising & Promotion	N/A	$25	$25	$25	$25
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$7,780	$7,780	$7,780	$7,780
Other	N/A	$25	$25	$25	$25
Subtotal	N/A	$7,830	$7,830	$7,830	$7,830
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$216,085	N/A	N/A
Subtotal	N/A	N/A	$216,085	N/A	N/A
Participant Costs					
Incremental Capital Costs	$16,675	N/A	N/A	$15,606	$15,606
Incremental O&M Costs	$7,033	N/A	N/A	$0	$0
Subtotal	$23,708	N/A	N/A	$15,606	$15,606
Total Costs	$23,708	$7,830	$223,915	$23,436	$23,436
Net Benefit (Cost)	$200,157	$81,540	($134,545)	$73,714	$91,672
Benefit/Cost Ratio	9.44	11.41	0.40	4.15	4.91

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	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	71.65%
Gross Load Factor at Customer	E	40.69%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$2,281.67

Program Summary per Participant

Gross kW Saved at Customer	I	0.63 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.49 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,238 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,443 kWh

Program Summary All Participants

Total Participants	J	64
Total Budget	K	**$7,830**
Gross kW Saved at Customer	(J x I)	40 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**32 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	143,217 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**156,350 kWh**
Societal Net Benefits	(J x I x H)	**$91,672**

Utility Program Cost per kWh Lifetime	**$0.0031**
Utility Program Cost per kW at Gen	**$248**

HEATING EFFICIENCY 2017 ELECTRIC ACTUAL

2017 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	$38,895	$38,895	$38,895	$38,895
T & D	N/A	$23,664	$23,664	$23,664	$23,664
Marginal Energy	N/A	$86,146	$86,146	$86,146	$86,146
Environmental Externality	N/A	N/A	N/A	N/A	$28,543
Subtotal	N/A	$148,704	$148,704	$148,704	$177,247
Participant Benefits					
Bill Reduction - Electric	$344,146	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,933	N/A	N/A	$6,933	$6,933
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$351,079	N/A	N/A	$6,933	$6,933
Total Benefits	$351,079	$148,704	$148,704	$155,637	$184,180
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,863	$1,863	$1,863	$1,863
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$6,933	$6,933	$6,933	$6,933
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$8,795	$8,795	$8,795	$8,795
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$344,146	N/A	N/A
Subtotal	N/A	N/A	$344,146	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,545	N/A	N/A	$18,545	$18,545
Incremental O&M Costs	$9,421	N/A	N/A	$9,421	$9,421
Subtotal	$27,965	N/A	N/A	$27,965	$27,965
Total Costs	$27,965	$8,795	$352,941	$36,761	$36,761
Net Benefit (Cost)	$323,114	$139,909	($204,237)	$118,876	$147,419
Benefit/Cost Ratio	12.55	16.91	0.42	4.23	5.01

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	17.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	96.88%
Gross Load Factor at Customer	E	49.30%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$3,000.04

Program Summary per Participant

Gross kW Saved at Customer	I	0.82 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.87 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,537 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,862 kWh

Program Summary All Participants

Total Participants	J	60
Total Budget	K	**$8,795**
Gross kW Saved at Customer	(J x I)	49 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**52 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	212,233 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**231,695 kWh**
Societal Net Benefits	(J x I x H)	**$147,419**

Utility Program Cost per kWh Lifetime	**$0.0021**
Utility Program Cost per kW at Gen	**$168**

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$686,323		
Incentive Costs =	$622,885		
16) Total Utility Project Costs =	$1,309,208		
17) Direct Participant Costs ($/Part.) =	$3,441		
18) Participant Non-Energy Costs (Annual $/Part.) =	$30		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$0		
Escalation Rate =	1.73%		
20) Project Life (Years) =	7.5		
21) Avg. Dth/Part. Saved =	194.47		
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 =	576		
24) Total Annual Dth Saved =	112,002		
25) Incentive/Participant =	$1,081.52		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$2,273		
Cost per Participant per Dth =	$29.54		
Lifetime Energy Reduction (Dth)	838,314		
Societal Cost per Dth	$3.48		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,287,203)	0.62
Utility Cost Test	$2,415,674	2.85
Societal Test	$2,313,628	1.79
Participant Test	$4,593,853	3.06

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$368,807		
Incentive Costs =	$469,707		
16) Total Utility Project Costs =	$838,515		
17) Direct Participant Costs ($/Part.) =	$4,910		
18) Participant Non-Energy Costs (Annual $/Part.) =	$12		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$0		
Escalation Rate =	1.73%		
20) Project Life (Years) =	6.7		
21) Avg. Dth/Part. Saved =	203.58		
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 =	445		
24) Total Annual Dth Saved =	90,594		
25) Incentive/Participant =	$1,055.52		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$1,884		
Cost per Participant per Dth =	$33.43		
Lifetime Energy Reduction (Dth)	678,080		
Societal Cost per Dth	$3.88		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,567,623)	0.64
Utility Cost Test	$1,938,436	3.31
Societal Test	$1,129,007	1.43
Participant Test	$2,661,922	2.18

LIGHTING EFFICIENCY — 2017 — ELECTRIC — GOAL

2017 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	$4,051,418	$4,051,418	$4,051,418	$4,051,418
T & D	N/A	$2,463,194	$2,463,194	$2,463,194	$2,463,194
Marginal Energy	N/A	$18,176,469	$18,176,469	$18,176,469	$18,176,469
Environmental Externality	N/A	N/A	N/A	N/A	$5,371,149
Subtotal	N/A	$24,691,081	$24,691,081	$24,691,081	$30,062,230
Participant Benefits					
Bill Reduction - Electric	$42,275,420	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,807,406	N/A	N/A	$3,807,406	$3,807,406
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$5,951	$5,951
Subtotal	$46,082,826	N/A	N/A	$3,813,357	$3,813,357
Total Benefits	$46,082,826	$24,691,081	$24,691,081	$28,504,438	$33,875,586
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,860,253	$1,860,253	$1,860,253	$1,860,253
Advertising & Promotion	N/A	$65,002	$65,002	$65,002	$65,002
Measurement & Verification	N/A	$75,000	$75,000	$75,000	$75,000
Rebates	N/A	$3,807,406	$3,807,406	$3,807,406	$3,807,406
Other	N/A	$100,000	$100,000	$100,000	$100,000
Subtotal	N/A	$5,907,661	$5,907,661	$5,907,661	$5,907,661
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$42,275,420	N/A	N/A
Subtotal	N/A	N/A	$42,275,420	N/A	N/A
Participant Costs					
Incremental Capital Costs	$14,640,474	N/A	N/A	$14,640,474	$14,640,474
Incremental O&M Costs	$1,206,899	N/A	N/A	$0	$0
Subtotal	$15,847,373	N/A	N/A	$14,640,474	$14,640,474
Total Costs	$15,847,373	$5,907,661	$48,183,081	$20,548,135	$20,548,135
Net Benefit (Cost)	$30,235,453	$18,783,420	($23,492,000)	$7,956,303	$13,327,451
Benefit/Cost Ratio	2.91	4.18	0.51	1.39	1.65

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	16.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	65.15%
Gross Load Factor at Customer	E	59.85%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,498.69

Program Summary per Participant

Gross kW Saved at Customer	I	7.16 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	37,538 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	40,191 kWh

Program Summary All Participants

Total Participants	J	1,242
Total Budget	K	**$5,907,661**
Gross kW Saved at Customer	(J x I)	8,893 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**6,230 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	46,622,593 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**49,917,124 kWh**
Societal Net Benefits	(J x I x H)	**$13,327,451**

Utility Program Cost per kWh Lifetime	**$0.0074**
Utility Program Cost per kW at Gen	**$948**

LIGHTING EFFICIENCY — 2017 — ELECTRIC — ACTUAL

2017 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	$11,236,978	$11,236,978	$11,236,978	$11,236,978
T & D	N/A	$6,825,012	$6,825,012	$6,825,012	$6,825,012
Marginal Energy	N/A	$41,424,163	$41,424,163	$41,424,163	$41,424,163
Environmental Externality	N/A	N/A	N/A	N/A	$12,033,987
Subtotal	N/A	$59,486,154	$59,486,154	$59,486,154	$71,520,140
Participant Benefits					
Bill Reduction - Electric	$93,708,766	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$11,304,867	N/A	N/A	$11,304,867	$11,304,867
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$105,013,632	N/A	N/A	$11,304,867	$11,304,867
Total Benefits	$105,013,632	$59,486,154	$59,486,154	$70,791,021	$82,825,007
Costs					
Utility Project Costs					
Customer Services	N/A	$313,404	$313,404	$313,404	$313,404
Project Administration	N/A	$2,343,249	$2,343,249	$2,343,249	$2,343,249
Advertising & Promotion	N/A	$28,319	$28,319	$28,319	$28,319
Measurement & Verification	N/A	$30,619	$30,619	$30,619	$30,619
Rebates	N/A	$11,304,867	$11,304,867	$11,304,867	$11,304,867
Other	N/A	$59,463	$59,463	$59,463	$59,463
Subtotal	N/A	$14,079,921	$14,079,921	$14,079,921	$14,079,921
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$93,708,766	N/A	N/A
Subtotal	N/A	N/A	$93,708,766	N/A	N/A
Participant Costs					
Incremental Capital Costs	$34,193,235	N/A	N/A	$34,193,235	$34,193,235
Incremental O&M Costs	$2,026,407	N/A	N/A	$2,026,407	$2,026,407
Subtotal	$36,219,642	N/A	N/A	$36,219,642	$36,219,642
Total Costs	$36,219,642	$14,079,921	$107,788,687	$50,299,563	$50,299,563
Net Benefit (Cost)	$68,793,990	$45,406,233	($48,302,533)	$20,491,458	$32,525,444
Benefit/Cost Ratio	2.90	4.22	0.55	1.41	1.65

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	13.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	68.49%
Gross Load Factor at Customer	E	48.96%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,220.38

Program Summary per Participant

Gross kW Saved at Customer	I	11.48 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.45 kW
Gross Annual kWh Saved at Customer	(B x E x I)	49,226 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	52,705 kWh

Program Summary All Participants

Total Participants	J	2,322
Total Budget	K	**$14,079,921**
Gross kW Saved at Customer	(J x I)	26,652 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**19,627 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	114,302,850 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**122,379,925 kWh**
Societal Net Benefits	(J x I x H)	**$32,525,444**

Utility Program Cost per kWh Lifetime	**$0.0083**
Utility Program Cost per kW at Gen	**$717**

MOTOR EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$2,317,289	$2,317,289	$2,317,289	$2,317,289
T & D	N/A	$1,407,994	$1,407,994	$1,407,994	$1,407,994
Marginal Energy	N/A	$8,077,242	$8,077,242	$8,077,242	$8,077,242
Environmental Externality	N/A	N/A	N/A	N/A	$2,320,074
Subtotal	N/A	$11,802,525	$11,802,525	$11,802,525	$14,122,599
Participant Benefits					
Bill Reduction - Electric	$18,840,515	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,792,530	N/A	N/A	$1,792,530	$1,792,530
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$78,396	N/A	N/A	$78,396	$78,396
Subtotal	$20,711,441	N/A	N/A	$1,870,926	$1,870,926
Total Benefits	$20,711,441	$11,802,525	$11,802,525	$13,673,451	$15,993,525
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$634,900	$634,900	$634,900	$634,900
Advertising & Promotion	N/A	$35,000	$35,000	$35,000	$35,000
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$1,792,530	$1,792,530	$1,792,530	$1,792,530
Other	N/A	$75,632	$75,632	$75,632	$75,632
Subtotal	N/A	$2,558,062	$2,558,062	$2,558,062	$2,558,062
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$18,840,515	N/A	N/A
Subtotal	N/A	N/A	$18,840,515	N/A	N/A
Participant Costs					
Incremental Capital Costs	$6,262,180	N/A	N/A	$6,262,180	$6,262,180
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$6,262,180	N/A	N/A	$6,262,180	$6,262,180
Total Costs	$6,262,180	$2,558,062	$21,398,577	$8,820,242	$8,820,242
Net Benefit (Cost)	$14,449,261	$9,244,463	($9,596,052)	$4,853,209	$7,173,283
Benefit/Cost Ratio	3.31	4.61	0.55	1.55	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	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.29%
Gross Load Factor at Customer	E	52.59%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,684.74

Program Summary per Participant

Gross kW Saved at Customer	I	11.93 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	9.78 kW
Gross Annual kWh Saved at Customer	(B x E x I)	54,943 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	58,825 kWh

Program Summary All Participants

Total Participants	J	357
Total Budget	K	**$2,558,062**
Gross kW Saved at Customer	(J x I)	4,258 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,493 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	19,614,553 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**21,000,592 kWh**
Societal Net Benefits	(J x I x H)	**$7,173,283**

Utility Program Cost per kWh Lifetime	**$0.0081**
Utility Program Cost per kW at Gen	**$732**

MOTOR EFFICIENCY 2017 ELECTRIC ACTUAL

2017 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	$2,198,826	$2,198,826	$2,198,826	$2,198,826
T & D	N/A	$1,336,127	$1,336,127	$1,336,127	$1,336,127
Marginal Energy	N/A	$7,206,857	$7,206,857	$7,206,857	$7,206,857
Environmental Externality	N/A	N/A	N/A	N/A	$2,071,431
Subtotal	N/A	$10,741,810	$10,741,810	$10,741,810	$12,813,241
Participant Benefits					
Bill Reduction - Electric	$16,833,470	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,735,109	N/A	N/A	$1,735,109	$1,735,109
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$18,568,579	N/A	N/A	$1,735,109	$1,735,109
Total Benefits	$18,568,579	$10,741,810	$10,741,810	$12,476,919	$14,548,350
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$476,818	$476,818	$476,818	$476,818
Advertising & Promotion	N/A	$50,947	$50,947	$50,947	$50,947
Measurement & Verification	N/A	$10,320	$10,320	$10,320	$10,320
Rebates	N/A	$1,735,109	$1,735,109	$1,735,109	$1,735,109
Other	N/A	$22,908	$22,908	$22,908	$22,908
Subtotal	N/A	$2,296,102	$2,296,102	$2,296,102	$2,296,102
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$16,833,470	N/A	N/A
Subtotal	N/A	N/A	$16,833,470	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,525,802	N/A	N/A	$5,525,802	$5,525,802
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,525,802	N/A	N/A	$5,525,802	$5,525,802
Total Costs	$5,525,802	$2,296,102	$19,129,572	$7,821,904	$7,821,904
Net Benefit (Cost)	$13,042,777	$8,445,708	($8,387,763)	$4,655,015	$6,726,446
Benefit/Cost Ratio	3.36	4.68	0.56	1.60	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	15.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.23%
Gross Load Factor at Customer	E	49.60%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,675.45

Program Summary per Participant

Gross kW Saved at Customer	I	15.74 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	12.90 kW
Gross Annual kWh Saved at Customer	(B x E x I)	68,403 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	73,237 kWh

Program Summary All Participants

Total Participants	J	255
Total Budget	K	**$2,296,102**
Gross kW Saved at Customer	(J x I)	4,015 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,291 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	17,442,812 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**18,675,388 kWh**
Societal Net Benefits	(J x I x H)	**$6,726,446**

Utility Program Cost per kWh Lifetime	**$0.0081**
Utility Program Cost per kW at Gen	**$698**

MULTI-FAMILY BUILDING EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$129,317	$129,317	$129,317	$129,317
T & D	N/A	$78,576	$78,576	$78,576	$78,576
Marginal Energy	N/A	$548,804	$548,804	$548,804	$548,804
Environmental Externality	N/A	N/A	N/A	N/A	$168,970
Subtotal	N/A	$756,697	$756,697	$756,697	$925,667
Participant Benefits					
Bill Reduction - Electric	$1,684,023	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$112,106	N/A	N/A	$112,106	$112,106
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$45,048	N/A	N/A	$45,048	$45,048
Subtotal	$1,841,177	N/A	N/A	$157,154	$157,154
Total Benefits	$1,841,177	$756,697	$756,697	$913,850	$1,082,821
Costs					
Utility Project Costs					
Customer Services	N/A	$405,000	$405,000	$405,000	$405,000
Project Administration	N/A	$116,000	$116,000	$116,000	$116,000
Advertising & Promotion	N/A	$3,500	$3,500	$3,500	$3,500
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$112,106	$112,106	$112,106	$112,106
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$656,606	$656,606	$656,606	$656,606
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,684,023	N/A	N/A
Subtotal	N/A	N/A	$1,684,023	N/A	N/A
Participant Costs					
Incremental Capital Costs	$106,471	N/A	N/A	$38,007	$38,007
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$106,471	N/A	N/A	$38,007	$38,007
Total Costs	$106,471	$656,606	$2,340,629	$694,613	$694,613
Net Benefit (Cost)	$1,734,706	$100,091	($1,583,932)	$219,237	$388,207
Benefit/Cost Ratio	17.29	1.15	0.32	1.32	1.56

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	14.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.64%
Gross Load Factor at Customer	E	14.68%
Transmission Loss Factor (Energy)	F	7.512%
Transmission Loss Factor (Demand)	G	8.611%
Societal Net Benefit (Cost)	H	$323.15

Program Summary per Participant

Gross kW Saved at Customer	I	0.40 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)	509 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	550 kWh

Program Summary All Participants

Total Participants	J	3,038
Total Budget	K	**$656,606**
Gross kW Saved at Customer	(J x I)	1,201 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**219 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,544,701 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,670,172 kWh**
Societal Net Benefits	(J x I x H)	**$388,207**

Utility Program Cost per kWh Lifetime	**$0.0273**
Utility Program Cost per kW at Gen	**$3,001**

MULTI-FAMILY BUILDING EFFICIENCY 2017 ELECTRIC ACTUAL

2017 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	$136,965	$136,965	$136,965	$136,965
T & D	N/A	$83,236	$83,236	$83,236	$83,236
Marginal Energy	N/A	$749,206	$749,206	$749,206	$749,206
Environmental Externality	N/A	N/A	N/A	N/A	$235,094
Subtotal	N/A	$969,407	$969,407	$969,407	$1,204,501
Participant Benefits					
Bill Reduction - Electric	$2,583,591	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$61,792	N/A	N/A	$61,792	$61,792
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$74,481	N/A	N/A	$74,481	$74,481
Subtotal	$2,719,864	N/A	N/A	$136,273	$136,273
Total Benefits	$2,719,864	$969,407	$969,407	$1,105,680	$1,340,774
Costs					
Utility Project Costs					
Customer Services	N/A	$385,716	$385,716	$385,716	$385,716
Project Administration	N/A	$61,681	$61,681	$61,681	$61,681
Advertising & Promotion	N/A	$6,231	$6,231	$6,231	$6,231
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$61,792	$61,792	$61,792	$61,792
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$515,419	$515,419	$515,419	$515,419
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,583,591	N/A	N/A
Subtotal	N/A	N/A	$2,583,591	N/A	N/A
Participant Costs					
Incremental Capital Costs	$315,345	N/A	N/A	$315,345	$315,345
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$315,345	N/A	N/A	$315,345	$315,345
Total Costs	$315,345	$515,419	$3,099,011	$830,764	$830,764
Net Benefit (Cost)	$2,404,520	$453,987	($2,129,604)	$274,916	$510,010
Benefit/Cost Ratio	8.63	1.88	0.31	1.33	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	15.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	11.67%
Gross Load Factor at Customer	E	13.64%
Transmission Loss Factor (Energy)	F	8.009%
Transmission Loss Factor (Demand)	G	8.690%
Societal Net Benefit (Cost)	H	$303.91

Program Summary per Participant

Gross kW Saved at Customer	I	12.91 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.65 kW
Gross Annual kWh Saved at Customer	(B x E x I)	15,420 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	16,763 kWh

Program Summary All Participants

Total Participants	J	130
Total Budget	K	**$515,419**
Gross kW Saved at Customer	(J x I)	1,678 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**215 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,004,637 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,179,169 kWh**
Societal Net Benefits	(J x I x H)	**$510,010**

Utility Program Cost per kWh Lifetime	**$0.0156**
Utility Program Cost per kW at Gen	**$2,403**

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$186,200		
Incentive Costs =	$94,540		
16) Total Utility Project Costs =	$280,740		
17) Direct Participant Costs ($/Part.) =	$89		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$39		
Escalation Rate =	1.73%		
20) Project Life (Years) =	13.6		
21) Avg. Dth/Part. Saved =	4.13		
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 =	1,013		
24) Total Annual Dth Saved =	4,177		
25) Incentive/Participant =	$93.37		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$277		
Cost per Participant per Dth =	$88.71		
Lifetime Energy Reduction (Dth)	56,862		
Societal Cost per Dth	$4.29		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($346,049)	0.42
Utility Cost Test	($31,999)	0.89
Societal Test	$494,468	3.03
Participant Test	$809,711	10.02

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$198,677		
Incentive Costs =	$89,837		
16) Total Utility Project Costs =	$288,513		
17) Direct Participant Costs ($/Part.) =	$11,448		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$948		
Escalation Rate =	1.73%		
20) Project Life (Years) =	16.9		
21) Avg. Dth/Part. Saved =	181.04		
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 =	41		
24) Total Annual Dth Saved =	7,423		
25) Incentive/Participant =	$2,191.14		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$7,037		
Cost per Participant per Dth =	$102.10		
Lifetime Energy Reduction (Dth)	101,055		
Societal Cost per Dth	$6.61		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($427,357)	0.55
Utility Cost Test	$240,300	1.83
Societal Test	$531,040	1.79
Participant Test	$970,982	3.07

PROCESS EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$3,857,024	$3,857,024	$3,857,024	$3,857,024
T & D	N/A	$2,345,839	$2,345,839	$2,345,839	$2,345,839
Marginal Energy	N/A	$20,218,098	$20,218,098	$20,218,098	$20,218,098
Environmental Externality	N/A	N/A	N/A	N/A	$5,930,575
Subtotal	N/A	$26,420,961	$26,420,961	$26,420,961	$32,351,536
Participant Benefits					
Bill Reduction - Electric	$47,764,497	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,665,842	N/A	N/A	$4,665,842	$4,665,842
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$32,946,749	N/A	N/A	$18,573,061	$18,573,061
Subtotal	$85,377,088	N/A	N/A	$23,238,903	$23,238,903
Total Benefits	$85,377,088	$26,420,961	$26,420,961	$49,659,864	$55,590,439
Costs					
Utility Project Costs					
Customer Services	N/A	$675,000	$675,000	$675,000	$675,000
Project Administration	N/A	$1,107,688	$1,107,688	$1,107,688	$1,107,688
Advertising & Promotion	N/A	$29,335	$29,335	$29,335	$29,335
Measurement & Verification	N/A	$85,000	$85,000	$85,000	$85,000
Rebates	N/A	$4,665,842	$4,665,842	$4,665,842	$4,665,842
Other	N/A	$383,000	$383,000	$383,000	$383,000
Subtotal	N/A	$6,945,865	$6,945,865	$6,945,865	$6,945,865
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$47,764,497	N/A	N/A
Subtotal	N/A	N/A	$47,764,497	N/A	N/A
Participant Costs					
Incremental Capital Costs	$19,627,357	N/A	N/A	$14,249,824	$14,249,824
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$19,627,357	N/A	N/A	$14,249,824	$14,249,824
Total Costs	$19,627,357	$6,945,865	$54,710,362	$21,195,689	$21,195,689
Net Benefit (Cost)	$65,749,731	$19,475,096	($28,289,401)	$28,464,175	$34,394,750
Benefit/Cost Ratio	4.35	3.80	0.48	2.34	2.62

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	53.66%
Gross Load Factor at Customer	E	57.04%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,713.05

Program Summary per Participant

Gross kW Saved at Customer	I	37.20 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	21.47 kW
Gross Annual kWh Saved at Customer	(B x E x I)	185,899 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	199,036 kWh

Program Summary All Participants

Total Participants	J	249
Total Budget	K	**$6,945,865**
Gross kW Saved at Customer	(J x I)	9,263 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,345 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	46,288,902 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**49,559,852 kWh**
Societal Net Benefits	(J x I x H)	**$34,394,750**

Utility Program Cost per kWh Lifetime	**$0.0080**
Utility Program Cost per kW at Gen	**$1,299**

PROCESS EFFICIENCY 2017 ELECTRIC ACTUAL

2017 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	$5,786,616	$5,786,616	$5,786,616	$5,786,616
T & D	N/A	$3,519,388	$3,519,388	$3,519,388	$3,519,388
Marginal Energy	N/A	$26,359,611	$26,359,611	$26,359,611	$26,359,611
Environmental Externality	N/A	N/A	N/A	N/A	$7,750,223
Subtotal	N/A	$35,665,616	$35,665,616	$35,665,616	$43,415,838
Participant Benefits					
Bill Reduction - Electric	$61,990,091	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$5,322,119	N/A	N/A	$5,322,119	$5,322,119
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$54,116,439	N/A	N/A	$54,116,439	$54,116,439
Subtotal	$121,428,649	N/A	N/A	$59,438,558	$59,438,558
Total Benefits	$121,428,649	$35,665,616	$35,665,616	$95,104,173	$102,854,396
Costs					
Utility Project Costs					
Customer Services	N/A	$591,322	$591,322	$591,322	$591,322
Project Administration	N/A	$1,358,290	$1,358,290	$1,358,290	$1,358,290
Advertising & Promotion	N/A	$8,592	$8,592	$8,592	$8,592
Measurement & Verification	N/A	$24,377	$24,377	$24,377	$24,377
Rebates	N/A	$5,322,119	$5,322,119	$5,322,119	$5,322,119
Other	N/A	$90	$90	$90	$90
Subtotal	N/A	$7,304,791	$7,304,791	$7,304,791	$7,304,791
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$61,990,091	N/A	N/A
Subtotal	N/A	N/A	$61,990,091	N/A	N/A
Participant Costs					
Incremental Capital Costs	$30,679,141	N/A	N/A	$30,679,141	$30,679,141
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$30,679,141	N/A	N/A	$30,679,141	$30,679,141
Total Costs	$30,679,141	$7,304,791	$69,294,882	$37,983,932	$37,983,932
Net Benefit (Cost)	$90,749,508	$28,360,825	($33,629,266)	$57,120,242	$64,870,465
Benefit/Cost Ratio	3.96	4.88	0.51	2.50	2.71

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	17.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	9.23%
Gross Load Factor at Customer	E	8.61%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$803.74

Program Summary per Participant

Gross kW Saved at Customer	I	370.23 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	36.73 kW
Gross Annual kWh Saved at Customer	(B x E x I)	279,249 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	298,982 kWh

Program Summary All Participants

Total Participants	J	218
Total Budget	K	**$7,304,791**
Gross kW Saved at Customer	(J x I)	80,711 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,008 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	60,876,244 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**65,177,991 kWh**
Societal Net Benefits	(J x I x H)	**$64,870,465**

Utility Program Cost per kWh Lifetime	**$0.0065**
Utility Program Cost per kW at Gen	**$912**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$446,470		
Incentive Costs =	$658,293		
16) Total Utility Project Costs =	$1,104,763		
17) Direct Participant Costs ($/Part.) =	$85,992		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$2,428		
Escalation Rate =	1.73%		
20) Project Life (Years) =	3.9		
21) Avg. Dth/Part. Saved =	2,560.37		
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 =	74		
24) Total Annual Dth Saved =	188,853		
25) Incentive/Participant =	$8,924.79		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$14,978		
Cost per Participant per Dth =	$39.44		
Lifetime Energy Reduction (Dth)	744,295		
Societal Cost per Dth	$4.39		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($2,086,182)	0.64
Utility Cost Test	$2,633,162	3.38
Societal Test	$1,810,643	1.55
Participant Test	$178,081	1.03

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$263,703		
Incentive Costs =	$712,120		
16) Total Utility Project Costs =	$975,823		
17) Direct Participant Costs ($/Part.) =	$129,278		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$5,049		
Escalation Rate =	1.73%		
20) Project Life (Years) =	4.3		
21) Avg. Dth/Part. Saved =	6,994.43		
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 =	22		
24) Total Annual Dth Saved =	153,877		
25) Incentive/Participant =	$32,369.09		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$44,356		
Cost per Participant per Dth =	$24.82		
Lifetime Energy Reduction (Dth)	606,452		
Societal Cost per Dth	$5.12		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,849,803)	0.64
Utility Cost Test	$2,352,896	3.41
Societal Test	$1,182,655	1.38
Participant Test	$2,860,112	2.01

RECOMMISSIONING 2017 ELECTRIC GOAL

2017 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	$235,661	$235,661	$235,661	$235,661
T & D	N/A	$142,610	$142,610	$142,610	$142,610
Marginal Energy	N/A	$1,446,167	$1,446,167	$1,446,167	$1,446,167
Environmental Externality	N/A	N/A	N/A	N/A	$426,396
Subtotal	N/A	$1,824,437	$1,824,437	$1,824,437	$2,250,833
Participant Benefits					
Bill Reduction - Electric	$2,819,310	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$512,081	N/A	N/A	$512,081	$512,081
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$276,127	N/A	N/A	$146,158	$146,158
Subtotal	$3,607,518	N/A	N/A	$658,239	$658,239
Total Benefits	$3,607,518	$1,824,437	$1,824,437	$2,482,676	$2,909,072
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$295,605	$295,605	$295,605	$295,605
Advertising & Promotion	N/A	$12,000	$12,000	$12,000	$12,000
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$512,081	$512,081	$512,081	$512,081
Other	N/A	$50,000	$50,000	$50,000	$50,000
Subtotal	N/A	$869,686	$869,686	$869,686	$869,686
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,819,310	N/A	N/A
Subtotal	N/A	N/A	$2,819,310	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,030,048	N/A	N/A	$807,450	$807,450
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,030,048	N/A	N/A	$807,450	$807,450
Total Costs	$1,030,048	$869,686	$3,688,996	$1,677,136	$1,677,136
Net Benefit (Cost)	$2,577,470	$954,751	($1,864,560)	$805,540	$1,231,935
Benefit/Cost Ratio	3.50	2.10	0.49	1.48	1.73

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	6.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.08%
Gross Load Factor at Customer	E	68.88%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,041.20

Program Summary per Participant

Gross kW Saved at Customer	I	11.95 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.56 kW
Gross Annual kWh Saved at Customer	(B x E x I)	72,116 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	77,212 kWh

Program Summary All Participants

Total Participants	J	99
Total Budget	K	**$869,686**
Gross kW Saved at Customer	(J x I)	1,183 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**650 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,139,477 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,643,979 kWh**
Societal Net Benefits	(J x I x H)	**$1,231,935**

Utility Program Cost per kWh Lifetime	**$0.0166**
Utility Program Cost per kW at Gen	**$1,338**

RECOMMISSIONING 2017 ELECTRIC ACTUAL

2017 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	$137,126	$137,126	$137,126	$137,126
T & D	N/A	$82,973	$82,973	$82,973	$82,973
Marginal Energy	N/A	$1,994,164	$1,994,164	$1,994,164	$1,994,164
Environmental Externality	N/A	N/A	N/A	N/A	$585,928
Subtotal	N/A	$2,214,264	$2,214,264	$2,214,264	$2,800,191
Participant Benefits					
Bill Reduction - Electric	$3,883,978	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$550,949	N/A	N/A	$550,949	$550,949
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$399,887	N/A	N/A	$399,887	$399,887
Subtotal	$4,834,813	N/A	N/A	$950,835	$950,835
Total Benefits	$4,834,813	$2,214,264	$2,214,264	$3,165,099	$3,751,027
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$270,051	$270,051	$270,051	$270,051
Advertising & Promotion	N/A	$1,832	$1,832	$1,832	$1,832
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$550,949	$550,949	$550,949	$550,949
Other	N/A	$25,401	$25,401	$25,401	$25,401
Subtotal	N/A	$848,233	$848,233	$848,233	$848,233
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,883,978	N/A	N/A
Subtotal	N/A	N/A	$3,883,978	N/A	N/A
Participant Costs					
Incremental Capital Costs	$716,497	N/A	N/A	$716,497	$716,497
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$716,497	N/A	N/A	$716,497	$716,497
Total Costs	$716,497	$848,233	$4,732,211	$1,564,730	$1,564,730
Net Benefit (Cost)	$4,118,316	$1,366,030	($2,517,947)	$1,600,369	$2,186,297
Benefit/Cost Ratio	6.75	2.61	0.47	2.02	2.40

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	6.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	27.58%
Gross Load Factor at Customer	E	86.14%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,659.90

Program Summary per Participant

Gross kW Saved at Customer	I	22.71 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.73 kW
Gross Annual kWh Saved at Customer	(B x E x I)	171,359 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	183,468 kWh

Program Summary All Participants

Total Participants	J	58
Total Budget	K	**$848,233**
Gross kW Saved at Customer	(J x I)	1,317 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**391 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,938,823 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**10,641,138 kWh**
Societal Net Benefits	(J x I x H)	**$2,186,297**

Utility Program Cost per kWh Lifetime	**$0.0117**
Utility Program Cost per kW at Gen	**$2,172**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$52,576		
Incentive Costs =	$142,117		
16) Total Utility Project Costs =	$194,693		
17) Direct Participant Costs ($/Part.) =	$6,883		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$1,252		
Escalation Rate =	1.73%		
20) Project Life (Years) =	6.7		
21) Avg. Dth/Part. Saved =	420.17		
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 =	47		
24) Total Annual Dth Saved =	19,748		
25) Incentive/Participant =	$3,023.77		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$4,142		
Cost per Participant per Dth =	$26.24		
Lifetime Energy Reduction (Dth)	132,802		
Societal Cost per Dth	$2.33		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($365,536)	0.64
Utility Cost Test	$455,995	3.34
Societal Test	$880,288	3.85
Participant Test	$1,149,930	4.55

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$65,837		
Incentive Costs =	$103,684		
16) Total Utility Project Costs =	$169,522		
17) Direct Participant Costs ($/Part.) =	$4,178		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$156		
Escalation Rate =	1.73%		
20) Project Life (Years) =	6.9		
21) Avg. Dth/Part. Saved =	877.38		
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 =	19		
24) Total Annual Dth Saved =	16,670		
25) Incentive/Participant =	$5,457.08		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$8,922		
Cost per Participant per Dth =	$14.93		
Lifetime Energy Reduction (Dth)	112,104		
Societal Cost per Dth	$1.30		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($317,428)	0.64
Utility Cost Test	$393,808	3.32
Societal Test	$558,223	4.84
Participant Test	$851,278	11.72

SELF-DIRECT 2017 ELECTRIC GOAL

2017 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	$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	$25,005	$25,005	$25,005	$25,005
Advertising & Promotion	N/A	$452	$452	$452	$452
Measurement & Verification	N/A	$289	$289	$289	$289
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$43	$43	$43	$43
Subtotal	N/A	$25,789	$25,789	$25,789	$25,789
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	$25,789	$25,789	$25,789	$25,789
Net Benefit (Cost)	$0	($25,789)	($25,789)	($25,789)	($25,789)
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 kW Saved at Customer	I	#DIV/0!
Net coincident kW Saved at Generator	(I x D) / (1 - G)	#DIV/0!
Gross 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	**$25,789**
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!**

SELF-DIRECT 2017 ELECTRIC ACTUAL

2017 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	$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	$6,164	$6,164	$6,164	$6,164
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	$6,164	$6,164	$6,164	$6,164
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	$6,164	$6,164	$6,164	$6,164
Net Benefit (Cost)	$0	($6,164)	($6,164)	($6,164)	($6,164)
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 kW Saved at Customer	I	#DIV/0!
Net coincident kW Saved at Generator	(I x D) / (1 - G)	#DIV/0!
Gross 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	**$6,164**
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 **GOAL**

Company: **Xcel Energy**
Project: **Self-Direct**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$8,401		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$8,401		
17) Direct Participant Costs ($/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) =	0.0		
21) Avg. Dth/Part. Saved =	-		
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 =	-		
24) Total Annual Dth Saved =	0		
25) Incentive/Participant =	$0.00		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
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	($8,401)	-
Utility Cost Test	($8,401)	-
Societal Test	($8,401)	-
Participant Test	$0	#DIV/0!

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

Company: **Xcel Energy**
Project: **Self-Direct**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$1,204		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$1,204		
17) Direct Participant Costs ($/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) =	0.0		
21) Avg. Dth/Part. Saved =	-		
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 =	-		
24) Total Annual Dth Saved =	0		
25) Incentive/Participant =	$0.00		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
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	($1,204)	-
Utility Cost Test	($1,204)	-
Societal Test	($1,204)	-
Participant Test	$0	#DIV/0!

TURN KEY **2017** **ELECTRIC** **GOAL**

2017 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	$463,843	$463,843	$463,843	$463,843
T & D	N/A	$281,981	$281,981	$281,981	$281,981
Marginal Energy	N/A	$2,309,566	$2,309,566	$2,309,566	$2,309,566
Environmental Externality	N/A	N/A	N/A	N/A	$612,613
Subtotal	N/A	$3,055,390	$3,055,390	$3,055,390	$3,668,004
Participant Benefits					
Bill Reduction - Electric	$5,245,380	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$872,527	N/A	N/A	$872,527	$872,527
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$6,117,907	N/A	N/A	$872,527	$872,527
Total Benefits	$6,117,907	$3,055,390	$3,055,390	$3,927,917	$4,540,531
Costs					
Utility Project Costs					
Customer Services	N/A	$212,400	$212,400	$212,400	$212,400
Project Administration	N/A	$231,096	$231,096	$231,096	$231,096
Advertising & Promotion	N/A	$26,270	$26,270	$26,270	$26,270
Measurement & Verification	N/A	$8,000	$8,000	$8,000	$8,000
Rebates	N/A	$872,527	$872,527	$872,527	$872,527
Other	N/A	$10,000	$10,000	$10,000	$10,000
Subtotal	N/A	$1,360,293	$1,360,293	$1,360,293	$1,360,293
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,245,380	N/A	N/A
Subtotal	N/A	N/A	$5,245,380	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,890,980	N/A	N/A	$969,073	$969,073
Incremental O&M Costs	$28,480	N/A	N/A	$12,252	$12,252
Subtotal	$1,919,459	N/A	N/A	$981,325	$981,325
Total Costs	$1,919,459	$1,360,293	$6,605,673	$2,341,618	$2,341,618
Net Benefit (Cost)	$4,198,448	$1,695,097	($3,550,283)	$1,586,299	$2,198,912
Benefit/Cost Ratio	3.19	2.25	0.46	1.68	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	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	54.93%
Gross Load Factor at Customer	E	50.15%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,953.09

Program Summary per Participant

Gross kW Saved at Customer	I	4.73 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.79 kW
Gross Annual kWh Saved at Customer	(B x E x I)	20,780 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	22,249 kWh

Program Summary All Participants

Total Participants	J	238
Total Budget	K	**$1,360,293**
Gross kW Saved at Customer	(J x I)	1,126 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**665 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,945,685 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,295,166 kWh**
Societal Net Benefits	(J x I x H)	**$2,198,912**

Utility Program Cost per kWh Lifetime	**$0.0157**
Utility Program Cost per kW at Gen	**$2,045**

TURN KEY **2017** **ELECTRIC** **ACTUAL**

2017 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	$3,604,660	$3,604,660	$3,604,660	$3,604,660
T & D	N/A	$2,191,361	$2,191,361	$2,191,361	$2,191,361
Marginal Energy	N/A	$14,457,969	$14,457,969	$14,457,969	$14,457,969
Environmental Externality	N/A	N/A	N/A	N/A	$3,834,981
Subtotal	N/A	$20,253,990	$20,253,990	$20,253,990	$24,088,971
Participant Benefits					
Bill Reduction - Electric	$32,836,270	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,617,907	N/A	N/A	$3,617,907	$3,617,907
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$3,794,617	N/A	N/A	$3,794,617	$3,794,617
Subtotal	$40,248,794	N/A	N/A	$7,412,524	$7,412,524
Total Benefits	$40,248,794	$20,253,990	$20,253,990	$27,666,515	$31,501,495
Costs					
Utility Project Costs					
Customer Services	N/A	$458,358	$458,358	$458,358	$458,358
Project Administration	N/A	$269,946	$269,946	$269,946	$269,946
Advertising & Promotion	N/A	$1,386	$1,386	$1,386	$1,386
Measurement & Verification	N/A	$5,671	$5,671	$5,671	$5,671
Rebates	N/A	$3,617,907	$3,617,907	$3,617,907	$3,617,907
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,353,268	$4,353,268	$4,353,268	$4,353,268
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$32,836,270	N/A	N/A
Subtotal	N/A	N/A	$32,836,270	N/A	N/A
Participant Costs					
Incremental Capital Costs	$12,472,055	N/A	N/A	$12,472,055	$12,472,055
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$12,472,055	N/A	N/A	$12,472,055	$12,472,055
Total Costs	$12,472,055	$4,353,268	$37,189,538	$16,825,322	$16,825,322
Net Benefit (Cost)	$27,776,740	$15,900,722	($16,935,548)	$10,841,192	$14,676,173
Benefit/Cost Ratio	3.23	4.65	0.54	1.64	1.87

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	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	77.53%
Gross Load Factor at Customer	E	57.01%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,367.42

Program Summary per Participant

Gross kW Saved at Customer	I	30.24 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	25.21 kW
Gross Annual kWh Saved at Customer	(B x E x I)	151,025 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	161,697 kWh

Program Summary All Participants

Total Participants	J	205
Total Budget	K	**$4,353,268**
Gross kW Saved at Customer	(J x I)	6,199 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,168 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	30,960,170 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**33,147,934 kWh**
Societal Net Benefits	(J x I x H)	**$14,676,173**

Utility Program Cost per kWh Lifetime	**$0.0080**
Utility Program Cost per kW at Gen	**$842**

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

Company: **Xcel Energy**
Project: **Turn Key**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$98,688		
Incentive Costs =	$125,088		
16) Total Utility Project Costs =	$223,776		
17) Direct Participant Costs ($/Part.) =	$3,002		
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) =	12.6		
21) Avg. Dth/Part. Saved =	69.36		
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 =	69		
24) Total Annual Dth Saved =	4,786		
25) Incentive/Participant =	$1,812.87		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$3,243		
Cost per Participant per Dth =	$90.04		
Lifetime Energy Reduction (Dth)	60,197		
Societal Cost per Dth	$3.84		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($295,299)	0.48
Utility Cost Test	$48,633	1.22
Societal Test	$139,501	1.60
Participant Test	$356,920	2.72

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

Company: **Xcel Energy**
Project: **Turn Key**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$131,308		
Incentive Costs =	$386,580		
16) Total Utility Project Costs =	$517,887		
17) Direct Participant Costs ($/Part.) =	$51,309		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$1,230		
Escalation Rate =	1.73%		
20) Project Life (Years) =	12.6		
21) Avg. Dth/Part. Saved =	778.97		
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 =	55		
24) Total Annual Dth Saved =	42,844		
25) Incentive/Participant =	$7,028.72		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$9,416		
Cost per Participant per Dth =	$77.96		
Lifetime Energy Reduction (Dth)	538,911		
Societal Cost per Dth	$5.48		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,158,191)	0.68
Utility Cost Test	$1,920,833	4.71
Societal Test	$1,176,331	1.40
Participant Test	$2,306,755	1.82

RESIDENTIAL SEGMENT TOTAL — 2017 ELECTRIC — GOAL

2017 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	$19,449,373	$19,449,373	$19,449,373	$19,449,373
T & D	N/A	$5,773,002	$5,773,002	$5,773,002	$5,773,002
Marginal Energy	N/A	$26,685,829	$26,685,829	$26,685,829	$26,685,829
Environmental Externality	N/A	N/A	N/A	N/A	$6,803,236
Subtotal	N/A	$51,908,204	$51,908,204	$51,908,204	$58,711,440
Participant Benefits					
Bill Reduction - Electric	$88,382,309	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$10,121,988	N/A	N/A	$10,121,988	$10,121,988
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$240,783	N/A	N/A	$0	$0
Subtotal	$98,745,080	N/A	N/A	$10,121,988	$10,121,988
Total Benefits	$98,745,080	$51,908,204	$51,908,204	$62,030,192	$68,833,428
Costs					
Utility Project Costs					
Customer Services	N/A	$421,809	$421,809	$421,809	$421,809
Project Administration	N/A	$11,348,697	$11,348,697	$11,348,697	$11,348,697
Advertising & Promotion	N/A	$3,729,565	$3,729,565	$3,729,565	$3,729,565
Measurement & Verification	N/A	$515,911	$515,911	$515,911	$515,911
Rebates	N/A	$10,121,988	$10,121,988	$10,121,988	$10,121,988
Other	N/A	$2,500	$2,500	$2,500	$2,500
Subtotal	N/A	$26,140,470	$26,140,470	$26,140,470	$26,140,470
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$88,382,309	N/A	N/A
Subtotal	N/A	N/A	$88,382,309	N/A	N/A
Participant Costs					
Incremental Capital Costs	$20,444,676	N/A	N/A	$19,170,990	$19,170,990
Incremental O&M Costs	$0	N/A	N/A	$904,710	$904,710
Subtotal	$20,444,676	N/A	N/A	$20,075,700	$20,075,700
Total Costs	$20,444,676	$26,140,470	$114,522,779	$46,216,170	$46,216,170
Net Benefit (Cost)	$78,300,404	$25,767,734	($62,614,575)	$15,814,022	$22,617,258
Benefit/Cost Ratio	4.83	1.99	0.45	1.34	1.49

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	6.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	24.49%
Gross Load Factor at Customer	E	10.38%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.188%
Societal Net Benefit (Cost)	H	$161.76

Program Summary per Participant

Gross kW Saved at Customer	I	0.11 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	105 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	114 kWh

Program Summary All Participants

Total Participants	J	1,216,581
Total Budget	K	**$26,140,470**
Gross kW Saved at Customer	(J x I)	139,824 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**37,293 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	127,173,300 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**138,834,726 kWh**
Societal Net Benefits	(J x I x H)	**$22,617,258**

Utility Program Cost per kWh Lifetime	**$0.0278**
Utility Program Cost per kW at Gen	**$701**

RESIDENTIAL SEGMENT TOTAL — 2017 ELECTRIC — ACTUAL

2017 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	$24,559,327	$24,559,327	$24,559,327	$24,559,327
T & D	N/A	$7,838,031	$7,838,031	$7,838,031	$7,838,031
Marginal Energy	N/A	$36,626,803	$36,626,803	$36,626,803	$36,626,803
Environmental Externality	N/A	N/A	N/A	N/A	$9,391,350
Subtotal	N/A	$69,024,161	$69,024,161	$69,024,161	$78,415,511
Participant Benefits					
Bill Reduction - Electric	$121,694,188	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$11,671,663	N/A	N/A	$11,671,663	$11,671,663
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$133,365,851	N/A	N/A	$11,671,663	$11,671,663
Total Benefits	$133,365,851	$69,024,161	$69,024,161	$80,695,824	$90,087,174
Costs					
Utility Project Costs					
Customer Services	N/A	$440,299	$440,299	$440,299	$440,299
Project Administration	N/A	$7,476,364	$7,476,364	$7,476,364	$7,476,364
Advertising & Promotion	N/A	$1,618,832	$1,618,832	$1,618,832	$1,618,832
Measurement & Verification	N/A	$1,758,623	$1,758,623	$1,758,623	$1,758,623
Rebates	N/A	$11,671,663	$11,671,663	$11,671,663	$11,671,663
Other	N/A	$26,827	$26,827	$26,827	$26,827
Subtotal	N/A	$22,992,609	$22,992,609	$22,992,609	$22,992,609
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$121,694,188	N/A	N/A
Subtotal	N/A	N/A	$121,694,188	N/A	N/A
Participant Costs					
Incremental Capital Costs	$17,147,640	N/A	N/A	$17,147,640	$17,147,640
Incremental O&M Costs	$1,284,595	N/A	N/A	$1,284,595	$1,284,595
Subtotal	$18,432,235	N/A	N/A	$18,432,235	$18,432,235
Total Costs	$18,432,235	$22,992,609	$144,686,797	$41,424,844	$41,424,844
Net Benefit (Cost)	$114,933,616	$46,031,552	($75,662,636)	$39,270,980	$48,662,330
Benefit/Cost Ratio	7.24	3.00	0.48	1.95	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	6.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	23.82%
Gross Load Factor at Customer	E	10.56%
Transmission Loss Factor (Energy)	F	8.018%
Transmission Loss Factor (Demand)	G	8.735%
Societal Net Benefit (Cost)	H	$257.26

Program Summary per Participant

Gross kW Saved at Customer	I	0.11 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	101 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	110 kWh

Program Summary All Participants

Total Participants	J	1,729,347
Total Budget	K	**$22,992,609**
Gross kW Saved at Customer	(J x I)	189,156 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**49,360 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	174,903,709 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**190,150,672 kWh**
Societal Net Benefits	(J x I x H)	**$48,662,330**

Utility Program Cost per kWh Lifetime	**$0.0177**
Utility Program Cost per kW at Gen	**$466**

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

Company: **Xcel Energy**
Project: **Residential Segment with Indirect Participants**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$4,926,709		
Incentive Costs =	$3,172,044		
16) Total Utility Project Costs =	$8,098,753		
17) Direct Participant Costs ($/Part.) =	$20		
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) =	15.0		
21) Avg. Dth/Part. Saved =	0.43		
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 =	601,911		
24) Total Annual Dth Saved =	258,192		
25) Incentive/Participant =	$5.27		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$13		
Cost per Participant per Dth =	$76.96		
Lifetime Energy Reduction (Dth)	3,863,154		
Societal Cost per Dth	$4.19		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($12,442,296)	0.57
Utility Cost Test	$8,444,470	2.04
Societal Test	$14,922,491	1.92
Participant Test	$27,299,439	3.32

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

Company: **Xcel Energy**
Project: **Residential Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$3,254,709		
Incentive Costs =	$3,076,845		
16) Total Utility Project Costs =	$6,331,554		
17) Direct Participant Costs ($/Part.) =	$19		
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) =	14.2		
21) Avg. Dth/Part. Saved =	0.44		
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 =	620,845		
24) Total Annual Dth Saved =	272,169		
25) Incentive/Participant =	$4.96		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$10		
Cost per Participant per Dth =	$66.09		
Lifetime Energy Reduction (Dth)	4,072,279		
Societal Cost per Dth	$3.66		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($10,690,481)	0.61
Utility Cost Test	$10,270,263	2.62
Societal Test	$18,143,461	2.22
Participant Test	$29,035,893	3.49

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$3,854,606		
Incentive Costs =	$3,172,044		
16) Total Utility Project Costs =	$7,026,650		
17) Direct Participant Costs ($/Part.) =	$54		
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) =	15.0		
21) Avg. Dth/Part. Saved =	1.19		
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 =	216,199		
24) Total Annual Dth Saved =	258,192		
25) Incentive/Participant =	$14.67		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$33		
Cost per Participant per Dth =	$72.81		
Lifetime Energy Reduction (Dth)	3,863,154		
Societal Cost per Dth	$3.91		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($11,370,193)	0.59
Utility Cost Test	$9,516,573	2.35
Societal Test	$15,994,594	2.06
Participant Test	$27,299,439	3.32

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$2,279,236		
Incentive Costs =	$3,076,845		
16) Total Utility Project Costs =	$5,356,081		
17) Direct Participant Costs ($/Part.) =	$59		
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) =	14.2		
21) Avg. Dth/Part. Saved =	1.38		
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 =	197,864		
24) Total Annual Dth Saved =	272,169		
25) Incentive/Participant =	$15.55		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$27		
Cost per Participant per Dth =	$62.50		
Lifetime Energy Reduction (Dth)	4,072,279		
Societal Cost per Dth	$3.42		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($9,715,008)	0.63
Utility Cost Test	$11,245,735	3.10
Societal Test	$19,118,934	2.37
Participant Test	$29,035,893	3.49

RESIDENTIAL SEGMENT ENERGY EFFICIENCY TOTAL 2017 ELECTRIC GOAL

2017 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	$9,516,557	$9,516,557	$9,516,557	$9,516,557
T & D	N/A	$5,773,002	$5,773,002	$5,773,002	$5,773,002
Marginal Energy	N/A	$26,663,914	$26,663,914	$26,663,914	$26,663,914
Environmental Externality	N/A	N/A	N/A	N/A	$6,798,922
Subtotal	N/A	$41,953,473	$41,953,473	$41,953,473	$48,752,395
Participant Benefits					
Bill Reduction - Electric	$88,329,585	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$10,121,988	N/A	N/A	$10,121,988	$10,121,988
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$240,783	N/A	N/A	$0	$0
Subtotal	$98,692,356	N/A	N/A	$10,121,988	$10,121,988
Total Benefits	$98,692,356	$41,953,473	$41,953,473	$52,075,461	$58,874,383
Costs					
Utility Project Costs					
Customer Services	N/A	$421,809	$421,809	$421,809	$421,809
Project Administration	N/A	$5,390,476	$5,390,476	$5,390,476	$5,390,476
Advertising & Promotion	N/A	$2,666,137	$2,666,137	$2,666,137	$2,666,137
Measurement & Verification	N/A	$340,911	$340,911	$340,911	$340,911
Rebates	N/A	$10,121,988	$10,121,988	$10,121,988	$10,121,988
Other	N/A	$2,500	$2,500	$2,500	$2,500
Subtotal	N/A	$18,943,821	$18,943,821	$18,943,821	$18,943,821
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$88,329,585	N/A	N/A
Subtotal	N/A	N/A	$88,329,585	N/A	N/A
Participant Costs					
Incremental Capital Costs	$20,444,676	N/A	N/A	$19,170,990	$19,170,990
Incremental O&M Costs	$0	N/A	N/A	$904,710	$904,710
Subtotal	$20,444,676	N/A	N/A	$20,075,700	$20,075,700
Total Costs	$20,444,676	$18,943,821	$107,273,406	$39,019,521	$39,019,521
Net Benefit (Cost)	$78,247,680	$23,009,652	($65,319,933)	$13,055,940	$19,854,863
Benefit/Cost Ratio	4.83	2.21	0.39	1.33	1.51

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	6.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	22.48%
Gross Load Factor at Customer	E	15.83%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$216.59

Program Summary per Participant

Gross kW Saved at Customer	I	0.20 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)	277 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	302 kWh

Program Summary All Participants

Total Participants	J	459,202
Total Budget	K	**$18,943,821**
Gross kW Saved at Customer	(J x I)	91,669 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**22,591 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	127,137,464 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**138,796,358 kWh**
Societal Net Benefits	(J x I x H)	**$19,854,863**

Utility Program Cost per kWh Lifetime	**$0.0201**
Utility Program Cost per kW at Gen	**$839**

RESIDENTIAL SEGMENT ENERGY EFFICIENCY TOTAL 2017 ELECTRIC ACTUAL

2017 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	$12,922,798	$12,922,798	$12,922,798	$12,922,798
T & D	N/A	$7,838,031	$7,838,031	$7,838,031	$7,838,031
Marginal Energy	N/A	$36,604,396	$36,604,396	$36,604,396	$36,604,396
Environmental Externality	N/A	N/A	N/A	N/A	$9,386,638
Subtotal	N/A	$57,365,226	$57,365,226	$57,365,226	$66,751,864
Participant Benefits					
Bill Reduction - Electric	$121,637,040	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$11,612,750	N/A	N/A	$11,612,750	$11,612,750
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$133,249,790	N/A	N/A	$11,612,750	$11,612,750
Total Benefits	$133,249,790	$57,365,226	$57,365,226	$68,977,975	$78,364,614
Costs					
Utility Project Costs					
Customer Services	N/A	$440,299	$440,299	$440,299	$440,299
Project Administration	N/A	$1,981,424	$1,981,424	$1,981,424	$1,981,424
Advertising & Promotion	N/A	$999,035	$999,035	$999,035	$999,035
Measurement & Verification	N/A	$1,736,896	$1,736,896	$1,736,896	$1,736,896
Rebates	N/A	$11,612,750	$11,612,750	$11,612,750	$11,612,750
Other	N/A	$20,525	$20,525	$20,525	$20,525
Subtotal	N/A	$16,790,929	$16,790,929	$16,790,929	$16,790,929
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$121,637,040	N/A	N/A
Subtotal	N/A	N/A	$121,637,040	N/A	N/A
Participant Costs					
Incremental Capital Costs	$17,144,929	N/A	N/A	$17,144,929	$17,144,929
Incremental O&M Costs	$1,284,595	N/A	N/A	$1,284,595	$1,284,595
Subtotal	$18,429,524	N/A	N/A	$18,429,524	$18,429,524
Total Costs	$18,429,524	$16,790,929	$138,427,969	$35,220,453	$35,220,453
Net Benefit (Cost)	$114,820,266	$40,574,297	($81,062,744)	$33,757,523	$43,144,161
Benefit/Cost Ratio	7.23	3.42	0.41	1.96	2.22

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	6.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.37%
Gross Load Factor at Customer	E	14.95%
Transmission Loss Factor (Energy)	F	8.019%
Transmission Loss Factor (Demand)	G	8.712%
Societal Net Benefit (Cost)	H	$323.19

Program Summary per Participant

Gross kW Saved at Customer	I	0.26 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	334 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	363 kWh

Program Summary All Participants

Total Participants	J	523,026
Total Budget	K	**$16,790,929**
Gross kW Saved at Customer	(J x I)	133,494 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**31,245 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	174,859,934 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**190,103,909 kWh**
Societal Net Benefits	(J x I x H)	**$43,144,161**

Utility Program Cost per kWh Lifetime	**$0.0129**
Utility Program Cost per kW at Gen	**$537**

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

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

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$3,854,606		
Incentive Costs =	$3,172,044		
16) Total Utility Project Costs =	$7,026,650		
17) Direct Participant Costs ($/Part.) =	$54		
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) =	15.0		
21) Avg. Dth/Part. Saved =	1.19		
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 =	216,199		
24) Total Annual Dth Saved =	258,192		
25) Incentive/Participant =	$14.67		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$33		
Cost per Participant per Dth =	$72.81		
Lifetime Energy Reduction (Dth)	3,863,154		
Societal Cost per Dth	$3.91		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($11,370,193)	0.59
Utility Cost Test	$9,516,573	2.35
Societal Test	$15,994,594	2.06
Participant Test	$27,299,439	3.32

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$2,271,772		
Incentive Costs =	$3,066,351		
16) Total Utility Project Costs =	$5,338,122		
17) Direct Participant Costs ($/Part.) =	$59		
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) =	14.2		
21) Avg. Dth/Part. Saved =	1.37		
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 =	197,799		
24) Total Annual Dth Saved =	271,713		
25) Incentive/Participant =	$15.50		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$27		
Cost per Participant per Dth =	$62.36		
Lifetime Energy Reduction (Dth)	4,065,458		
Societal Cost per Dth	$3.41		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($9,691,439)	0.63
Utility Cost Test	$11,242,326	3.11
Societal Test	$19,146,505	2.38
Participant Test	$29,040,459	3.50

ENERGY EFFICIENT SHOWERHEAD 2017 ELECTRIC GOAL

2017 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	$42,779	$42,779	$42,779	$42,779
T & D	N/A	$25,929	$25,929	$25,929	$25,929
Marginal Energy	N/A	$300,244	$300,244	$300,244	$300,244
Environmental Externality	N/A	N/A	N/A	N/A	$84,851
Subtotal	N/A	$368,952	$368,952	$368,952	$453,803
Participant Benefits					
Bill Reduction - Electric	$1,004,777	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$14,909	N/A	N/A	$14,909	$14,909
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$483,920	N/A	N/A	$483,920	$483,920
Subtotal	$1,503,605	N/A	N/A	$498,829	$498,829
Total Benefits	$1,503,605	$368,952	$368,952	$867,780	$952,632
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$21,890	$21,890	$21,890	$21,890
Advertising & Promotion	N/A	$4,953	$4,953	$4,953	$4,953
Measurement & Verification	N/A	$500	$500	$500	$500
Rebates	N/A	$14,909	$14,909	$14,909	$14,909
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$42,252	$42,252	$42,252	$42,252
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,004,777	N/A	N/A
Subtotal	N/A	N/A	$1,004,777	N/A	N/A
Participant Costs					
Incremental Capital Costs	$14,909	N/A	N/A	$14,909	$14,909
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$14,909	N/A	N/A	$14,909	$14,909
Total Costs	$14,909	$42,252	$1,047,029	$57,161	$57,161
Net Benefit (Cost)	$1,488,697	$326,700	($678,077)	$810,620	$895,471
Benefit/Cost Ratio	100.85	8.73	0.35	15.18	16.67

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	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	71.87%
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	$8,098.78

Program Summary per Participant

Gross kW Saved at Customer	I	0.06 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)	504 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	551 kWh

Program Summary All Participants

Total Participants	J	1,920
Total Budget	K	**$42,252**
Gross kW Saved at Customer	(J x I)	111 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**87 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	968,581 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,057,403 kWh**
Societal Net Benefits	(J x I x H)	**$895,471**

Utility Program Cost per kWh Lifetime	**$0.0040**
Utility Program Cost per kW at Gen	**$485**

ENERGY EFFICIENT SHOWERHEAD 2017 ELECTRIC ACTUAL

2017 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	$17,611	$17,611	$17,611	$17,611
T & D	N/A	$10,674	$10,674	$10,674	$10,674
Marginal Energy	N/A	$131,663	$131,663	$131,663	$131,663
Environmental Externality	N/A	N/A	N/A	N/A	$37,209
Subtotal	N/A	$159,948	$159,948	$159,948	$197,157
Participant Benefits					
Bill Reduction - Electric	$440,614	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$16,413	N/A	N/A	$16,413	$16,413
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$384,754	N/A	N/A	$384,754	$384,754
Subtotal	$841,781	N/A	N/A	$401,167	$401,167
Total Benefits	$841,781	$159,948	$159,948	$561,115	$598,324
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$20,004	$20,004	$20,004	$20,004
Advertising & Promotion	N/A	$3,136	$3,136	$3,136	$3,136
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$16,413	$16,413	$16,413	$16,413
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$39,553	$39,553	$39,553	$39,553
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$440,614	N/A	N/A
Subtotal	N/A	N/A	$440,614	N/A	N/A
Participant Costs					
Incremental Capital Costs	$11,448	N/A	N/A	$11,448	$11,448
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$11,448	N/A	N/A	$11,448	$11,448
Total Costs	$11,448	$39,553	$480,167	$51,001	$51,001
Net Benefit (Cost)	$830,333	$120,395	($320,219)	$510,114	$547,323
Benefit/Cost Ratio	73.53	4.04	0.33	11.00	11.73

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	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	69.93%
Gross Load Factor at Customer	E	100.62%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$6,287.44

Program Summary per Participant

Gross kW Saved at Customer	I	0.04 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	352 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	385 kWh

Program Summary All Participants

Total Participants	J	2,178
Total Budget	K	**$39,553**
Gross kW Saved at Customer	(J x I)	87 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**67 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	767,273 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**837,634 kWh**
Societal Net Benefits	(J x I x H)	**$547,323**

Utility Program Cost per kWh Lifetime	**$0.0047**
Utility Program Cost per kW at Gen	**$593**

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

Company: **Xcel Energy**
Project: **Energy Efficient Showerhead**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$177,577		
Incentive Costs =	$109,331		
16) Total Utility Project Costs =	$286,908		
17) Direct Participant Costs ($/Part.) =	$8		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$33		
Escalation Rate =	1.73%		
20) Project Life (Years) =	10.0		
21) Avg. Dth/Part. Saved =	2.15		
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 =	14,080		
24) Total Annual Dth Saved =	30,294		
25) Incentive/Participant =	$7.77		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$20		
Cost per Participant per Dth =	$13.08		
Lifetime Energy Reduction (Dth)	302,940		
Societal Cost per Dth	$0.95		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($659,716)	0.68
Utility Cost Test	$1,133,002	4.95
Societal Test	$5,990,957	21.88
Participant Test	$6,613,173	61.49

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

Company: **Xcel Energy**
Project: **Energy Efficient Showerhead**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$205,397		
Incentive Costs =	$115,955		
16) Total Utility Project Costs =	$321,352		
17) Direct Participant Costs ($/Part.) =	$9		
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) =	10.0		
21) Avg. Dth/Part. Saved =	2.48		
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 =	13,244		
24) Total Annual Dth Saved =	32,907		
25) Incentive/Participant =	$8.76		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$24		
Cost per Participant per Dth =	$13.23		
Lifetime Energy Reduction (Dth)	329,066		
Societal Cost per Dth	$0.97		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($726,311)	0.68
Utility Cost Test	$1,221,013	4.80
Societal Test	$6,441,415	21.18
Participant Test	$7,126,993	63.60

ENERGY FEEDBACK RESIDENTIAL 2017 ELECTRIC GOAL

2017 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	$636,841	$636,841	$636,841	$636,841
T & D	N/A	$384,098	$384,098	$384,098	$384,098
Marginal Energy	N/A	$1,849,120	$1,849,120	$1,849,120	$1,849,120
Environmental Externality	N/A	N/A	N/A	N/A	$152,431
Subtotal	N/A	$2,870,058	$2,870,058	$2,870,058	$3,022,490
Participant Benefits					
Bill Reduction - Electric	$4,691,957	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	$4,691,957	N/A	N/A	$0	$0
Total Benefits	$4,691,957	$2,870,058	$2,870,058	$2,870,058	$3,022,490
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,564,175	$2,564,175	$2,564,175	$2,564,175
Advertising & Promotion	N/A	$8,645	$8,645	$8,645	$8,645
Measurement & Verification	N/A	$25,000	$25,000	$25,000	$25,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,597,820	$2,597,820	$2,597,820	$2,597,820
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,691,957	N/A	N/A
Subtotal	N/A	N/A	$4,691,957	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	$2,597,820	$7,289,777	$2,597,820	$2,597,820
Net Benefit (Cost)	$4,691,957	$272,238	($4,419,719)	$272,238	$424,670
Benefit/Cost Ratio	INF	1.10	0.39	1.10	1.16

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	96.38%
Gross Load Factor at Customer	E	46.88%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$127.00

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)	54 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	58 kWh

Program Summary All Participants

Total Participants	J	256,320
Total Budget	K	**$2,597,820**
Gross kW Saved at Customer	(J x I)	3,344 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,534 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	13,731,121 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**14,990,307 kWh**
Societal Net Benefits	(J x I x H)	**$424,670**

Utility Program Cost per kWh Lifetime	**$0.0578**
Utility Program Cost per kW at Gen	**$735**

ENERGY FEEDBACK RESIDENTIAL 2017 ELECTRIC ACTUAL

2017 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	$720,840	$720,840	$720,840	$720,840
T & D	N/A	$434,760	$434,760	$434,760	$434,760
Marginal Energy	N/A	$2,111,229	$2,111,229	$2,111,229	$2,111,229
Environmental Externality	N/A	N/A	N/A	N/A	$174,038
Subtotal	N/A	$3,266,829	$3,266,829	$3,266,829	$3,440,867
Participant Benefits					
Bill Reduction - Electric	$5,357,034	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	$5,357,034	N/A	N/A	$0	$0
Total Benefits	$5,357,034	$3,266,829	$3,266,829	$3,266,829	$3,440,867
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$146,172	$146,172	$146,172	$146,172
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$1,565,400	$1,565,400	$1,565,400	$1,565,400
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,711,572	$1,711,572	$1,711,572	$1,711,572
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,357,034	N/A	N/A
Subtotal	N/A	N/A	$5,357,034	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	$1,711,572	$7,068,607	$1,711,572	$1,711,572
Net Benefit (Cost)	$5,357,034	$1,555,257	($3,801,777)	$1,555,257	$1,729,295
Benefit/Cost Ratio	INF	1.91	0.46	1.91	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	3.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	110.09%
Gross Load Factor at Customer	E	54.01%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$521.88

Program Summary per Participant

Gross kW Saved at Customer	I	0.01 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross 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)	73 kWh

Program Summary All Participants

Total Participants	J	234,809
Total Budget	K	**$1,711,572**
Gross kW Saved at Customer	(J x I)	3,314 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**4,000 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	15,677,484 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**17,115,157 kWh**
Societal Net Benefits	(J x I x H)	**$1,729,295**

Utility Program Cost per kWh Lifetime	**$0.0333**
Utility Program Cost per kW at Gen	**$428**

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

Company: **Xcel Energy**
Project: **Energy Feedback Residential**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$312,982		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$312,982		
17) Direct Participant Costs ($/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 =	0.14		
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 =	170,998		
24) Total Annual Dth Saved =	23,786		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$2		
Cost per Participant per Dth =	$13.16		
Lifetime Energy Reduction (Dth)	71,357		
Societal Cost per Dth	$4.39		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($412,611)	0.48
Utility Cost Test	$66,475	1.21
Societal Test	$94,176	1.30
Participant Test	$479,086	#DIV/0!

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

Company: **Xcel Energy**
Project: **Energy Feedback Residential**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$240,030		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$240,030		
17) Direct Participant Costs ($/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 =	0.23		
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 =	158,877		
24) Total Annual Dth Saved =	36,599		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$2		
Cost per Participant per Dth =	$6.56		
Lifetime Energy Reduction (Dth)	109,797		
Societal Cost per Dth	$2.19		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($393,329)	0.60
Utility Cost Test	$343,838	2.43
Societal Test	$386,462	2.61
Participant Test	$737,167	#DIV/0!

EFFICIENT NEW HOME CONSTRUCTION 2017 ELECTRIC GOAL

2017 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	$776,773	$776,773	$776,773	$776,773
T & D	N/A	$473,002	$473,002	$473,002	$473,002
Marginal Energy	N/A	$399,208	$399,208	$399,208	$399,208
Environmental Externality	N/A	N/A	N/A	N/A	$124,276
Subtotal	N/A	$1,648,983	$1,648,983	$1,648,983	$1,773,259
Participant Benefits					
Bill Reduction - Electric	$1,525,612	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$429,912	N/A	N/A	$429,912	$429,912
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$49,962	N/A	N/A	$35,221	$35,221
Subtotal	$2,005,487	N/A	N/A	$465,133	$465,133
Total Benefits	$2,005,487	$1,648,983	$1,648,983	$2,114,116	$2,238,392
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$21,775	$21,775	$21,775	$21,775
Advertising & Promotion	N/A	$50,605	$50,605	$50,605	$50,605
Measurement & Verification	N/A	$250,000	$250,000	$250,000	$250,000
Rebates	N/A	$429,912	$429,912	$429,912	$429,912
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$752,292	$752,292	$752,292	$752,292
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,525,612	N/A	N/A
Subtotal	N/A	N/A	$1,525,612	N/A	N/A
Participant Costs					
Incremental Capital Costs	$765,042	N/A	N/A	$508,063	$508,063
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$765,042	N/A	N/A	$508,063	$508,063
Total Costs	$765,042	$752,292	$2,277,904	$1,260,355	$1,260,355
Net Benefit (Cost)	$1,240,445	$896,691	($628,921)	$853,761	$978,037
Benefit/Cost Ratio	2.62	2.19	0.72	1.68	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	19.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.31%
Gross Load Factor at Customer	E	8.89%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$873.37

Program Summary per Participant

Gross kW Saved at Customer	I	0.55 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.48 kW
Gross Annual kWh Saved at Customer	(B x E x I)	431 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	470 kWh

Program Summary All Participants

Total Participants	J	2,024
Total Budget	K	**$752,292**
Gross kW Saved at Customer	(J x I)	1,120 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**974 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	872,150 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**952,129 kWh**
Societal Net Benefits	(J x I x H)	**$978,037**

Utility Program Cost per kWh Lifetime	**$0.0400**
Utility Program Cost per kW at Gen	**$772**

EFFICIENT NEW HOME CONSTRUCTION 2017 ELECTRIC ACTUAL

2017 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	$554,118	$554,118	$554,118	$554,118
T & D	N/A	$337,421	$337,421	$337,421	$337,421
Marginal Energy	N/A	$635,626	$635,626	$635,626	$635,626
Environmental Externality	N/A	N/A	N/A	N/A	$197,815
Subtotal	N/A	$1,527,166	$1,527,166	$1,527,166	$1,724,981
Participant Benefits					
Bill Reduction - Electric	$2,430,414	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$240,695	N/A	N/A	$240,695	$240,695
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$10,912	N/A	N/A	$10,912	$10,912
Subtotal	$2,682,021	N/A	N/A	$251,607	$251,607
Total Benefits	$2,682,021	$1,527,166	$1,527,166	$1,778,773	$1,976,588
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$48,607	$48,607	$48,607	$48,607
Advertising & Promotion	N/A	$42,488	$42,488	$42,488	$42,488
Measurement & Verification	N/A	$148,352	$148,352	$148,352	$148,352
Rebates	N/A	$240,695	$240,695	$240,695	$240,695
Other	N/A	$19,475	$19,475	$19,475	$19,475
Subtotal	N/A	$499,617	$499,617	$499,617	$499,617
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,430,414	N/A	N/A
Subtotal	N/A	N/A	$2,430,414	N/A	N/A
Participant Costs					
Incremental Capital Costs	$464,717	N/A	N/A	$464,717	$464,717
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$464,717	N/A	N/A	$464,717	$464,717
Total Costs	$464,717	$499,617	$2,930,031	$964,334	$964,334
Net Benefit (Cost)	$2,217,304	$1,027,549	($1,402,865)	$814,438	$1,012,254
Benefit/Cost Ratio	5.77	3.06	0.52	1.84	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	19.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	84.17%
Gross Load Factor at Customer	E	21.09%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,334.07

Program Summary per Participant

Gross kW Saved at Customer	I	0.41 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.38 kW
Gross Annual kWh Saved at Customer	(B x E x I)	762 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	832 kWh

Program Summary All Participants

Total Participants	J	1,839
Total Budget	K	**$499,617**
Gross kW Saved at Customer	(J x I)	759 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**700 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,402,100 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,530,677 kWh**
Societal Net Benefits	(J x I x H)	**$1,012,254**

Utility Program Cost per kWh Lifetime	**$0.0164**
Utility Program Cost per kW at Gen	**$713**

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

Company: **Xcel Energy**
Project: **Efficient New Home Construction**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$1,080,944		
Incentive Costs =	$492,367		
16) Total Utility Project Costs =	$1,573,311		
17) Direct Participant Costs ($/Part.) =	$2,112		
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) =	20.0		
21) Avg. Dth/Part. Saved =	31.79		
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 =	960		
24) Total Annual Dth Saved =	30,514		
25) Incentive/Participant =	$512.88		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$1,639		
Cost per Participant per Dth =	$118.02		
Lifetime Energy Reduction (Dth)	609,936		
Societal Cost per Dth	$4.59		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($2,230,026)	0.53
Utility Cost Test	$927,914	1.59
Societal Test	$1,181,908	1.42
Participant Test	$3,193,381	2.57

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

Company: **Xcel Energy**
Project: **Efficient New Home Construction**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$604,898		
Incentive Costs =	$378,331		
16) Total Utility Project Costs =	$983,229		
17) Direct Participant Costs ($/Part.) =	$1,737		
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) =	20.0		
21) Avg. Dth/Part. Saved =	23.96		
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 =	1,069		
24) Total Annual Dth Saved =	25,609		
25) Incentive/Participant =	$353.91		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$920		
Cost per Participant per Dth =	$110.89		
Lifetime Energy Reduction (Dth)	511,888		
Societal Cost per Dth	$4.81		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,534,469)	0.58
Utility Cost Test	$1,116,278	2.14
Societal Test	$865,791	1.35
Participant Test	$2,476,781	2.33

RESIDENTIAL HEATING 2017 ELECTRIC GOAL

2017 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	$1,027,952	$1,027,952	$1,027,952	$1,027,952
T & D	N/A	$625,410	$625,410	$625,410	$625,410
Marginal Energy	N/A	$2,884,451	$2,884,451	$2,884,451	$2,884,451
Environmental Externality	N/A	N/A	N/A	N/A	$886,706
Subtotal	N/A	$4,537,813	$4,537,813	$4,537,813	$5,424,519
Participant Benefits					
Bill Reduction - Electric	$10,783,218	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,000,000	N/A	N/A	$1,000,000	$1,000,000
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$11,783,218	N/A	N/A	$1,000,000	$1,000,000
Total Benefits	$11,783,218	$4,537,813	$4,537,813	$5,537,813	$6,424,519
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$72,554	$72,554	$72,554	$72,554
Advertising & Promotion	N/A	$131,000	$131,000	$131,000	$131,000
Measurement & Verification	N/A	$12,516	$12,516	$12,516	$12,516
Rebates	N/A	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,216,070	$1,216,070	$1,216,070	$1,216,070
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$10,783,218	N/A	N/A
Subtotal	N/A	N/A	$10,783,218	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,120,000	N/A	N/A	$2,120,000	$2,120,000
Incremental O&M Costs	$1,626,612	N/A	N/A	$1,626,612	$1,626,612
Subtotal	$3,746,612	N/A	N/A	$3,746,612	$3,746,612
Total Costs	$3,746,612	$1,216,070	$11,999,288	$4,962,682	$4,962,682
Net Benefit (Cost)	$8,036,605	$3,321,743	($7,461,474)	$575,131	$1,461,837
Benefit/Cost Ratio	3.15	3.73	0.38	1.12	1.29

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	17.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	66.03%
Gross Load Factor at Customer	E	39.50%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$767.03

Program Summary per Participant

Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.14 kW
Gross Annual kWh Saved at Customer	(B x E x I)	659 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	720 kWh

Program Summary All Participants

Total Participants	J	10,000
Total Budget	K	**$1,216,070**
Gross kW Saved at Customer	(J x I)	1,906 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,380 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,594,400 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,199,127 kWh**
Societal Net Benefits	(J x I x H)	**$1,461,837**

Utility Program Cost per kWh Lifetime	**$0.0094**
Utility Program Cost per kW at Gen	**$881**

RESIDENTIAL HEATING 2017 ELECTRIC ACTUAL

2017 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	$1,473,749	$1,473,749	$1,473,749	$1,473,749
T & D	N/A	$896,607	$896,607	$896,607	$896,607
Marginal Energy	N/A	$4,085,701	$4,085,701	$4,085,701	$4,085,701
Environmental Externality	N/A	N/A	N/A	N/A	$1,255,083
Subtotal	N/A	$6,456,057	$6,456,057	$6,456,057	$7,711,140
Participant Benefits					
Bill Reduction - Electric	$15,264,055	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,384,400	N/A	N/A	$1,384,400	$1,384,400
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$16,648,455	N/A	N/A	$1,384,400	$1,384,400
Total Benefits	$16,648,455	$6,456,057	$6,456,057	$7,840,457	$9,095,540
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$52,088	$52,088	$52,088	$52,088
Advertising & Promotion	N/A	$112,461	$112,461	$112,461	$112,461
Measurement & Verification	N/A	$12,386	$12,386	$12,386	$12,386
Rebates	N/A	$1,384,400	$1,384,400	$1,384,400	$1,384,400
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,561,335	$1,561,335	$1,561,335	$1,561,335
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$15,264,055	N/A	N/A
Subtotal	N/A	N/A	$15,264,055	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,934,625	N/A	N/A	$2,934,625	$2,934,625
Incremental O&M Costs	$2,158,495	N/A	N/A	$2,158,495	$2,158,495
Subtotal	$5,093,120	N/A	N/A	$5,093,120	$5,093,120
Total Costs	$5,093,120	$1,561,335	$16,825,390	$6,654,456	$6,654,456
Net Benefit (Cost)	$11,555,334	$4,894,722	($10,369,333)	$1,186,001	$2,441,085
Benefit/Cost Ratio	3.27	4.13	0.38	1.18	1.37

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	17.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	70.75%
Gross Load Factor at Customer	E	41.74%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$951.68

Program Summary per Participant

Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.15 kW
Gross Annual kWh Saved at Customer	(B x E x I)	688 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	751 kWh

Program Summary All Participants

Total Participants	J	13,642
Total Budget	K	**$1,561,335**
Gross kW Saved at Customer	(J x I)	2,565 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,990 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,379,260 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**10,239,367 kWh**
Societal Net Benefits	(J x I x H)	**$2,441,085**

Utility Program Cost per kWh Lifetime	**$0.0086**
Utility Program Cost per kW at Gen	**$785**

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

Company: **Xcel Energy**
Project: **Residential Heating**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$357,538		
Incentive Costs =	$2,130,700		
16) Total Utility Project Costs =	$2,488,238		
17) Direct Participant Costs ($/Part.) =	$594		
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) =	18.1		
21) Avg. Dth/Part. Saved =	9.86		
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 =	12,172		
24) Total Annual Dth Saved =	120,000		
25) Incentive/Participant =	$175.05		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$204		
Cost per Participant per Dth =	$81.03		
Lifetime Energy Reduction (Dth)	2,171,608		
Societal Cost per Dth	$3.50		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($4,884,935)	0.65
Utility Cost Test	$6,640,045	3.67
Societal Test	$6,280,293	1.83
Participant Test	$11,380,483	2.57

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

Company: **Xcel Energy**
Project: **Residential Heating**

Input Data	
1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$268,481		
Incentive Costs =	$2,156,900		
16) Total Utility Project Costs =	$2,425,381		
17) Direct Participant Costs ($/Part.) =	$1,090		
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) =	18.1		
21) Avg. Dth/Part. Saved =	17.48		
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 =	7,212		
24) Total Annual Dth Saved =	126,080		
25) Incentive/Participant =	$299.07		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$336		
Cost per Participant per Dth =	$81.61		
Lifetime Energy Reduction (Dth)	2,281,637		
Societal Cost per Dth	$3.56		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($4,943,510)	0.66
Utility Cost Test	$7,165,398	3.95
Societal Test	$6,442,753	1.79
Participant Test	$11,612,423	2.48

HOME ENERGY SQUAD 2017 ELECTRIC GOAL

2017 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	$167,991	$167,991	$167,991	$167,991
T & D	N/A	$101,667	$101,667	$101,667	$101,667
Marginal Energy	N/A	$920,628	$920,628	$920,628	$920,628
Environmental Externality	N/A	N/A	N/A	N/A	$242,073
Subtotal	N/A	$1,190,286	$1,190,286	$1,190,286	$1,432,359
Participant Benefits					
Bill Reduction - Electric	$2,986,217	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	$33,002	N/A	N/A	$33,002	$33,002
Subtotal	$3,019,219	N/A	N/A	$33,002	$33,002
Total Benefits	$3,019,219	$1,190,286	$1,190,286	$1,223,289	$1,465,362
Costs					
Utility Project Costs					
Customer Services	N/A	$421,809	$421,809	$421,809	$421,809
Project Administration	N/A	$171,850	$171,850	$171,850	$171,850
Advertising & Promotion	N/A	$269,420	$269,420	$269,420	$269,420
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	$863,079	$863,079	$863,079	$863,079
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,986,217	N/A	N/A
Subtotal	N/A	N/A	$2,986,217	N/A	N/A
Participant Costs					
Incremental Capital Costs	$37,007	N/A	N/A	$37,007	$37,007
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$37,007	N/A	N/A	$37,007	$37,007
Total Costs	$37,007	$863,079	$3,849,296	$900,086	$900,086
Net Benefit (Cost)	$2,982,212	$327,207	($2,659,010)	$323,203	$565,276
Benefit/Cost Ratio	81.58	1.38	0.31	1.36	1.63

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	7.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.64%
Gross Load Factor at Customer	E	11.31%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$145.01

Program Summary per Participant

Gross kW Saved at Customer	I	0.83 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)	822 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	897 kWh

Program Summary All Participants

Total Participants	J	4,700
Total Budget	K	**$863,079**
Gross kW Saved at Customer	(J x I)	3,898 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**455 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,862,654 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,216,871 kWh**
Societal Net Benefits	(J x I x H)	**$565,276**

Utility Program Cost per kWh Lifetime	**$0.0282**
Utility Program Cost per kW at Gen	**$1,898**

HOME ENERGY SQUAD 2017 ELECTRIC ACTUAL

2017 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	$230,257	$230,257	$230,257	$230,257
T & D	N/A	$139,350	$139,350	$139,350	$139,350
Marginal Energy	N/A	$1,055,105	$1,055,105	$1,055,105	$1,055,105
Environmental Externality	N/A	N/A	N/A	N/A	$277,667
Subtotal	N/A	$1,424,712	$1,424,712	$1,424,712	$1,702,378
Participant Benefits					
Bill Reduction - Electric	$3,423,370	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	$101,967	N/A	N/A	$101,967	$101,967
Subtotal	$3,525,338	N/A	N/A	$101,967	$101,967
Total Benefits	$3,525,338	$1,424,712	$1,424,712	$1,526,679	$1,804,346
Costs					
Utility Project Costs					
Customer Services	N/A	$437,882	$437,882	$437,882	$437,882
Project Administration	N/A	$189,162	$189,162	$189,162	$189,162
Advertising & Promotion	N/A	$134,000	$134,000	$134,000	$134,000
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	$761,044	$761,044	$761,044	$761,044
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,423,370	N/A	N/A
Subtotal	N/A	N/A	$3,423,370	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,072	N/A	N/A	$2,072	$2,072
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,072	N/A	N/A	$2,072	$2,072
Total Costs	$2,072	$761,044	$4,184,414	$763,116	$763,116
Net Benefit (Cost)	$3,523,266	$663,668	($2,759,703)	$763,563	$1,041,230
Benefit/Cost Ratio	1,701.42	1.87	0.34	2.00	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	7.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.21%
Gross Load Factor at Customer	E	10.84%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$223.80

Program Summary per Participant

Gross kW Saved at Customer	I	1.41 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)	1,335 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,458 kWh

Program Summary All Participants

Total Participants	J	3,308
Total Budget	K	**$761,044**
Gross kW Saved at Customer	(J x I)	4,652 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**623 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,417,228 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,822,301 kWh**
Societal Net Benefits	(J x I x H)	**$1,041,230**

Utility Program Cost per kWh Lifetime	**$0.0217**
Utility Program Cost per kW at Gen	**$1,222**

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

Company: **Xcel Energy**
Project: **Home Energy Squad**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$1,290,788		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$1,290,788		
17) Direct Participant Costs ($/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) =	10.0		
21) Avg. Dth/Part. Saved =	11.38		
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 =	1,781		
24) Total Annual Dth Saved =	20,261		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$725		
Cost per Participant per Dth =	$63.71		
Lifetime Energy Reduction (Dth)	202,610		
Societal Cost per Dth	#N/A		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,326,666)	0.09
Utility Cost Test	($1,154,139)	0.11
Societal Test	$0	#N/A
Participant Test	$208,675	#DIV/0!

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

Company: **Xcel Energy**
Project: **Home Energy Squad**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$572,052		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$572,052		
17) Direct Participant Costs ($/Part.) =	$1		
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) =	9.7		
21) Avg. Dth/Part. Saved =	6.79		
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 =	1,266		
24) Total Annual Dth Saved =	8,600		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$452		
Cost per Participant per Dth =	$66.65		
Lifetime Energy Reduction (Dth)	86,002		
Societal Cost per Dth	$6.67		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($675,058)	0.37
Utility Cost Test	($179,732)	0.69
Societal Test	$365,143	1.64
Participant Test	$1,029,156	880.62

HOME LIGHTING 2017 ELECTRIC GOAL

2017 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	$2,634,684	$2,634,684	$2,634,684	$2,634,684
T & D	N/A	$1,593,671	$1,593,671	$1,593,671	$1,593,671
Marginal Energy	N/A	$16,128,645	$16,128,645	$16,128,645	$16,128,645
Environmental Externality	N/A	N/A	N/A	N/A	$4,155,445
Subtotal	N/A	$20,357,000	$20,357,000	$20,357,000	$24,512,445
Participant Benefits					
Bill Reduction - Electric	$53,996,645	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,364,445	N/A	N/A	$4,364,445	$4,364,445
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$58,361,090	N/A	N/A	$4,364,445	$4,364,445
Total Benefits	$58,361,090	$20,357,000	$20,357,000	$24,721,445	$28,876,890
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,401,196	$1,401,196	$1,401,196	$1,401,196
Advertising & Promotion	N/A	$1,758,910	$1,758,910	$1,758,910	$1,758,910
Measurement & Verification	N/A	$10,000	$10,000	$10,000	$10,000
Rebates	N/A	$4,364,445	$4,364,445	$4,364,445	$4,364,445
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$7,534,551	$7,534,551	$7,534,551	$7,534,551
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$53,996,645	N/A	N/A
Subtotal	N/A	N/A	$53,996,645	N/A	N/A
Participant Costs					
Incremental Capital Costs	$9,827,259	N/A	N/A	$9,827,259	$9,827,259
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$9,827,259	N/A	N/A	$9,827,259	$9,827,259
Total Costs	$9,827,259	$7,534,551	$61,531,196	$17,361,810	$17,361,810
Net Benefit (Cost)	$48,533,831	$12,822,449	($41,174,196)	$7,359,635	$11,515,080
Benefit/Cost Ratio	5.94	2.70	0.33	1.42	1.66

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	12.45%
Gross Load Factor at Customer	E	13.61%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$159.22

Program Summary per Participant

Gross kW Saved at Customer	I	0.48 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)	571 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	623 kWh

Program Summary All Participants

Total Participants	J	151,040
Total Budget	K	**$7,534,551**
Gross kW Saved at Customer	(J x I)	72,323 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**9,870 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	86,245,915 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**94,154,929 kWh**
Societal Net Benefits	(J x I x H)	**$11,515,080**

Utility Program Cost per kWh Lifetime	**$0.0138**
Utility Program Cost per kW at Gen	**$763**

HOME LIGHTING 2017 ELECTRIC ACTUAL

2017 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	$4,271,188	$4,271,188	$4,271,188	$4,271,188
T & D	N/A	$2,583,410	$2,583,410	$2,583,410	$2,583,410
Marginal Energy	N/A	$24,930,871	$24,930,871	$24,930,871	$24,930,871
Environmental Externality	N/A	N/A	N/A	N/A	$6,456,051
Subtotal	N/A	$31,785,469	$31,785,469	$31,785,469	$38,241,521
Participant Benefits					
Bill Reduction - Electric	$83,433,589	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$5,178,644	N/A	N/A	$5,178,644	$5,178,644
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$88,612,234	N/A	N/A	$5,178,644	$5,178,644
Total Benefits	$88,612,234	$31,785,469	$31,785,469	$36,964,114	$43,420,165
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$611,006	$611,006	$611,006	$611,006
Advertising & Promotion	N/A	$544,203	$544,203	$544,203	$544,203
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$5,178,644	$5,178,644	$5,178,644	$5,178,644
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$6,333,853	$6,333,853	$6,333,853	$6,333,853
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$83,433,589	N/A	N/A
Subtotal	N/A	N/A	$83,433,589	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,757,185	N/A	N/A	$5,757,185	$5,757,185
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,757,185	N/A	N/A	$5,757,185	$5,757,185
Total Costs	$5,757,185	$6,333,853	$89,767,443	$12,091,038	$12,091,038
Net Benefit (Cost)	$82,855,049	$25,451,616	($57,981,973)	$24,873,076	$31,329,127
Benefit/Cost Ratio	15.39	5.02	0.35	3.06	3.59

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	6.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.36%
Gross Load Factor at Customer	E	13.53%
Transmission Loss Factor (Energy)	F	7.893%
Transmission Loss Factor (Demand)	G	8.694%
Societal Net Benefit (Cost)	H	$282.00

Program Summary per Participant

Gross kW Saved at Customer	I	0.47 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	561 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	609 kWh

Program Summary All Participants

Total Participants	J	234,692
Total Budget	K	**$6,333,853**
Gross kW Saved at Customer	(J x I)	111,096 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**15,038 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	131,660,002 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**142,942,411 kWh**
Societal Net Benefits	(J x I x H)	**$31,329,127**

Utility Program Cost per kWh Lifetime	**$0.0074**
Utility Program Cost per kW at Gen	**$421**

WHOLE HOME EFFICIENCY — 2017 ELECTRIC — GOAL

2017 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	$81,585	$81,585	$81,585	$81,585
T & D	N/A	$49,588	$49,588	$49,588	$49,588
Marginal Energy	N/A	$53,292	$53,292	$53,292	$53,292
Environmental Externality	N/A	N/A	N/A	N/A	$14,731
Subtotal	N/A	$184,466	$184,466	$184,466	$199,197
Participant Benefits					
Bill Reduction - Electric	$173,977	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$30,425	N/A	N/A	$30,425	$30,425
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$204,402	N/A	N/A	$30,425	$30,425
Total Benefits	$204,402	$184,466	$184,466	$214,891	$229,622
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$45,725	$45,725	$45,725	$45,725
Advertising & Promotion	N/A	$14,415	$14,415	$14,415	$14,415
Measurement & Verification	N/A	$30,000	$30,000	$30,000	$30,000
Rebates	N/A	$30,425	$30,425	$30,425	$30,425
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$120,565	$120,565	$120,565	$120,565
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$173,977	N/A	N/A
Subtotal	N/A	N/A	$173,977	N/A	N/A
Participant Costs					
Incremental Capital Costs	$101,484	N/A	N/A	$40,166	$40,166
Incremental O&M Costs	$3,586	N/A	N/A	$3,784	$3,784
Subtotal	$105,071	N/A	N/A	$43,950	$43,950
Total Costs	$105,071	$120,565	$294,542	$164,515	$164,515
Net Benefit (Cost)	$99,332	$63,901	($110,076)	$50,375	$65,107
Benefit/Cost Ratio	1.95	1.53	0.63	1.31	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	11.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	67.20%
Gross Load Factor at Customer	E	10.26%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$373.84

Program Summary per Participant

Gross kW Saved at Customer	I	0.87 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)	783 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	854 kWh

Program Summary All Participants

Total Participants	J	200
Total Budget	K	**$120,565**
Gross kW Saved at Customer	(J x I)	174 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**128 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	156,537 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**170,892 kWh**
Societal Net Benefits	(J x I x H)	**$65,107**

Utility Program Cost per kWh Lifetime	**$0.0597**
Utility Program Cost per kW at Gen	**$940**

WHOLE HOME EFFICIENCY — 2017 ELECTRIC — ACTUAL

2017 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	$18,253	$18,253	$18,253	$18,253
T & D	N/A	$11,104	$11,104	$11,104	$11,104
Marginal Energy	N/A	$11,183	$11,183	$11,183	$11,183
Environmental Externality	N/A	N/A	N/A	N/A	$3,152
Subtotal	N/A	$40,540	$40,540	$40,540	$43,692
Participant Benefits					
Bill Reduction - Electric	$37,179	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$5,195	N/A	N/A	$5,195	$5,195
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$42,375	N/A	N/A	$5,195	$5,195
Total Benefits	$42,375	$40,540	$40,540	$45,735	$48,887
Costs					
Utility Project Costs					
Customer Services	N/A	$2,417	$2,417	$2,417	$2,417
Project Administration	N/A	$20,694	$20,694	$20,694	$20,694
Advertising & Promotion	N/A	$13,276	$13,276	$13,276	$13,276
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$5,195	$5,195	$5,195	$5,195
Other	N/A	$900	$900	$900	$900
Subtotal	N/A	$42,483	$42,483	$42,483	$42,483
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$37,179	N/A	N/A
Subtotal	N/A	N/A	$37,179	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,318	N/A	N/A	$18,318	$18,318
Incremental O&M Costs	$2,128	N/A	N/A	$2,128	$2,128
Subtotal	$20,446	N/A	N/A	$20,446	$20,446
Total Costs	$20,446	$42,483	$79,662	$62,929	$62,929
Net Benefit (Cost)	$21,928	($1,943)	($39,122)	($17,194)	($14,042)
Benefit/Cost Ratio	2.07	0.95	0.51	0.73	0.78

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	14.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	68.77%
Gross Load Factor at Customer	E	9.50%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($408.47)

Program Summary per Participant

Gross kW Saved at Customer	I	0.84 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.63 kW
Gross Annual kWh Saved at Customer	(B x E x I)	698 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	762 kWh

Program Summary All Participants

Total Participants	J	41
Total Budget	K	**$42,483**
Gross kW Saved at Customer	(J x I)	34 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**26 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	28,615 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**31,239 kWh**
Societal Net Benefits	(J x I x H)	**($14,042)**
Utility Program Cost per kWh Lifetime		**$0.0944**
Utility Program Cost per kW at Gen		**$1,639**

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

Company: **Xcel Energy**
Project: **Whole Home Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$200,503		
Incentive Costs =	$87,349		
16) Total Utility Project Costs =	$287,852		
17) Direct Participant Costs ($/Part.) =	$2,691		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$20		
Escalation Rate =	1.73%		
20) Project Life (Years) =	15.4		
21) Avg. Dth/Part. Saved =	40.37		
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 =	200		
24) Total Annual Dth Saved =	8,074		
25) Incentive/Participant =	$436.74		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$1,439		
Cost per Participant per Dth =	$102.31		
Lifetime Energy Reduction (Dth)	124,421		
Societal Cost per Dth	$5.45		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($427,600)	0.55
Utility Cost Test	$244,405	1.85
Societal Test	$150,065	1.22
Participant Test	$524,884	1.98

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

Company: **Xcel Energy**
Project: **Whole Home Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$70,382		
Incentive Costs =	$39,680		
16) Total Utility Project Costs =	$110,063		
17) Direct Participant Costs ($/Part.) =	$3,505		
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) =	16.5		
21) Avg. Dth/Part. Saved =	57.45		
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 =	51		
24) Total Annual Dth Saved =	2,930		
25) Incentive/Participant =	$778.05		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$2,158		
Cost per Participant per Dth =	$98.57		
Lifetime Energy Reduction (Dth)	45,154		
Societal Cost per Dth	$5.52		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($163,723)	0.56
Utility Cost Test	$94,312	1.86
Societal Test	$59,088	1.24
Participant Test	$227,135	2.27

INSULATION REBATE — 2017 ELECTRIC — GOAL

2017 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	$93,227	$93,227	$93,227	$93,227
T & D	N/A	$56,721	$56,721	$56,721	$56,721
Marginal Energy	N/A	$521,556	$521,556	$521,556	$521,556
Environmental Externality	N/A	N/A	N/A	N/A	$141,532
Subtotal	N/A	$671,503	$671,503	$671,503	$813,035
Participant Benefits					
Bill Reduction - Electric	$1,613,001	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$180,026	N/A	N/A	$180,026	$180,026
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$848,689	N/A	N/A	$0	$0
Subtotal	$2,641,716	N/A	N/A	$180,026	$180,026
Total Benefits	$2,641,716	$671,503	$671,503	$851,529	$993,061
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$24,500	$24,500	$24,500	$24,500
Advertising & Promotion	N/A	$6,500	$6,500	$6,500	$6,500
Measurement & Verification	N/A	$3,500	$3,500	$3,500	$3,500
Rebates	N/A	$180,026	$180,026	$180,026	$180,026
Other	N/A	$2,500	$2,500	$2,500	$2,500
Subtotal	N/A	$217,026	$217,026	$217,026	$217,026
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,613,001	N/A	N/A
Subtotal	N/A	N/A	$1,613,001	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,353,765	N/A	N/A	$532,753	$532,753
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,353,765	N/A	N/A	$532,753	$532,753
Total Costs	$1,353,765	$217,026	$1,830,027	$749,779	$749,779
Net Benefit (Cost)	$1,287,952	$454,477	($1,158,524)	$101,750	$243,281
Benefit/Cost Ratio	1.95	3.09	0.37	1.14	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	19.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	14.55%
Gross Load Factor at Customer	E	14.25%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$297.97

Program Summary per Participant

Gross kW Saved at Customer	I	1.66 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.27 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,076 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,266 kWh

Program Summary All Participants

Total Participants	J	491
Total Budget	K	**$217,026**
Gross kW Saved at Customer	(J x I)	816 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**130 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,019,351 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,112,829 kWh**
Societal Net Benefits	(J x I x H)	**$243,281**
Utility Program Cost per kWh Lifetime		**$0.0102**
Utility Program Cost per kW at Gen		**$1,666**

INSULATION REBATE — 2017 — ELECTRIC — ACTUAL

2017 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	$88,100	$88,100	$88,100	$88,100
T & D	N/A	$53,615	$53,615	$53,615	$53,615
Marginal Energy	N/A	$43,217	$43,217	$43,217	$43,217
Environmental Externality	N/A	N/A	N/A	N/A	$11,568
Subtotal	N/A	$184,932	$184,932	$184,932	$196,500
Participant Benefits					
Bill Reduction - Electric	$131,245	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$23,203	N/A	N/A	$23,203	$23,203
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$154,449	N/A	N/A	$23,203	$23,203
Total Benefits	$154,449	$184,932	$184,932	$208,136	$219,704
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$15,705	$15,705	$15,705	$15,705
Advertising & Promotion	N/A	($55)	($55)	($55)	($55)
Measurement & Verification	N/A	$488	$488	$488	$488
Rebates	N/A	$23,203	$23,203	$23,203	$23,203
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$39,341	$39,341	$39,341	$39,341
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$131,245	N/A	N/A
Subtotal	N/A	N/A	$131,245	N/A	N/A
Participant Costs					
Incremental Capital Costs	$176,197	N/A	N/A	$176,197	$176,197
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$176,197	N/A	N/A	$176,197	$176,197
Total Costs	$176,197	$39,341	$170,586	$215,538	$215,538
Net Benefit (Cost)	($21,748)	$145,591	$14,346	($7,403)	$4,165
Benefit/Cost Ratio	0.88	4.70	1.08	0.97	1.02

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	17.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	77.01%
Gross Load Factor at Customer	E	7.29%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$29.42

Program Summary per Participant

Gross kW Saved at Customer	I	0.37 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.31 kW
Gross Annual kWh Saved at Customer	(B x E x I)	238 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	260 kWh

Program Summary All Participants

Total Participants	J	380
Total Budget	K	**$39,341**
Gross kW Saved at Customer	(J x I)	142 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**120 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	90,470 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**98,766 kWh**
Societal Net Benefits	(J x I x H)	**$4,165**
Utility Program Cost per kWh Lifetime		**$0.0232**
Utility Program Cost per kW at Gen		**$329**

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

Company: **Xcel Energy**
Project: **Insulation Rebate**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$86,400		
Incentive Costs =	$188,866		
16) Total Utility Project Costs =	$275,266		
17) Direct Participant Costs ($/Part.) =	$2,123		
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) =	18.7		
21) Avg. Dth/Part. Saved =	21.49		
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 =	641		
24) Total Annual Dth Saved =	13,776		
25) Incentive/Participant =	$294.64		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$429		
Cost per Participant per Dth =	$118.75		
Lifetime Energy Reduction (Dth)	257,537		
Societal Cost per Dth	$5.15		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($555,300)	0.66
Utility Cost Test	$791,298	3.87
Societal Test	$331,700	1.25
Participant Test	$925,021	1.68

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

Company: **Xcel Energy**
Project: **Insulation Rebate**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$44,094		
Incentive Costs =	$130,162		
16) Total Utility Project Costs =	$174,256		
17) Direct Participant Costs ($/Part.) =	$2,219		
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) =	17.2		
21) Avg. Dth/Part. Saved =	22.18		
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 =	449		
24) Total Annual Dth Saved =	9,961		
25) Incentive/Participant =	$289.89		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$388		
Cost per Participant per Dth =	$117.50		
Lifetime Energy Reduction (Dth)	186,214		
Societal Cost per Dth	$5.59		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($362,684)	0.66
Utility Cost Test	$543,410	4.12
Societal Test	$54,299	1.05
Participant Test	$434,838	1.44

REFRIGERATOR RECYCLING — 2017 — ELECTRIC — GOAL

2017 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	$331,596	$331,596	$331,596	$331,596
T & D	N/A	$200,781	$200,781	$200,781	$200,781
Marginal Energy	N/A	$1,602,424	$1,602,424	$1,602,424	$1,602,424
Environmental Externality	N/A	N/A	N/A	N/A	$460,614
Subtotal	N/A	$2,134,802	$2,134,802	$2,134,802	$2,595,415
Participant Benefits					
Bill Reduction - Electric	$5,508,953	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$232,750	N/A	N/A	$232,750	$232,750
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,741,703	N/A	N/A	$232,750	$232,750
Total Benefits	$5,741,703	$2,134,802	$2,134,802	$2,367,552	$2,828,165
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$499,970	$499,970	$499,970	$499,970
Advertising & Promotion	N/A	$206,944	$206,944	$206,944	$206,944
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$232,750	$232,750	$232,750	$232,750
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$939,664	$939,664	$939,664	$939,664
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,508,953	N/A	N/A
Subtotal	N/A	N/A	$5,508,953	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	$939,664	$6,448,617	$939,664	$939,664
Net Benefit (Cost)	$5,741,703	$1,195,138	($4,313,815)	$1,427,888	$1,888,501
Benefit/Cost Ratio	INF	2.27	0.33	2.52	3.01

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	8.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	63.84%
Gross Load Factor at Customer	E	63.84%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,620.68

Program Summary per Participant

Gross kW Saved at Customer	I	0.18 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x I)	980 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,070 kWh

Program Summary All Participants

Total Participants	J	6,650
Total Budget	K	**$939,664**
Gross kW Saved at Customer	(J x I)	1,165 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**816 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,516,544 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,114,131 kWh**
Societal Net Benefits	(J x I x H)	**$1,888,501**

Utility Program Cost per kWh Lifetime	**$0.0162**
Utility Program Cost per kW at Gen	**$1,152**

REFRIGERATOR RECYCLING — 2017 ELECTRIC — ACTUAL

2017 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	$169,736	$169,736	$169,736	$169,736
T & D	N/A	$102,761	$102,761	$102,761	$102,761
Marginal Energy	N/A	$822,983	$822,983	$822,983	$822,983
Environmental Externality	N/A	N/A	N/A	N/A	$234,137
Subtotal	N/A	$1,095,480	$1,095,480	$1,095,480	$1,329,617
Participant Benefits					
Bill Reduction - Electric	$2,819,120	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$158,445	N/A	N/A	$158,445	$158,445
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$2,977,565	N/A	N/A	$158,445	$158,445
Total Benefits	$2,977,565	$1,095,480	$1,095,480	$1,253,925	$1,488,062
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$312,325	$312,325	$312,325	$312,325
Advertising & Promotion	N/A	$149,219	$149,219	$149,219	$149,219
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$158,445	$158,445	$158,445	$158,445
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$619,989	$619,989	$619,989	$619,989
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,819,120	N/A	N/A
Subtotal	N/A	N/A	$2,819,120	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	$619,989	$3,439,109	$619,989	$619,989
Net Benefit (Cost)	$2,977,565	$475,491	($2,343,629)	$633,936	$868,073
Benefit/Cost Ratio	INF	1.77	0.32	2.02	2.40

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	7.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	63.82%
Gross Load Factor at Customer	E	63.86%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,407.45

Program Summary per Participant

Gross kW Saved at Customer	I	0.17 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x I)	954 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,041 kWh

Program Summary All Participants

Total Participants	J	3,618
Total Budget	K	**$619,989**
Gross kW Saved at Customer	(J x I)	617 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**432 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,450,339 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,766,746 kWh**
Societal Net Benefits	(J x I x H)	**$868,073**

Utility Program Cost per kWh Lifetime	**$0.0210**
Utility Program Cost per kW at Gen	**$1,437**

RESIDENTIAL COOLING — 2017 ELECTRIC — GOAL

2017 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	$3,678,302	$3,678,302	$3,678,302	$3,678,302
T & D	N/A	$2,235,002	$2,235,002	$2,235,002	$2,235,002
Marginal Energy	N/A	$1,681,154	$1,681,154	$1,681,154	$1,681,154
Environmental Externality	N/A	N/A	N/A	N/A	$445,653
Subtotal	N/A	$7,594,458	$7,594,458	$7,594,458	$8,040,111
Participant Benefits					
Bill Reduction - Electric	$4,945,478	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,637,250	N/A	N/A	$3,637,250	$3,637,250
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$8,582,728	N/A	N/A	$3,637,250	$3,637,250
Total Benefits	$8,582,728	$7,594,458	$7,594,458	$11,231,708	$11,677,361
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$340,341	$340,341	$340,341	$340,341
Advertising & Promotion	N/A	$212,074	$212,074	$212,074	$212,074
Measurement & Verification	N/A	$9,395	$9,395	$9,395	$9,395
Rebates	N/A	$3,637,250	$3,637,250	$3,637,250	$3,637,250
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,199,060	$4,199,060	$4,199,060	$4,199,060
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,945,478	N/A	N/A
Subtotal	N/A	N/A	$4,945,478	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,861,149	N/A	N/A	$5,861,149	$5,861,149
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,861,149	N/A	N/A	$5,861,149	$5,861,149
Total Costs	$5,861,149	$4,199,060	$9,144,538	$10,060,209	$10,060,209
Net Benefit (Cost)	$2,721,579	$3,395,398	($1,550,080)	$1,171,499	$1,617,152
Benefit/Cost Ratio	1.46	1.81	0.83	1.12	1.16

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	90.00%
Gross Load Factor at Customer	E	7.50%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$288.37

Program Summary per Participant

Gross kW Saved at Customer	I	0.47 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.47 kW
Gross Annual kWh Saved at Customer	(B x E x I)	311 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	339 kWh

Program Summary All Participants

Total Participants	J	11,857
Total Budget	K	**$4,199,060**
Gross kW Saved at Customer	(J x I)	5,608 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,534 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,684,444 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,022,319 kWh**
Societal Net Benefits	(J x I x H)	**$1,617,152**

Utility Program Cost per kWh Lifetime	**$0.0690**
Utility Program Cost per kW at Gen	**$759**

RESIDENTIAL COOLING — 2017 — ELECTRIC — ACTUAL

2017 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	$5,332,916	$5,332,916	$5,332,916	$5,332,916
T & D	N/A	$3,240,464	$3,240,464	$3,240,464	$3,240,464
Marginal Energy	N/A	$2,478,989	$2,478,989	$2,478,989	$2,478,989
Environmental Externality	N/A	N/A	N/A	N/A	$657,114
Subtotal	N/A	$11,052,370	$11,052,370	$11,052,370	$11,709,483
Participant Benefits					
Bill Reduction - Electric	$7,291,688	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,361,595	N/A	N/A	$4,361,595	$4,361,595
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$11,653,283	N/A	N/A	$4,361,595	$4,361,595
Total Benefits	$11,653,283	$11,052,370	$11,052,370	$15,413,965	$16,071,078
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$331,427	$331,427	$331,427	$331,427
Advertising & Promotion	N/A	($987)	($987)	($987)	($987)
Measurement & Verification	N/A	$10,269	$10,269	$10,269	$10,269
Rebates	N/A	$4,361,595	$4,361,595	$4,361,595	$4,361,595
Other	N/A	$150	$150	$150	$150
Subtotal	N/A	$4,702,453	$4,702,453	$4,702,453	$4,702,453
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,291,688	N/A	N/A
Subtotal	N/A	N/A	$7,291,688	N/A	N/A
Participant Costs					
Incremental Capital Costs	$7,547,747	N/A	N/A	$7,547,747	$7,547,747
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$7,547,747	N/A	N/A	$7,547,747	$7,547,747
Total Costs	$7,547,747	$4,702,453	$11,994,142	$12,250,200	$12,250,200
Net Benefit (Cost)	$4,105,536	$6,349,916	($941,772)	$3,163,765	$3,820,878
Benefit/Cost Ratio	1.54	2.35	0.92	1.26	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	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	89.36%
Gross Load Factor at Customer	E	7.59%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$467.67

Program Summary per Participant

Gross kW Saved at Customer	I	0.56 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.55 kW
Gross Annual kWh Saved at Customer	(B x E x I)	375 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	409 kWh

Program Summary All Participants

Total Participants	J	14,497
Total Budget	K	**$4,702,453**
Gross kW Saved at Customer	(J x I)	8,170 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,005 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,434,231 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,932,566 kWh**
Societal Net Benefits	(J x I x H)	**$3,820,878**

Utility Program Cost per kWh Lifetime	**$0.0524**
Utility Program Cost per kW at Gen	**$587**

SCHOOL EDUCATION KITS — 2017 ELECTRIC — GOAL

2017 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	$53,829	$53,829	$53,829	$53,829
T & D	N/A	$32,590	$32,590	$32,590	$32,590
Marginal Energy	N/A	$348,012	$348,012	$348,012	$348,012
Environmental Externality	N/A	N/A	N/A	N/A	$97,129
Subtotal	N/A	$434,432	$434,432	$434,432	$531,561
Participant Benefits					
Bill Reduction - Electric	$1,180,606	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$232,271	N/A	N/A	$232,271	$232,271
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$180,882	N/A	N/A	$180,882	$180,882
Subtotal	$1,593,760	N/A	N/A	$413,153	$413,153
Total Benefits	$1,593,760	$434,432	$434,432	$847,585	$944,714
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$226,500	$226,500	$226,500	$226,500
Advertising & Promotion	N/A	$2,671	$2,671	$2,671	$2,671
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$232,271	$232,271	$232,271	$232,271
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$461,442	$461,442	$461,442	$461,442
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,180,606	N/A	N/A
Subtotal	N/A	N/A	$1,180,606	N/A	N/A
Participant Costs					
Incremental Capital Costs	$232,271	N/A	N/A	$232,271	$232,271
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$232,271	N/A	N/A	$232,271	$232,271
Total Costs	$232,271	$461,442	$1,642,048	$693,713	$693,713
Net Benefit (Cost)	$1,361,488	($27,010)	($1,207,616)	$153,872	$251,001
Benefit/Cost Ratio	6.86	0.94	0.26	1.22	1.36

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	7.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.27%
Gross Load Factor at Customer	E	13.45%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$207.10

Program Summary per Participant

Gross kW Saved at Customer	I	0.09 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)	102 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	111 kWh

Program Summary All Participants

Total Participants	J	14,000
Total Budget	K	**$461,442**
Gross kW Saved at Customer	(J x I)	1,212 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**136 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,428,101 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,559,062 kWh**
Societal Net Benefits	(J x I x H)	**$251,001**

Utility Program Cost per kWh Lifetime	**$0.0378**
Utility Program Cost per kW at Gen	**$3,381**

SCHOOL EDUCATION KITS — 2017 ELECTRIC — ACTUAL

2017 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	$46,029	$46,029	$46,029	$46,029
T & D	N/A	$27,865	$27,865	$27,865	$27,865
Marginal Energy	N/A	$297,829	$297,829	$297,829	$297,829
Environmental Externality	N/A	N/A	N/A	N/A	$82,804
Subtotal	N/A	$371,723	$371,723	$371,723	$454,527
Participant Benefits					
Bill Reduction - Electric	$1,008,731	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$244,159	N/A	N/A	$244,159	$244,159
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$378,395	N/A	N/A	$378,395	$378,395
Subtotal	$1,631,285	N/A	N/A	$622,554	$622,554
Total Benefits	$1,631,285	$371,723	$371,723	$994,277	$1,077,081
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$234,233	$234,233	$234,233	$234,233
Advertising & Promotion	N/A	$1,296	$1,296	$1,296	$1,296
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$244,159	$244,159	$244,159	$244,159
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$479,688	$479,688	$479,688	$479,688
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,008,731	N/A	N/A
Subtotal	N/A	N/A	$1,008,731	N/A	N/A
Participant Costs					
Incremental Capital Costs	$232,620	N/A	N/A	$232,620	$232,620
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$232,620	N/A	N/A	$232,620	$232,620
Total Costs	$232,620	$479,688	$1,488,419	$712,307	$712,307
Net Benefit (Cost)	$1,398,665	($107,964)	($1,116,696)	$281,970	$364,774
Benefit/Cost Ratio	7.01	0.77	0.25	1.40	1.51

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	8.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.85%
Gross Load Factor at Customer	E	14.16%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$177.26

Program Summary per Participant

Gross kW Saved at Customer	I	0.15 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)	182 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	199 kWh

Program Summary All Participants

Total Participants	J	14,021
Total Budget	K	**$479,688**
Gross kW Saved at Customer	(J x I)	2,058 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**245 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,552,932 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,787,044 kWh**
Societal Net Benefits	(J x I x H)	**$364,774**
Utility Program Cost per kWh Lifetime		**$0.0216**
Utility Program Cost per kW at Gen		**$1,959**

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

Company: **Xcel Energy**
Project: **School Education Kits**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$246,678		
Incentive Costs =	$60,656		
16) Total Utility Project Costs =	$307,334		
17) Direct Participant Costs ($/Part.) =	$4		
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) =	10.0		
21) Avg. Dth/Part. Saved =	0.81		
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 =	14,000		
24) Total Annual Dth Saved =	11,391		
25) Incentive/Participant =	$4.33		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$22		
Cost per Participant per Dth =	$32.30		
Lifetime Energy Reduction (Dth)	113,912		
Societal Cost per Dth	$2.70		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($447,518)	0.54
Utility Cost Test	$226,583	1.74
Societal Test	$2,043,341	7.65
Participant Test	$2,476,759	41.83

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

Company: **Xcel Energy**
Project: **School Education Kits**

Input Data	
1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$204,150		
Incentive Costs =	$63,763		
16) Total Utility Project Costs =	$267,912		
17) Direct Participant Costs ($/Part.) =	$4		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$26		
Escalation Rate =	1.73%		
20) Project Life (Years) =	10.0		
21) Avg. Dth/Part. Saved =	1.70		
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 =	14,021		
24) Total Annual Dth Saved =	23,813		
25) Incentive/Participant =	$4.55		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$19		
Cost per Participant per Dth =	$13.80		
Lifetime Energy Reduction (Dth)	238,134		
Societal Cost per Dth	$1.11		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($560,968)	0.67
Utility Cost Test	$848,246	4.17
Societal Test	$4,651,591	18.56
Participant Test	$5,183,081	86.32

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

Company: **Xcel Energy**
Project: **Water Heater Rebate**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$101,196		
Incentive Costs =	$102,774		
16) Total Utility Project Costs =	$203,970		
17) Direct Participant Costs ($/Part.) =	$300		
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) =	14.3		
21) Avg. Dth/Part. Saved =	3.22		
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 =	948		
24) Total Annual Dth Saved =	3,053		
25) Incentive/Participant =	$108.36		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$215		
Cost per Participant per Dth =	$160.06		
Lifetime Energy Reduction (Dth)	43,691		
Societal Cost per Dth	$8.83		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($254,387)	0.43
Utility Cost Test	($11,948)	0.94
Societal Test	($112,737)	0.71
Participant Test	$142,077	1.50

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

Company: **Xcel Energy**
Project: **Water Heater Rebate**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$62,288		
Incentive Costs =	$181,560		
16) Total Utility Project Costs =	$243,848		
17) Direct Participant Costs ($/Part.) =	$333		
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) =	14.6		
21) Avg. Dth/Part. Saved =	3.24		
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 =	1,610		
24) Total Annual Dth Saved =	5,215		
25) Incentive/Participant =	$112.77		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$151		
Cost per Participant per Dth =	$149.47		
Lifetime Energy Reduction (Dth)	74,631		
Societal Cost per Dth	$8.01		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($331,387)	0.50
Utility Cost Test	$89,562	1.37
Societal Test	($120,037)	0.80
Participant Test	$212,886	1.40

RESIDENTIAL DEMAND RESPONSE 2017 ELECTRIC GOAL

2017 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	$14,513,186	$14,513,186	$14,513,186	$14,513,186
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$94,471	$94,471	$94,471	$94,471
Environmental Externality	N/A	N/A	N/A	N/A	$25,656
Subtotal	N/A	$14,607,657	$14,607,657	$14,607,657	$14,633,312
Participant Benefits					
Bill Reduction - Electric	$304,898	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,125,000	N/A	N/A	$1,125,000	$1,125,000
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$1,207,742	N/A	N/A	$0	$0
Subtotal	$2,637,640	N/A	N/A	$1,125,000	$1,125,000
Total Benefits	$2,637,640	$14,607,657	$14,607,657	$15,732,657	$15,758,312
Costs					
Utility Project Costs					
Customer Services	N/A	$72,968	$72,968	$72,968	$72,968
Project Administration	N/A	$4,972,252	$4,972,252	$4,972,252	$4,972,252
Advertising & Promotion	N/A	$533,375	$533,375	$533,375	$533,375
Measurement & Verification	N/A	$262,367	$262,367	$262,367	$262,367
Rebates	N/A	$1,125,000	$1,125,000	$1,125,000	$1,125,000
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$6,965,962	$6,965,962	$6,965,962	$6,965,962
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$304,898	N/A	N/A
Subtotal	N/A	N/A	$304,898	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,297,500	N/A	N/A	$1,297,500	$1,297,500
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,297,500	N/A	N/A	$1,297,500	$1,297,500
Total Costs	$1,297,500	$6,965,962	$7,270,860	$8,263,462	$8,263,462
Net Benefit (Cost)	$1,340,140	$7,641,695	$7,336,797	$7,469,195	$7,494,850
Benefit/Cost Ratio	2.03	2.10	2.01	1.90	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	10.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.60%
Gross Load Factor at Customer	E	0.05%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$113.27

Program Summary per Participant		
Gross kW Saved at Customer	I	1.97 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.73 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	33,525
Total Budget	K	**$6,892,994**
Gross kW Saved at Customer	(J x I)	66,171 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**24,375 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	279,454 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**305,081 kWh**
Societal Net Benefits	(J x I x H)	**$7,494,850**

Utility Program Cost per kWh Lifetime	**$2.1254**
Utility Program Cost per kW at Gen	**$283**

RESIDENTIAL DEMAND RESPONSE 2017 ELECTRIC ACTUAL

2017 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	$11,636,528	$11,636,528	$11,636,528	$11,636,528
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$22,407	$22,407	$22,407	$22,407
Environmental Externality	N/A	N/A	N/A	N/A	$4,712
Subtotal	N/A	$11,658,935	$11,658,935	$11,658,935	$11,663,647
Participant Benefits					
Bill Reduction - Electric	$57,148	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$58,913	N/A	N/A	$58,913	$58,913
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$116,061	N/A	N/A	$58,913	$58,913
Total Benefits	$116,061	$11,658,935	$11,658,935	$11,717,849	$11,722,561
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$4,512,352	$4,512,352	$4,512,352	$4,512,352
Advertising & Promotion	N/A	$42,772	$42,772	$42,772	$42,772
Measurement & Verification	N/A	$21,728	$21,728	$21,728	$21,728
Rebates	N/A	$58,913	$58,913	$58,913	$58,913
Other	N/A	$6,302	$6,302	$6,302	$6,302
Subtotal	N/A	$4,642,067	$4,642,067	$4,642,067	$4,642,067
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$57,148	N/A	N/A
Subtotal	N/A	N/A	$57,148	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,712	N/A	N/A	$2,712	$2,712
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,712	N/A	N/A	$2,712	$2,712
Total Costs	$2,712	$4,642,067	$4,699,215	$4,644,779	$4,644,779
Net Benefit (Cost)	$113,349	$7,016,868	$6,959,720	$7,073,070	$7,077,782
Benefit/Cost Ratio	42.80	2.51	2.48	2.52	2.52

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	13.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	29.68%
Gross Load Factor at Customer	E	0.01%
Transmission Loss Factor (Energy)	F	6.389%
Transmission Loss Factor (Demand)	G	8.791%
Societal Net Benefit (Cost)	H	$127.15

Program Summary per Participant		
Gross kW Saved at Customer	I	2.47 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)	2 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2 kWh

Program Summary All Participants		
Total Participants	J	22,507
Total Budget	K	**$4,642,067**
Gross kW Saved at Customer	(J x I)	55,663 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**18,114 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	43,775 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**46,763 kWh**
Societal Net Benefits	(J x I x H)	**$7,077,782**

Utility Program Cost per kWh Lifetime	**$7.4058**
Utility Program Cost per kW at Gen	**$256**

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

Company: **Xcel Energy**
Project: **Residential Demand Response**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$94,768		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$94,768		
17) Direct Participant Costs ($/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) =	10.0		
21) Avg. Dth/Part. Saved =	4.18		
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 =	4,224		
24) Total Annual Dth Saved =	17,649		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$22		
Cost per Participant per Dth =	$5.37		
Lifetime Energy Reduction (Dth)	176,490		
Societal Cost per Dth	#DIV/0!		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($311,963)	0.73
Utility Cost Test	$732,461	8.73
Societal Test	$0	#DIV/0!
Participant Test	$1,439,715	#DIV/0!

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

Company: **Xcel Energy**
Project: **Residential Demand Response**

Input Data	
1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$7,465		
Incentive Costs =	$10,494		
16) Total Utility Project Costs =	$17,959		
17) Direct Participant Costs ($/Part.) =	$734		
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) =	10.0		
21) Avg. Dth/Part. Saved =	7.01		
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 =	65		
24) Total Annual Dth Saved =	456		
25) Incentive/Participant =	$161.45		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$276		
Cost per Participant per Dth =	$144.00		
Lifetime Energy Reduction (Dth)	4,559		
Societal Cost per Dth	$12.10		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($23,569)	0.48
Utility Cost Test	$3,410	1.19
Societal Test	($27,571)	0.50
Participant Test	($4,566)	0.90

LOW INCOME SEGMENT TOTAL — 2017 ELECTRIC — GOAL

2017 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	$183,395	$183,395	$183,395	$183,395
T & D	N/A	$111,311	$111,311	$111,311	$111,311
Marginal Energy	N/A	$844,131	$844,131	$844,131	$844,131
Environmental Externality	N/A	N/A	N/A	N/A	$251,493
Subtotal	N/A	$1,138,837	$1,138,837	$1,138,837	$1,390,330
Participant Benefits					
Bill Reduction - Electric	$3,055,881	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,368,059	N/A	N/A	$1,368,059	$1,368,059
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$4,423,940	N/A	N/A	$1,368,059	$1,368,059
Total Benefits	$4,423,940	$1,138,837	$1,138,837	$2,506,896	$2,758,389
Costs					
Utility Project Costs					
Customer Services	N/A	$455,714	$455,714	$455,714	$455,714
Project Administration	N/A	$379,027	$379,027	$379,027	$379,027
Advertising & Promotion	N/A	$143,382	$143,382	$143,382	$143,382
Measurement & Verification	N/A	$16,688	$16,688	$16,688	$16,688
Rebates	N/A	$1,368,059	$1,368,059	$1,368,059	$1,368,059
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,362,870	$2,362,870	$2,362,870	$2,362,870
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,055,881	N/A	N/A
Subtotal	N/A	N/A	$3,055,881	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,368,060	N/A	N/A	$1,356,389	$1,356,389
Incremental O&M Costs	$18,013	N/A	N/A	$18,013	$18,013
Subtotal	$1,386,072	N/A	N/A	$1,374,401	$1,374,401
Total Costs	$1,386,072	$2,362,870	$5,418,751	$3,737,271	$3,737,271
Net Benefit (Cost)	$3,037,868	($1,224,033)	($4,279,915)	($1,230,376)	($978,882)
Benefit/Cost Ratio	3.19	0.48	0.21	0.67	0.74

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	11.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	15.84%
Gross Load Factor at Customer	E	15.55%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($475.16)

Program Summary per Participant

Gross kW Saved at Customer	I	0.43 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.08 kW
Gross 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	4,766
Total Budget	K	**$2,362,870**
Gross kW Saved at Customer	(J x I)	2,060 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	2,806,592 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,063,965 kWh**
Societal Net Benefits	(J x I x H)	**($978,882)**

Utility Program Cost per kWh Lifetime	**$0.0684**
Utility Program Cost per kW at Gen	**$6,604**

LOW INCOME SEGMENT TOTAL — 2017 ELECTRIC — ACTUAL

2017 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	$165,853	$165,853	$165,853	$165,853
T & D	N/A	$100,681	$100,681	$100,681	$100,681
Marginal Energy	N/A	$587,797	$587,797	$587,797	$587,797
Environmental Externality	N/A	N/A	N/A	N/A	$174,312
Subtotal	N/A	$854,331	$854,331	$854,331	$1,028,644
Participant Benefits					
Bill Reduction - Electric	$2,117,027	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	$10,111	N/A	N/A	$10,111	$10,111
Subtotal	$2,127,138	N/A	N/A	$10,111	$10,111
Total Benefits	$2,127,138	$854,331	$854,331	$864,442	$1,038,754
Costs					
Utility Project Costs					
Customer Services	N/A	$1,747,373	$1,747,373	$1,747,373	$1,747,373
Project Administration	N/A	$457,568	$457,568	$457,568	$457,568
Advertising & Promotion	N/A	$151,937	$151,937	$151,937	$151,937
Measurement & Verification	N/A	$8,177	$8,177	$8,177	$8,177
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,365,054	$2,365,054	$2,365,054	$2,365,054
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,117,027	N/A	N/A
Subtotal	N/A	N/A	$2,117,027	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,745,710	N/A	N/A	$1,745,710	$1,745,710
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,745,710	N/A	N/A	$1,745,710	$1,745,710
Total Costs	$1,745,710	$2,365,054	$4,482,082	$4,110,764	$4,110,764
Net Benefit (Cost)	$381,428	($1,510,723)	($3,627,750)	($3,246,322)	($3,072,010)
Benefit/Cost Ratio	1.22	0.36	0.19	0.21	0.25

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	11.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	19.21%
Gross Load Factor at Customer	E	14.92%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($2,031.94)

Program Summary per Participant

Gross kW Saved at Customer	I	0.47 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)	614 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	670 kWh

Program Summary All Participants

Total Participants	J	3,221
Total Budget	K	**$2,365,054**
Gross kW Saved at Customer	(J x I)	1,512 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**318 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,976,220 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,157,445 kWh**
Societal Net Benefits	(J x I x H)	**($3,072,010)**

Utility Program Cost per kWh Lifetime	**$0.0991**
Utility Program Cost per kW at Gen	**$7,428**

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

Company: **Xcel Energy**
Project: **Low Income Segment Total**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$645,802		
Incentive Costs =	$972,716		
16) Total Utility Project Costs =	$1,618,518		
17) Direct Participant Costs ($/Part.) =	$512		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$23		
Escalation Rate =	1.73%		
20) Project Life (Years) =	11.3		
21) Avg. Dth/Part. Saved =	7.05		
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 =	1,900		
24) Total Annual Dth Saved =	13,390		
25) Incentive/Participant =	$511.96		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$852		
Cost per Participant per Dth =	$193.52		
Lifetime Energy Reduction (Dth)	151,916		
Societal Cost per Dth	$10.51		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,799,674)	0.28
Utility Cost Test	($928,550)	0.43
Societal Test	($254,059)	0.84
Participant Test	$1,515,545	2.56

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

Company: **Xcel Energy**
Project: **Low Income Segment Total**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$1,295,016		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$1,295,016		
17) Direct Participant Costs ($/Part.) =	$849		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$25		
Escalation Rate =	1.73%		
20) Project Life (Years) =	13.1		
21) Avg. Dth/Part. Saved =	10.94		
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 =	904		
24) Total Annual Dth Saved =	9,893		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$1,433		
Cost per Participant per Dth =	$208.48		
Lifetime Energy Reduction (Dth)	112,238		
Societal Cost per Dth	$18.37		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,445,219)	0.28
Utility Cost Test	($722,941)	0.44
Societal Test	($1,040,958)	0.50
Participant Test	$404,970	1.53

HOME ENERGY SAVINGS PROGRAM 2017 ELECTRIC GOAL

2017 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	$70,520	$70,520	$70,520	$70,520
T & D	N/A	$42,871	$42,871	$42,871	$42,871
Marginal Energy	N/A	$281,722	$281,722	$281,722	$281,722
Environmental Externality	N/A	N/A	N/A	N/A	$91,642
Subtotal	N/A	$395,112	$395,112	$395,112	$486,754
Participant Benefits					
Bill Reduction - Electric	$1,106,858	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$772,131	N/A	N/A	$772,131	$772,131
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,878,989	N/A	N/A	$772,131	$772,131
Total Benefits	$1,878,989	$395,112	$395,112	$1,167,243	$1,258,885
Costs					
Utility Project Costs					
Customer Services	N/A	$158,400	$158,400	$158,400	$158,400
Project Administration	N/A	$157,866	$157,866	$157,866	$157,866
Advertising & Promotion	N/A	$139,982	$139,982	$139,982	$139,982
Measurement & Verification	N/A	$9,329	$9,329	$9,329	$9,329
Rebates	N/A	$772,131	$772,131	$772,131	$772,131
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,237,708	$1,237,708	$1,237,708	$1,237,708
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,106,858	N/A	N/A
Subtotal	N/A	N/A	$1,106,858	N/A	N/A
Participant Costs					
Incremental Capital Costs	$772,131	N/A	N/A	$760,461	$760,461
Incremental O&M Costs	$18,013	N/A	N/A	$18,013	$18,013
Subtotal	$790,144	N/A	N/A	$778,473	$778,473
Total Costs	$790,144	$1,237,708	$2,344,566	$2,016,181	$2,016,181
Net Benefit (Cost)	$1,088,845	($842,596)	($1,949,454)	($848,938)	($757,296)
Benefit/Cost Ratio	2.38	0.32	0.17	0.58	0.62

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	16.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.84%
Gross Load Factor at Customer	E	30.75%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($2,782.19)

Program Summary per Participant

Gross kW Saved at Customer	I	0.16 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	422 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	461 kWh

Program Summary All Participants

Total Participants	J	1,736
Total Budget	K	**$1,229,548**
Gross kW Saved at Customer	(J x I)	272 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**107 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	733,267 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**800,509 kWh**
Societal Net Benefits	(J x I x H)	**($757,296)**
Utility Program Cost per kWh Lifetime		**$0.0929**
Utility Program Cost per kW at Gen		**$11,495**

HOME ENERGY SAVINGS PROGRAM 2017 ELECTRIC ACTUAL

2017 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	$53,820	$53,820	$53,820	$53,820
T & D	N/A	$32,729	$32,729	$32,729	$32,729
Marginal Energy	N/A	$101,347	$101,347	$101,347	$101,347
Environmental Externality	N/A	N/A	N/A	N/A	$32,950
Subtotal	N/A	$187,897	$187,897	$187,897	$220,847
Participant Benefits					
Bill Reduction - Electric	$397,902	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	$397,902	N/A	N/A	$0	$0
Total Benefits	$397,902	$187,897	$187,897	$187,897	$220,847
Costs					
Utility Project Costs					
Customer Services	N/A	$417,022	$417,022	$417,022	$417,022
Project Administration	N/A	$173,446	$173,446	$173,446	$173,446
Advertising & Promotion	N/A	$96,220	$96,220	$96,220	$96,220
Measurement & Verification	N/A	$5,621	$5,621	$5,621	$5,621
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$692,310	$692,310	$692,310	$692,310
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$397,902	N/A	N/A
Subtotal	N/A	N/A	$397,902	N/A	N/A
Participant Costs					
Incremental Capital Costs	$421,610	N/A	N/A	$421,610	$421,610
Incremental O&M Costs	$14,242	N/A	N/A	$14,242	$14,242
Subtotal	$435,853	N/A	N/A	$435,853	$435,853
Total Costs	$435,853	$692,310	$1,090,211	$1,128,162	$1,128,162
Net Benefit (Cost)	($37,951)	($504,413)	($902,315)	($940,266)	($907,315)
Benefit/Cost Ratio	0.91	0.27	0.17	0.17	0.20

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	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	59.57%
Gross Load Factor at Customer	E	24.72%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($7,403.21)

Program Summary per Participant

Gross kW Saved at Customer	I	0.17 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.11 kW
Gross Annual kWh Saved at Customer	(B x E x I)	371 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	405 kWh

Program Summary All Participants

Total Participants	J	716
Total Budget	K	**$692,310**
Gross kW Saved at Customer	(J x I)	123 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**80 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	265,407 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**289,746 kWh**
Societal Net Benefits	(J x I x H)	**($907,315)**

Utility Program Cost per kWh Lifetime	**$0.1457**
Utility Program Cost per kW at Gen	**$8,648**

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

Company: **Xcel Energy**
Project: **Home Energy Savings Program**

Input Data	
1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$236,194		
Incentive Costs =	$972,716		
16) Total Utility Project Costs =	$1,208,910		
17) Direct Participant Costs ($/Part.) =	$2,432		
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) =	15.8		
21) Avg. Dth/Part. Saved =	9.03		
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 =	400		
24) Total Annual Dth Saved =	3,612		
25) Incentive/Participant =	$2,431.79		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$3,022		
Cost per Participant per Dth =	$603.95		
Lifetime Energy Reduction (Dth)	56,951		
Societal Cost per Dth	$20.85		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,272,738)	0.16
Utility Cost Test	($965,809)	0.20
Societal Test	($825,768)	0.30
Participant Test	$429,428	1.44

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

Company: **Xcel Energy**
Project: **Home Energy Savings Program**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$966,510		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$966,510		
17) Direct Participant Costs ($/Part.) =	$3,553		
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) =	16.3		
21) Avg. Dth/Part. Saved =	23.81		
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 =	216		
24) Total Annual Dth Saved =	5,143		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$4,475		
Cost per Participant per Dth =	$337.11		
Lifetime Energy Reduction (Dth)	81,091		
Societal Cost per Dth	$21.38		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,059,723)	0.25
Utility Cost Test	($611,492)	0.37
Societal Test	($1,201,662)	0.31
Participant Test	($135,144)	0.82

LI HOME ENERGY SQUAD — 2017 ELECTRIC — GOAL

2017 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	$55,804	$55,804	$55,804	$55,804
T & D	N/A	$33,771	$33,771	$33,771	$33,771
Marginal Energy	N/A	$298,704	$298,704	$298,704	$298,704
Environmental Externality	N/A	N/A	N/A	N/A	$78,374
Subtotal	N/A	$388,278	$388,278	$388,278	$466,652
Participant Benefits					
Bill Reduction - Electric	$963,802	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	$963,802	N/A	N/A	$0	$0
Total Benefits	$963,802	$388,278	$388,278	$388,278	$466,652
Costs					
Utility Project Costs					
Customer Services	N/A	$247,314	$247,314	$247,314	$247,314
Project Administration	N/A	$77,362	$77,362	$77,362	$77,362
Advertising & Promotion	N/A	$3,000	$3,000	$3,000	$3,000
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	$327,676	$327,676	$327,676	$327,676
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$963,802	N/A	N/A
Subtotal	N/A	N/A	$963,802	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	$327,676	$1,291,478	$327,676	$327,676
Net Benefit (Cost)	$963,802	$60,602	($903,199)	$60,602	$138,976
Benefit/Cost Ratio	INF	1.18	0.30	1.18	1.42

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	7.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.63%
Gross Load Factor at Customer	E	11.02%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$106.53

Program Summary per Participant

Gross kW Saved at Customer	I	0.69 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.08 kW
Gross Annual kWh Saved at Customer	(B x E x I)	663 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	724 kWh

Program Summary All Participants

Total Participants	J	1,900
Total Budget	K	**$327,676**
Gross kW Saved at Customer	(J x I)	1,305 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**152 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,259,447 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,374,942 kWh**
Societal Net Benefits	(J x I x H)	**$138,976**

Utility Program Cost per kWh Lifetime	**$0.0331**
Utility Program Cost per kW at Gen	**$2,154**

LI HOME ENERGY SQUAD — 2017 ELECTRIC — ACTUAL

2017 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	$41,838	$41,838	$41,838	$41,838
T & D	N/A	$25,319	$25,319	$25,319	$25,319
Marginal Energy	N/A	$194,394	$194,394	$194,394	$194,394
Environmental Externality	N/A	N/A	N/A	N/A	$51,005
Subtotal	N/A	$261,551	$261,551	$261,551	$312,556
Participant Benefits					
Bill Reduction - Electric	$627,233	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	$24,353	N/A	N/A	$24,353	$24,353
Subtotal	$651,586	N/A	N/A	$24,353	$24,353
Total Benefits	$651,586	$261,551	$261,551	$285,905	$336,910
Costs					
Utility Project Costs					
Customer Services	N/A	$129,409	$129,409	$129,409	$129,409
Project Administration	N/A	$96,838	$96,838	$96,838	$96,838
Advertising & Promotion	N/A	$55,458	$55,458	$55,458	$55,458
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	$281,704	$281,704	$281,704	$281,704
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$627,233	N/A	N/A
Subtotal	N/A	N/A	$627,233	N/A	N/A
Participant Costs					
Incremental Capital Costs	$20	N/A	N/A	$20	$20
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$20	N/A	N/A	$20	$20
Total Costs	$20	$281,704	$908,938	$281,724	$281,724
Net Benefit (Cost)	$651,566	($20,153)	($647,386)	$4,180	$55,185
Benefit/Cost Ratio	32,579.32	0.93	0.29	1.01	1.20

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	7.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.30%
Gross Load Factor at Customer	E	11.07%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$65.28

Program Summary per Participant

Gross kW Saved at Customer	I	0.85 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)	829 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	905 kWh

Program Summary All Participants

Total Participants	J	989
Total Budget	K	**$281,704**
Gross kW Saved at Customer	(J x I)	845 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**114 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	819,636 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**894,799 kWh**
Societal Net Benefits	(J x I x H)	**$55,185**
Utility Program Cost per kWh Lifetime		**$0.0437**
Utility Program Cost per kW at Gen		**$2,470**

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

Company: **Xcel Energy**
Project: **LI Home Energy Squad**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$409,608		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$409,608		
17) Direct Participant Costs ($/Part.) =	$0		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$29		
Escalation Rate =	1.73%		
20) Project Life (Years) =	9.7		
21) Avg. Dth/Part. Saved =	6.52		
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 =	1,500		
24) Total Annual Dth Saved =	9,777		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$273		
Cost per Participant per Dth =	$41.89		
Lifetime Energy Reduction (Dth)	94,964		
Societal Cost per Dth	$4.31		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($526,936)	0.46
Utility Cost Test	$37,259	1.09
Societal Test	$571,709	2.40
Participant Test	$1,086,117	#DIV/0!

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

Company: **Xcel Energy**
Project: **LI Home Energy Squad**

Input Data

1) Retail Rate ($/Dth) =	$7.08
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$328,506		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$328,506		
17) Direct Participant Costs ($/Part.) =	$0		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$33		
Escalation Rate =	1.73%		
20) Project Life (Years) =	9.7		
21) Avg. Dth/Part. Saved =	6.90		
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 =	688		
24) Total Annual Dth Saved =	4,749		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$477		
Cost per Participant per Dth =	$69.17		
Lifetime Energy Reduction (Dth)	46,127		
Societal Cost per Dth	$7.12		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($385,496)	0.36
Utility Cost Test	($111,449)	0.66
Societal Test	$160,704	1.49
Participant Test	$540,114	#DIV/0!

MULTI-FAMILY BUILDING EFFICIENCY 2017 ELECTRIC GOAL

2017 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	$129,317	$129,317	$129,317	$129,317
T & D	N/A	$78,576	$78,576	$78,576	$78,576
Marginal Energy	N/A	$548,804	$548,804	$548,804	$548,804
Environmental Externality	N/A	N/A	N/A	N/A	$168,970
Subtotal	N/A	$756,697	$756,697	$756,697	$925,667
Participant Benefits					
Bill Reduction - Electric	$1,684,023	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$112,106	N/A	N/A	$112,106	$112,106
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$45,048	N/A	N/A	$45,048	$45,048
Subtotal	$1,841,177	N/A	N/A	$157,154	$157,154
Total Benefits	$1,841,177	$756,697	$756,697	$913,850	$1,082,821
Costs					
Utility Project Costs					
Customer Services	N/A	$405,000	$405,000	$405,000	$405,000
Project Administration	N/A	$116,000	$116,000	$116,000	$116,000
Advertising & Promotion	N/A	$3,500	$3,500	$3,500	$3,500
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$112,106	$112,106	$112,106	$112,106
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$656,606	$656,606	$656,606	$656,606
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,684,023	N/A	N/A
Subtotal	N/A	N/A	$1,684,023	N/A	N/A
Participant Costs					
Incremental Capital Costs	$106,471	N/A	N/A	$38,007	$38,007
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$106,471	N/A	N/A	$38,007	$38,007
Total Costs	$106,471	$656,606	$2,340,629	$694,613	$694,613
Net Benefit (Cost)	$1,734,706	$100,091	($1,583,932)	$219,237	$388,207
Benefit/Cost Ratio	17.29	1.15	0.32	1.32	1.56

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	14.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.64%
Gross Load Factor at Customer	E	14.68%
Transmission Loss Factor (Energy)	F	7.512%
Transmission Loss Factor (Demand)	G	8.611%
Societal Net Benefit (Cost)	H	$323.15

Program Summary per Participant

Gross kW Saved at Customer	I	0.40 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)	509 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	550 kWh

Program Summary All Participants

Total Participants	J	3,038
Total Budget	K	**$656,606**
Gross kW Saved at Customer	(J x I)	1,201 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**219 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,544,701 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,670,172 kWh**
Societal Net Benefits	(J x I x H)	**$388,207**

Utility Program Cost per kWh Lifetime	**$0.0273**
Utility Program Cost per kW at Gen	**$3,001**

MULTI-FAMILY BUILDING EFFICIENCY 2017 ELECTRIC ACTUAL

2017 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	$136,965	$136,965	$136,965	$136,965
T & D	N/A	$83,236	$83,236	$83,236	$83,236
Marginal Energy	N/A	$749,206	$749,206	$749,206	$749,206
Environmental Externality	N/A	N/A	N/A	N/A	$235,094
Subtotal	N/A	$969,407	$969,407	$969,407	$1,204,501
Participant Benefits					
Bill Reduction - Electric	$2,583,591	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$61,792	N/A	N/A	$61,792	$61,792
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$74,481	N/A	N/A	$74,481	$74,481
Subtotal	$2,719,864	N/A	N/A	$136,273	$136,273
Total Benefits	$2,719,864	$969,407	$969,407	$1,105,680	$1,340,774
Costs					
Utility Project Costs					
Customer Services	N/A	$385,716	$385,716	$385,716	$385,716
Project Administration	N/A	$61,681	$61,681	$61,681	$61,681
Advertising & Promotion	N/A	$6,231	$6,231	$6,231	$6,231
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$61,792	$61,792	$61,792	$61,792
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$515,419	$515,419	$515,419	$515,419
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,583,591	N/A	N/A
Subtotal	N/A	N/A	$2,583,591	N/A	N/A
Participant Costs					
Incremental Capital Costs	$315,345	N/A	N/A	$315,345	$315,345
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$315,345	N/A	N/A	$315,345	$315,345
Total Costs	$315,345	$515,419	$3,099,011	$830,764	$830,764
Net Benefit (Cost)	$2,404,520	$453,987	($2,129,604)	$274,916	$510,010
Benefit/Cost Ratio	8.63	1.88	0.31	1.33	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	15.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	11.67%
Gross Load Factor at Customer	E	13.64%
Transmission Loss Factor (Energy)	F	8.009%
Transmission Loss Factor (Demand)	G	8.690%
Societal Net Benefit (Cost)	H	$303.91

Program Summary per Participant

Gross kW Saved at Customer	I	12.91 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.65 kW
Gross Annual kWh Saved at Customer	(B x E x I)	15,420 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	16,763 kWh

Program Summary All Participants

Total Participants	J	130
Total Budget	K	**$515,419**
Gross kW Saved at Customer	(J x I)	1,678 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**215 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,004,637 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,179,169 kWh**
Societal Net Benefits	(J x I x H)	**$510,010**

Utility Program Cost per kWh Lifetime	**$0.0156**
Utility Program Cost per kW at Gen	**$2,403**

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$186,200		
Incentive Costs =	$94,540		
16) Total Utility Project Costs =	$280,740		
17) Direct Participant Costs ($/Part.) =	$89		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$39		
Escalation Rate =	1.73%		
20) Project Life (Years) =	13.6		
21) Avg. Dth/Part. Saved =	4.13		
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 =	1,013		
24) Total Annual Dth Saved =	4,177		
25) Incentive/Participant =	$93.37		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$277		
Cost per Participant per Dth =	$88.71		
Lifetime Energy Reduction (Dth)	56,862		
Societal Cost per Dth	$4.29		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($346,049)	0.42
Utility Cost Test	($31,999)	0.89
Societal Test	$494,468	3.03
Participant Test	$809,711	10.02

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

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

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =	$198,677		
Incentive Costs =	$89,837		
16) Total Utility Project Costs =	$288,513		
17) Direct Participant Costs ($/Part.) =	$11,448		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$948		
Escalation Rate =	1.73%		
20) Project Life (Years) =	16.9		
21) Avg. Dth/Part. Saved =	181.04		
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 =	41		
24) Total Annual Dth Saved =	7,423		
25) Incentive/Participant =	$2,191.14		

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =	$7,037		
Cost per Participant per Dth =	$102.10		
Lifetime Energy Reduction (Dth)	101,055		
Societal Cost per Dth	$6.61		

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($427,357)	0.55
Utility Cost Test	$240,300	1.83
Societal Test	$531,040	1.79
Participant Test	$970,982	3.07

RESEARCH, EVALUATIONS & PILOTS SEGMENT TOTAL — 2017 — ELECTRIC — GOAL

2017 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	$377,803	$377,803	$377,803	$377,803
T & D	N/A	$228,864	$228,864	$228,864	$228,864
Marginal Energy	N/A	$928,677	$928,677	$928,677	$928,677
Environmental Externality	N/A	N/A	N/A	N/A	$252,742
Subtotal	N/A	$1,535,344	$1,535,344	$1,535,344	$1,788,086
Participant Benefits					
Bill Reduction - Electric	$2,513,381	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$524,660	N/A	N/A	$524,660	$524,660
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,518,049	N/A	N/A	$0	$0
Subtotal	$5,556,091	N/A	N/A	$524,660	$524,660
Total Benefits	$5,556,091	$1,535,344	$1,535,344	$2,060,004	$2,312,747
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$3,406,013	$3,406,013	$3,406,013	$3,406,013
Advertising & Promotion	N/A	$27,072	$27,072	$27,072	$27,072
Measurement & Verification	N/A	$5,414	$5,414	$5,414	$5,414
Rebates	N/A	$524,660	$524,660	$524,660	$524,660
Other	N/A	$390,152	$390,152	$390,152	$390,152
Subtotal	N/A	$4,353,312	$4,353,312	$4,353,312	$4,353,312
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,513,381	N/A	N/A
Subtotal	N/A	N/A	$2,513,381	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,324,611	N/A	N/A	$2,309,927	$2,309,927
Incremental O&M Costs	$0	N/A	N/A	$2,532	$2,532
Subtotal	$2,324,611	N/A	N/A	$2,312,459	$2,312,459
Total Costs	$2,324,611	$4,353,312	$6,866,694	$6,665,771	$6,665,771
Net Benefit (Cost)	$3,231,480	($2,817,969)	($5,331,350)	($4,605,767)	($4,353,024)
Benefit/Cost Ratio	2.39	0.35	0.22	0.31	0.35

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	8.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.09%
Gross Load Factor at Customer	E	11.12%
Transmission Loss Factor (Energy)	F	7.516%
Transmission Loss Factor (Demand)	G	8.665%
Societal Net Benefit (Cost)	H	($1,150.79)

Program Summary per Participant

Gross kW Saved at Customer	I	0.20 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)	193 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	208 kWh

Program Summary All Participants

Total Participants	J	19,127
Total Budget	K	**$4,353,312**
Gross kW Saved at Customer	(J x I)	3,783 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**873 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,685,604 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,985,111 kWh**
Societal Net Benefits	(J x I x H)	**($4,353,024)**

Utility Program Cost per kWh Lifetime	**$0.1368**
Utility Program Cost per kW at Gen	**$4,985**

RESEARCH, EVALUATIONS & PILOTS SEGMENT TOTAL — 2017 — ELECTRIC — ACTUAL

2017 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	$151,511	$151,511	$151,511	$151,511
T & D	N/A	$91,852	$91,852	$91,852	$91,852
Marginal Energy	N/A	$757,613	$757,613	$757,613	$757,613
Environmental Externality	N/A	N/A	N/A	N/A	$202,927
Subtotal	N/A	$1,000,976	$1,000,976	$1,000,976	$1,203,903
Participant Benefits					
Bill Reduction - Electric	$2,347,155	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$421,395	N/A	N/A	$421,395	$421,395
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$2,768,550	N/A	N/A	$421,395	$421,395
Total Benefits	$2,768,550	$1,000,976	$1,000,976	$1,422,371	$1,625,298
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,286,941	$1,286,941	$1,286,941	$1,286,941
Advertising & Promotion	N/A	$15,346	$15,346	$15,346	$15,346
Measurement & Verification	N/A	$395,272	$395,272	$395,272	$395,272
Rebates	N/A	$421,395	$421,395	$421,395	$421,395
Other	N/A	$387,829	$387,829	$387,829	$387,829
Subtotal	N/A	$2,506,783	$2,506,783	$2,506,783	$2,506,783
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,347,155	N/A	N/A
Subtotal	N/A	N/A	$2,347,155	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,185,266	N/A	N/A	$1,185,266	$1,185,266
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,185,266	N/A	N/A	$1,185,266	$1,185,266
Total Costs	$1,185,266	$2,506,783	$4,853,938	$3,692,049	$3,692,049
Net Benefit (Cost)	$1,583,285	($1,505,807)	($3,852,962)	($2,269,677)	($2,066,751)
Benefit/Cost Ratio	2.34	0.40	0.21	0.39	0.44

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	9.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	5.88%
Gross Load Factor at Customer	E	6.19%
Transmission Loss Factor (Energy)	F	8.001%
Transmission Loss Factor (Demand)	G	8.760%
Societal Net Benefit (Cost)	H	($435.97)

Program Summary per Participant

Gross kW Saved at Customer	I	790.09 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	50.94 kW
Gross Annual kWh Saved at Customer	(B x E x I)	428,474 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	465,737 kWh

Program Summary All Participants

Total Participants	J	6
Total Budget	K	**$2,506,783**
Gross kW Saved at Customer	(J x I)	4,741 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**306 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,570,841 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,794,421 kWh**
Societal Net Benefits	(J x I x H)	**($2,066,751)**

Utility Program Cost per kWh Lifetime	**$0.0922**
Utility Program Cost per kW at Gen	**$8,202**

ENERGY STAR RETAIL PRODUCTS 2017 ELECTRIC GOAL

2017 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	$326,994	$326,994	$326,994	$326,994
T & D	N/A	$198,118	$198,118	$198,118	$198,118
Marginal Energy	N/A	$618,065	$618,065	$618,065	$618,065
Environmental Externality	N/A	N/A	N/A	N/A	$163,122
Subtotal	N/A	$1,143,177	$1,143,177	$1,143,177	$1,306,299
Participant Benefits					
Bill Reduction - Electric	$1,907,898	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$433,597	N/A	N/A	$433,597	$433,597
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$2,341,495	N/A	N/A	$433,597	$433,597
Total Benefits	$2,341,495	$1,143,177	$1,143,177	$1,576,775	$1,739,896
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$130,926	$130,926	$130,926	$130,926
Advertising & Promotion	N/A	$27,072	$27,072	$27,072	$27,072
Measurement & Verification	N/A	$5,414	$5,414	$5,414	$5,414
Rebates	N/A	$433,597	$433,597	$433,597	$433,597
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$597,010	$597,010	$597,010	$597,010
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,907,898	N/A	N/A
Subtotal	N/A	N/A	$1,907,898	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,131,414	N/A	N/A	$2,131,414	$2,131,414
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,131,414	N/A	N/A	$2,131,414	$2,131,414
Total Costs	$2,131,414	$597,010	$2,504,908	$2,728,424	$2,728,424
Net Benefit (Cost)	$210,081	$546,167	($1,361,731)	($1,151,649)	($988,528)
Benefit/Cost Ratio	1.10	1.91	0.46	0.58	0.64

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	18.66%
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	($282.93)

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	19,102
Total Budget	K	**$597,010**
Gross kW Saved at Customer	(J x I)	3,494 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**715 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,856,910 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,027,194 kWh**
Societal Net Benefits	(J x I x H)	**($988,528)**
Utility Program Cost per kWh Lifetime		**$0.0290**
Utility Program Cost per kW at Gen		**$835**

ENERGY STAR RETAIL PRODUCTS — 2017 — ELECTRIC — ACTUAL

2017 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	$151,511	$151,511	$151,511	$151,511
T & D	N/A	$91,852	$91,852	$91,852	$91,852
Marginal Energy	N/A	$653,891	$653,891	$653,891	$653,891
Environmental Externality	N/A	N/A	N/A	N/A	$181,913
Subtotal	N/A	$897,254	$897,254	$897,254	$1,079,167
Participant Benefits					
Bill Reduction - Electric	$2,144,676	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$415,237	N/A	N/A	$415,237	$415,237
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$2,559,913	N/A	N/A	$415,237	$415,237
Total Benefits	$2,559,913	$897,254	$897,254	$1,312,491	$1,494,403
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$198,709	$198,709	$198,709	$198,709
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$415,237	$415,237	$415,237	$415,237
Other	N/A	$5,633	$5,633	$5,633	$5,633
Subtotal	N/A	$619,578	$619,578	$619,578	$619,578
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,144,676	N/A	N/A
Subtotal	N/A	N/A	$2,144,676	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,181,616	N/A	N/A	$1,181,616	$1,181,616
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,181,616	N/A	N/A	$1,181,616	$1,181,616
Total Costs	$1,181,616	$619,578	$2,764,254	$1,801,194	$1,801,194
Net Benefit (Cost)	$1,378,297	$277,675	($1,867,001)	($488,703)	($306,791)
Benefit/Cost Ratio	2.17	1.45	0.32	0.73	0.83

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	11.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	6.02%
Gross Load Factor at Customer	E	4.91%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($66.22)

Program Summary per Participant

Gross kW Saved at Customer	I	926.62 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	61.13 kW
Gross Annual kWh Saved at Customer	(B x E x I)	398,439 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	434,977 kWh

Program Summary All Participants

Total Participants	J	5
Total Budget	K	**$619,578**
Gross kW Saved at Customer	(J x I)	4,633 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**306 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,992,195 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,174,885 kWh**
Societal Net Benefits	(J x I x H)	**($306,791)**

Utility Program Cost per kWh Lifetime	**$0.0256**
Utility Program Cost per kW at Gen	**$2,027**

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

Company: **Xcel Energy**
Project: **Energy Star Retail Products**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$907		
Incentive Costs =	$26,333		
16) Total Utility Project Costs =	$27,240		
17) Direct Participant Costs ($/Part.) =	$244		
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) =	12.0		
21) Avg. Dth/Part. Saved =	0.50		
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 =	582		
24) Total Annual Dth Saved =	291		
25) Incentive/Participant =	$45.25		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$47		
Cost per Participant per Dth =	$582.33		
Lifetime Energy Reduction (Dth)	3,493		
Societal Cost per Dth	$40.99		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($31,423)	0.34
Utility Cost Test	($11,307)	0.58
Societal Test	($121,768)	0.15
Participant Test	($90,581)	0.36

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

Company: **Xcel Energy**
Project: **Energy Star Retail Products**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$17,133		
Incentive Costs =	$31,930		
16) Total Utility Project Costs =	$49,063		
17) Direct Participant Costs ($/Part.) =	$121,937		
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) =	11.5		
21) Avg. Dth/Part. Saved =	620.95		
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 =	2,484		
25) Incentive/Participant =	$7,982.58		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$12,266		
Cost per Participant per Dth =	$216.12		
Lifetime Energy Reduction (Dth)	29,806		
Societal Cost per Dth	$16.94		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($83,420)	0.61
Utility Cost Test	$81,793	2.67
Societal Test	($330,760)	0.34
Participant Test	($249,670)	0.49

ENERGY INFORMATION SYSTEMS — 2017 ELECTRIC — GOAL

2017 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	$50,809	$50,809	$50,809	$50,809
T & D	N/A	$30,745	$30,745	$30,745	$30,745
Marginal Energy	N/A	$310,613	$310,613	$310,613	$310,613
Environmental Externality	N/A	N/A	N/A	N/A	$89,621
Subtotal	N/A	$392,167	$392,167	$392,167	$481,787
Participant Benefits					
Bill Reduction - Electric	$605,484	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$91,063	N/A	N/A	$91,063	$91,063
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,518,049	N/A	N/A	$0	$0
Subtotal	$3,214,596	N/A	N/A	$91,063	$91,063
Total Benefits	$3,214,596	$392,167	$392,167	$483,230	$572,850
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$148,093	$148,093	$148,093	$148,093
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$91,063	$91,063	$91,063	$91,063
Other	N/A	$16,560	$16,560	$16,560	$16,560
Subtotal	N/A	$255,716	$255,716	$255,716	$255,716
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$605,484	N/A	N/A
Subtotal	N/A	N/A	$605,484	N/A	N/A
Participant Costs					
Incremental Capital Costs	$193,197	N/A	N/A	$178,513	$178,513
Incremental O&M Costs	$0	N/A	N/A	$2,532	$2,532
Subtotal	$193,197	N/A	N/A	$181,045	$181,045
Total Costs	$193,197	$255,716	$861,200	$436,761	$436,761
Net Benefit (Cost)	$3,021,399	$136,451	($469,033)	$46,469	$136,089
Benefit/Cost Ratio	16.64	1.53	0.46	1.11	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	5.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.08%
Gross Load Factor at Customer	E	72.31%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$471.38

Program Summary per Participant

Gross kW Saved at Customer	I	11.55 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.34 kW
Gross Annual kWh Saved at Customer	(B x E x I)	73,148 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	78,317 kWh

Program Summary All Participants

Total Participants	J	25
Total Budget	K	**$255,716**
Gross kW Saved at Customer	(J x I)	289 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**159 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,828,694 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,957,917 kWh**
Societal Net Benefits	(J x I x H)	**$136,089**
Utility Program Cost per kWh Lifetime		**$0.0227**
Utility Program Cost per kW at Gen		**$1,613**

ENERGY INFORMATION SYSTEMS — 2017 ELECTRIC — ACTUAL

2017 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	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$103,723	$103,723	$103,723	$103,723
Environmental Externality	N/A	N/A	N/A	N/A	$21,014
Subtotal	N/A	$103,723	$103,723	$103,723	$124,736
Participant Benefits					
Bill Reduction - Electric	$202,479	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,158	N/A	N/A	$6,158	$6,158
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$208,638	N/A	N/A	$6,158	$6,158
Total Benefits	$208,638	$103,723	$103,723	$109,881	$130,895
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$213,659	$213,659	$213,659	$213,659
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$6,158	$6,158	$6,158	$6,158
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$219,818	$219,818	$219,818	$219,818
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$202,479	N/A	N/A
Subtotal	N/A	N/A	$202,479	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,650	N/A	N/A	$3,650	$3,650
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,650	N/A	N/A	$3,650	$3,650
Total Costs	$3,650	$219,818	$422,297	$223,468	$223,468
Net Benefit (Cost)	$204,988	($116,095)	($318,575)	($113,587)	($92,573)
Benefit/Cost Ratio	57.16	0.47	0.25	0.49	0.59

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	4.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	61.46%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	($861.37)

Program Summary per Participant

Gross kW Saved at Customer	I	107.47 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)	578,646 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	619,535 kWh

Program Summary All Participants

Total Participants	J	1
Total Budget	K	**$219,818**
Gross kW Saved at Customer	(J x I)	107 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	578,646 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**619,535 kWh**
Societal Net Benefits	(J x I x H)	**($92,573)**

Utility Program Cost per kWh Lifetime	**$0.0751**
Utility Program Cost per kW at Gen	**N/A**

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

Company: **Xcel Energy**
Project: **Energy Information Systems**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$67,132		
Incentive Costs =	$11,560		
16) Total Utility Project Costs =	$78,692		
17) Direct Participant Costs ($/Part.) =	$4,810		
18) Participant Non-Energy Costs (Annual $/Part.) =	$0		
Escalation Rate =	1.73%		
19) Participant Non-Energy Savings (Annual $/Part) =	$9,056		
Escalation Rate =	1.73%		
20) Project Life (Years) =	7.0		
21) Avg. Dth/Part. Saved =	524.02		
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 =	2,096		
25) Incentive/Participant =	$2,890.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	$19,673		
Cost per Participant per Dth =	$46.72		
Lifetime Energy Reduction (Dth)	14,673		
Societal Cost per Dth	$5.32		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($97,513)	0.42
Utility Cost Test	($7,009)	0.91
Societal Test	$256,522	4.28
Participant Test	$957,189	50.75

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

Company: **Xcel Energy**
Project: **Energy Information Systems**

Input Data

1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 First Year	2018 Second Year	2019 Third Year
Administrative & Operating Costs =	$28,637		
Incentive Costs =	$0		
16) Total Utility Project Costs =	$28,637		
17) Direct Participant Costs ($/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) =	0.0		
21) Avg. Dth/Part. Saved =	-		
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 =	-		
24) Total Annual Dth Saved =	0		
25) Incentive/Participant =	$0.00		

Cost Summary	1st Yr	2nd Yr	3rd Yr
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	($28,637)	-
Utility Cost Test	($28,637)	-
Societal Test	($28,637)	-
Participant Test	$0	#DIV/0!

➢ One-Stop Efficiency Shop Program — Actual for 2017

Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test $/kW	Utility Test $/kW	Rate Impact Test $/kW	Total Resource Test $/kW	Societal Test $/kW
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$ 6,703,294	$ 6,703,294	$ 6,703,294	$ 6,703,294
T & D	N/A	$ 4,047,303	$ 4,047,303	$ 4,047,303	$ 4,047,303
Marginal Energy	N/A	$ 27,435,336	$ 27,435,336	$ 27,435,336	$ 27,435,336
Environmental Externality	N/A	N/A	N/A	N/A	$ 8,472,741
Subtotal	N/A	$ 38,185,933	$ 38,185,933	$ 38,185,933	$ 46,658,675
Participant Benefits					
Bill Reduction - Electric	$ 63,595,980	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$ 8,643,460	N/A	N/A	$ 8,643,460	$ 8,643,460
Incremental Capital Savings	N/A	N/A	N/A	N/A	N/A
Incremental O&M Savings	N/A	N/A	N/A	N/A	N/A
Subtotal	$ 72,239,441	N/A	N/A	$ 8,643,460	$ 8,643,460
Total Benefits	$ 72,239,441	$ 38,185,933	$ 38,185,933	$ 46,829,394	$ 55,302,135
Costs					
Utility Project Costs					
Product Delivery	N/A	$ 8,845,506	$ 8,845,506	$ 8,845,506	$ 8,845,506
Utility Administration	N/A	$ 256,490	$ 256,490	$ 256,490	$ 256,490
Other Project Administration	N/A	N/A	N/A	N/A	N/A
Advertising & Promotion	N/A	N/A	N/A	N/A	N/A
Evaluation / M&V	N/A	N/A	N/A	N/A	N/A
Rebates	N/A	$ 8,643,460	$ 8,643,460	$ 8,643,460	$ 8,643,460
Other	N/A	N/A	N/A	N/A	N/A
Subtotal	N/A	$ 17,745,456	$ 17,745,456	$ 17,745,456	$ 17,745,456
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$ 63,595,980	N/A	N/A
Subtotal	N/A	N/A	$ 63,595,980	N/A	N/A
Participant Costs					
Incremental Capital Costs	$ 18,888,019	N/A	N/A	$ 18,888,019	$ 18,888,019
Incremental O&M Costs	$ 1,752,319	N/A	N/A	$ 1,752,319	$ 1,752,319
Subtotal	$ 20,640,338	N/A	N/A	$ 20,640,338	$ 20,640,338
Total Costs	$ 20,640,338	$ 17,745,456	$ 81,341,437	$ 38,385,795	$ 38,385,795
Net Benefit (Cost)	$51,599,102	$20,440,477	($43,155,503)	$8,443,599	$16,916,340
Benefit/Cost Ratio	3.50	2.15	0.47	1.22	1.44

➢ One-Stop Efficiency Shop Program — Actual for 2017

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.86 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	80.17%
Gross Load Factor at Customer	E	60.52%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
TRC Net Benefit (Cost)	H	$1,249
Net coincident kW Saved at Generator	(D x C) / (1 - G)	0.8620 kW
Gross Annual kWh Saved at Customer	(B x E x C)	5,302 kWh
Net Annual kWh Saved at Generator	(B x E x C) / (1 - F)	5,676 kWh

Program Summary per Participant

Gross kW Saved at Customer	I	5.31 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.58 kW
Gross Annual kWh Saved at Customer	(B x E x I)	28,174 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	30,164 kWh

Program Summary All Participants

Total Participants	J	2,549
Total Budget	K	$ 17,745,456
Gross kW Saved at Customer	(J x I)	13,546 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G) x J	11,677 kW
Gross Annual kWh Saved at Customer	(B x E x I) x J	71,814,320 kWh
Net Annual kWh Saved at Generator	((B x E x I) / (1 - F)) x J	76,888,994 kWh
TRC Net Benefits	(J x I x H)	$16,916,340

Utility Program Cost per kWh Lifetime	**$0.0155**
Utility Program Cost per kW at Gen	**$1,519.66**

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
Business																													
Business New Construction																			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Average EDA Project - 2017	More Efficient than Code Building	258,206	4,892	Code-Compliant Building	368,866	4,892	20	$58,722	$214,836	27%	6.7	4.9	541,318	$0.108	$0.005	110.7	85.7	57	33,035,462	3,347,136	12,245,626	0	0	0	0	0	0	0	0
Average EEB Project - 2017	More Efficient than Code Building	43,253	3,338	Code-Compliant Building	61,790	3,338	20	$8,743	$23,574	37%	6.6	4.2	61,881	$0.141	$0.007	18.5	15.4	60	3,975,226	524,592	1,414,411	0	0	0	0	0	0	0	0
Commercial Efficiency																			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Average project results from 2015 history	0	1,691,153	5,913	New updated systems	1,716,714	5,913	17	$13,590	$56,886	24%	4.9	3.7	151,147	$0.090	$0.005	25.6	22.0	153	24,759,640	2,079,298	8,703,554	3,648	26,863,400	2,255,970	9,443,072	3,780	27,834,366	2,337,511	9,784,388
Study Cost Allocations	0	0	0	0	0	0	0	$138,750	$138,750	100%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	4	0	555,000	555,000	0	0	555,000	555,000	0	0	555,000	555,000
Phase 2 Customer Contribution	0	0	0	0	0	0	0	$0	$7,500	0%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	4	0	0	30,000	0	0	0	30,000	0	0	0	30,000
Behavioral Changes	Behavior changes that reduce energy use	2,962,572	8,760	No change in behavior	3,024,892	8,760	1	$0	$0	#DIV/0!	0.0	0.0	545,921	$0.000	$0.000	62.3	67.0	1	584,498	0	0	67	584,498	0	0	67	584,498	0	0
Behavioral Changes	Behavior changes that reduce energy use	-1,975,048	8,760	No change in behavior	-2,016,594	8,760	0	$0	$0	#DIV/0!	0.0	0.0	-363,947	$0.000	$0.000	-41.5	-44.7	1	-389,665	0	0	-45	-389,665	0	0	-45	-389,665	0	0
Computer Efficiency	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Upstream Power Supply - Bronze	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	24	7,311	Baseline desktop computer with a standard efficiency power supply	31	7,311	5		$9	0%	2.5	2.5	51	$0.000	$0.000	0.0	0.0	26,000	1,428,514	0	234,000	196	1,428,514	0	234,000	196	1,428,514	0	234,000
Upstream Power Supply - Silver	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Silver level power supply	24	7,311	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	31	7,311	5		$14	0%	3.5	3.5	57	$0.000	$0.000	0.0	0.0	1,000	60,929	0	14,000	8	60,929	0	14,000	8	60,929	0	14,000
Upstream Power Supply - Gold	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Gold level power supply	23	7,311	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	31	7,311	5		$16	0%	3.7	3.7	61	$0.000	$0.000	0.0	0.0	1,000	64,919	0	16,000	9	64,919	0	16,000	9	64,919	0	16,000
Upstream Power Supply - Platinum	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Platinum level power supply	23	7,311	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	31	7,311	5		$22	0%	4.8	4.8	64	$0.000	$0.000	0.0	0.0	2,000	137,819	0	44,000	19	137,819	0	44,000	19	137,819	0	44,000
Zero & Thin Client Installations	Server & software at data center along with thin-client or zero-client device replaces desktop CPU (VM Ware w/ Wyse thin-client system, Pano-Logic zero-client system); meeting Energy Star 6.0 specification	13	7,311	Desktop computers meeting ENERGY STAR 3.0 specifications	29	7,311	10	$60	$117	51%	3.0	1.5	117	$0.514	$0.051	0.0	0.0	3,500	437,186	210,000	408,833	60	437,186	210,000	408,833	60	437,186	210,000	408,833
Network Based PC Power Management	Desktop Computer with network controlled software installed	11	7,311	Desktop Computer with no network controlled software	29	7,311	6	$5	$15	34%	2.6	1.7	132	$0.038	$0.006	0.0	0.0	400	56,712	2,000	5,856	0	113,423	4,000	11,712	0	113,423	4,000	11,712
Computer Server; with <400W Units with Gold Rated Power Supply	Gold Power Supply	107	8,760	Silver Power Supply	112	8,736	5		$12	0%	4.1	4.1	43	$0.000	$0.000	0.0	0.0	600	27,534	0	6,975	3	27,534	0	6,975	3	27,534	0	6,975
Computer Server; with 400-600W Units with Gold Rated Power Supply	Gold Power Supply	178	8,760	Silver Power Supply	187	8,736	5		$14	0%	2.9	2.9	71	$0.000	$0.000	0.0	0.0	600	45,890	0	8,325	6	45,890	0	8,325	6	45,890	0	8,325
Computer Server; with 600-1000W Units with Gold Rated Power Supply	Gold Power Supply	267	8,760	Silver Power Supply	280	8,736	5		$16	0%	2.2	2.2	107	$0.000	$0.000	0.0	0.0	600	68,835	0	9,675	8	68,835	0	9,675	8	68,835	0	9,675
Computer Server; with >1000W Units with Gold Rated Power Supply	Gold Power Supply	498	8,760	Silver Power Supply	522	8,736	5		$18	0%	1.4	1.4	200	$0.000	$0.000	0.0	0.0	600	128,491	0	11,025	16	128,491	0	11,025	16	128,491	0	11,025
Computer Server; with <400W Units with Platinum Rated Power Supply	Platinum Power Supply	103	8,760	Silver Power Supply	113	8,713	5		$31	0%	5.6	5.6	83	$0.000	$0.000	0.0	0.0	600	53,243	0	18,600	6	53,243	0	18,600	6	53,243	0	18,600
Computer Server; with 400-600W Units with Platinum Rated Power Supply	Platinum Power Supply	172	8,760	Silver Power Supply	188	8,713	5		$37	0%	4.0	4.0	138	$0.000	$0.000	0.0	0.0	600	88,738	0	22,200	11	88,738	0	22,200	11	88,738	0	22,200
Computer Server; with 600-1000W Units with Platinum Rated Power Supply	Platinum Power Supply	257	8,760	Silver Power Supply	283	8,713	5		$43	0%	3.1	3.1	207	$0.000	$0.000	0.0	0.0	600	133,108	0	25,800	16	133,108	0	25,800	16	133,108	0	25,800
Computer Server; with >1000W Units with Platinum Rated Power Supply	Platinum Power Supply	481	8,760	Silver Power Supply	528	8,713	5		$49	0%	1.9	1.9	387	$0.000	$0.000	0.0	0.1	600	248,467	0	29,400	30	248,467	0	29,400	30	248,467	0	29,400
Computer Server; with <400W Units with Titanium Rated Power Supply	Titanium Power Supply	100	8,760	Silver Power Supply	114	8,695	5		$58	0%	7.5	7.5	116	$0.000	$0.000	0.0	0.0	600	74,590	0	34,875	9	74,590	0	34,875	9	74,590	0	34,875
Computer Server; with 400-600W Units with Titanium Rated Power Supply	Titanium Power Supply	166	8,760	Silver Power Supply	190	8,695	5		$69	0%	5.4	5.4	194	$0.000	$0.000	0.0	0.0	600	124,316	0	41,625	15	124,316	0	41,625	15	124,316	0	41,625
Computer Server; with 600-1000W Units with Titanium Rated Power Supply	Titanium Power Supply	250	8,760	Silver Power Supply	285	8,695	5		$81	0%	4.1	4.1	290	$0.000	$0.000	0.0	0.0	600	186,475	0	48,375	23	186,475	0	48,375	23	186,475	0	48,375
Computer Server; with >1000W Units with Titanium Rated Power Supply	Titanium Power Supply	466	8,760	Silver Power Supply	532	8,695	5		$92	0%	2.5	2.5	542	$0.000	$0.000	0.1	0.1	500	290,072	0	45,938	35	290,072	0	45,938	35	290,072	0	45,938
Cooling Efficiency	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
DX Units	DX unit size 8.20 tons, 12.60 EER, 15.06 SEER	8,108	1,529	DX unit size 8.20 tons, 10.90 EER, 12.00 SEER	9,285	1,529	20	$1,133	$2,137	53%	17.8	8.3	1,798	$0.630	$0.032	1.2	1.1	1,084	2,086,819	1,228,352	2,316,576	1,311	2,217,726	1,305,407	2,461,896	1,340	2,265,854	1,333,736	2,515,323
RTU Economizer Control with Demand Control Ventilation	RTU with Demand Control	1,207	498	RTU with Standard Economizer	2,414	498	15	$310	$1,500	21%	37.3	29.6	601	$0.517	$0.034	1.2	1.2	120	77,154	37,249	180,000	146	80,369	38,801	187,500	152	83,584	40,353	195,000
Water-source Heat Pumps	WSHP unit size 1.94 tons, 13.91 EER, 15.45 SEER	1,678	921	WSHP unit size 1.94 tons, 12.00 EER, 13.33 SEER	1,944	921	20	$145	$497	29%	30.2	21.4	246	$0.588	$0.029	0.3	0.3	150	39,449	21,677	74,530	40	40,764	22,399	77,015	41	42,079	23,122	79,499
PTAC Units	PTAC unit size 0.74 tons, 11.78 EER, 13.86 SEER	752	1,013	PTAC unit size 0.74 tons, 11.14 EER, 13.11 SEER	796	1,013	20	$34	$185	19%	63.0	51.3	44	$0.780	$0.039	0.0	0.0	120	5,629	4,100	22,160	5	6,098	4,442	24,007	6	6,568	4,784	25,853
Scroll/Screw Chiller	Chiller size 109 tons, 0.71 FLV kW/ton, 0.53 IPLV	75,933	1,092	Chiller size 109 tons, 0.77 FLV kW/ton, 0.62 IPLV	81,797	1,092	20	$1,545	$12,692	12%	29.6	26.0	6,405	$0.241	$0.012	5.9	5.7	2	13,715	3,089	25,383	11	13,715	3,089	25,383	11	13,715	3,089	25,383
Centrifugal Chiller	Chiller size 341.04 tons, 0.58 FLV kW/ton, 0.42 IPLV	192,860	5,978	Chiller size 341.04 tons, 0.62 FLV kW/ton, 0.58 IPLV	211,153	5,978	20	$8,249	$13,330	62%	1.8	0.7	109,357	$0.075	$0.004	18.3	17.7	5	585,423	41,245	66,652	106	702,508	49,494	79,983	124	819,592	57,743	93,313
Air Cooled Chillers	Chiller size 124.73 tons, 10.43 EER, 16.04 IPLV	142,617	2,422	Chiller size 124.73 tons, 9.56 EER, 12.58 IPLV	156,528	2,422	20	$4,143	$24,698	17%	11.0	9.1	33,692	$0.123	$0.006	13.9	13.5	20	721,461	82,850	493,960	283	757,534	86,993	518,658	296	793,608	91,135	543,356
Cooling Studies	Customer has Study			No Study				$10,000	$14,501	69%			0			0.0	0.0	9	0	90,000	130,512	0	0	90,000	130,512	0	0	90,000	130,512
Recommissioning Studies	Efficient equipment as identified in a recommissioning study			Existing equipment				$10,081	$12,526	80%			0			0.0	0.0	1	0	10,081	12,526	0	0	10,081	12,526	0	0	10,081	12,526
Chiller VFD Retrofit	VFD Chiller size 855 tons, 0.63 FLV kW/ton, 0.38 IPLV	326,610	1,021	Const Speed Chiller size 855 tons, 0.62 FLV kW/ton, 0.57 IPLV	485,070	1,021	15	$23,769	$61,460	39%	5.7	3.5	161,810	$0.147	$0.010	158.5	-13.5	1	173,244	23,769	61,460	-13	173,244	23,769	61,460	-13	173,244	23,769	61,460
Custom Cooling Projects	New Equipment	89,775	3,722	Existing or New Inefficient	112,638	3,722	18	$9,034	$33,935	27%	5.8	4.2	85,090	$0.106	$0.006	22.9	9.8	16	1,457,637	144,547	542,967	147	1,366,535	135,513	509,032	147	1,366,535	135,513	509,032
ERV Install on RTU/AHU for reduced cooling load	73.5% Sensible Effectiveness Heat Recovery on 11193 CFM OA (Cooling Mode)	9,608	338	No heat recovery on 11193 CFM OA	27,679	338	15	$11,193	$3,732	300%	9.1	-18.3	6,103	$1.834	$0.122	18.1	17.5	3	19,602	33,579	11,197	52	19,602	33,579	11,197	52	19,602	33,579	11,197
Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 10.50 HSPF	1,088	1,265	MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	1,647	1,265	18	$227	$512	44%	10.8	6.0	707	$0.321	$0.018	0.6	0.5	199	150,913	45,310	102,134	113	158,459	47,576	107,241	117	163,212	49,003	110,458
Mini-Split AC - Data Center	MSHP size 1.2 tons, 21.27 SEER	1,088	5,236	MSHP size 1.2 tons, 14 SEER	1,647	5,236	18	$108	$512	21%	2.6	2.1	2,926	$0.037	$0.002	0.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0
ECM Motors - Medium Temp Display Case	ECM Motor	24	8,672	Shaded Pole Motor	72	8,672	15	$40	$141	28%	5.1	3.6	414	$0.097	$0.006	0.0	0.1	25	11,087	1,000	3,518	1	11,974	1,080	3,799	1	12,861	1,160	4,081
ECM Motors - Low Temp Display Case	ECM Motor	28	8,672	Shaded Pole Motor	84	8,672	15	$40	$141	28%	4.3	3.1	489	$0.082	$0.005	0.1	0.1	10	5,231	400	1,407	1	5,755	440	1,548	1	6,278	480	1,689
ECM Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	44	8,585	Shaded Pole Motor	137	8,585	15	$70	$269	26%	5.1	3.7	793	$0.088	$0.006	0.1	0.1	62	52,648	4,340	16,679	7	57,743	4,760	18,293	7	62,838	5,180	19,907
ECM Motors - Low Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	52	8,585	Shaded Pole Motor	161	8,585	15	$70	$269	26%	4.3	3.2	936	$0.075	$0.005	0.1	0.1	26	26,044	1,820	6,994	3	30,051	2,100	8,070	4	34,058	2,380	9,146
ECM Motors - Medium Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	68	8,585	Shaded Pole Motor	138	8,585	15	$70	$269	26%	6.6	4.9	605	$0.116	$0.008	0.1	0.1	20	12,962	1,400	5,380	2	14,258	1,540	5,918	2	15,555	1,680	6,456
ECM Motors - Low Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	80	8,585	Shaded Pole Motor	163	8,585	15	$70	$269	26%	5.6	4.2	714	$0.098	$0.007	0.1	0.1	20	15,291	1,400	5,380	2	16,820	1,540	5,918	2	18,349	1,680	6,456
Anti-Sweat Heater Controls	Anti-Sweat Heater Controls	18	8,760	Anti-Sweat Heaters running constantly	179	8,760	12	$60	$300	20%	3.2	2.5	1,414	$0.042	$0.004	0.2	0.2	157	237,725	9,420	47,100	26	249,838	9,900	49,500	27	261,952	10,380	51,900
Energy Efficient Case Doors	No heat Case Doors	0	8,760	Anti-Sweat Heaters running constantly	179	8,760	10	$125	$538	23%	5.1	3.9	1,571	$0.080	$0.008	0.2	0.2	157	264,139	19,625	84,388	32	277,598	20,625	88,688	33	291,057	21,625	92,988

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
Advanced Digital Economizer Control (per ton) - Placeholder	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Demand Control Ventilation (per ton) - Placeholder	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Custom Efficiency	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Custom Efficiency Electric	High Efficiency Product/system	38,087	4,643	Less Efficient Product/Systems	57,777	4,643	19	$6,439	$26,976	24%	1.5	1.2	91,420	$0.070	$0.004	19.7	15.7	50	4,894,015	321,956	1,348,797	783	4,894,015	321,956	1,348,797	783	4,894,015	321,956	1,348,797
Custom Studies Electric	0	0	0	0	0	0	0	$9,808	$19,069	51%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	2	0	19,615	38,139	0	0	19,615	38,139	0	0	19,615	38,139
Data Center Efficiency	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Data Center Efficiency Study	0	0	0	0	0	0	0	$16,301	$21,735	75%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	10	0	163,014	217,352	0	0	163,014	217,352	0	0	163,014	217,352
Data Center Measures	Historical Averages from past custom projects	385,537	7,312	Historical Averages from past custom projects	421,973	7,312	11	$12,105	$53,346	23%	2.8	2.1	266,416	$0.045	$0.004	36.4	26.9	22	6,275,312	266,316	1,173,606	484	5,134,346	217,895	960,223	538	5,704,829	242,105	1,066,915
Retrofit - EC Plug Fans In-Unit	EC Plug Fan	2,151	8,760	Forward-curved Centrifugal Fan with AC motor	2,711	8,662	10	$1,200	$2,787	43%	9.0	5.1	4,634	$0.259	$0.026	0.6	0.6	10	49,617	12,000	27,867	6	49,617	12,000	27,867	6	49,617	12,000	27,867
Retrofit - EC Plug Fans Below-Floor	EC Plug Fan	1,867	8,760	Forward-curved Centrifugal Fan with AC motor	2,794	8,603	10	$1,200	$2,787	43%	5.4	3.1	7,681	$0.156	$0.016	0.9	1.0	10	82,239	12,000	27,867	10	82,239	12,000	27,867	10	82,239	12,000	27,867
New- EC Plug Fans In-Unit	EC Plug Fan	2,151	8,760	Forward-curved Centrifugal Fan with AC motor	2,675	8,705	20	$700	$1,700	41%	5.7	3.4	4,439	$0.158	$0.008	0.5	0.6	60	285,190	42,000	102,000	32	266,177	39,200	95,200	27	228,152	33,600	81,600
New - EC Plug Fans Below-Floor	EC Plug Fan	1,867	8,760	Forward-curved Centrifugal Fan with AC motor	2,735	8,671	20	$700	$1,700	41%	3.5	2.0	7,357	$0.095	$0.005	0.9	0.9	40	315,093	28,000	68,000	34	283,584	25,200	61,200	34	283,584	25,200	61,200
New Construction - Whole Facility	Highly efficient data center	3,944,444	8,700	Standard efficiency new data center	4,000,000	8,700	11	$29,034	$96,780	30%	3.0	2.1	483,333	$0.060	$0.005	55.6	56.8	3	1,552,463	87,102	290,341	341	3,104,925	174,205	580,682	341	3,104,925	174,205	580,682
Chilled Water Systems Waterside Economizer	Chilled water system with waterside economizer	32,412	8,760	Chilled water system without economizer	53,000	8,760	20	$21,200	$65,571	32%	5.0	3.4	180,351	$0.118	$0.006	20.6	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Efficiency Controls	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Efficiency Controls - Electric	New Digital Controls System	27,741	6,901	Non Digital or Obsolete Digital System	46,236	6,901	15	$11,773	$45,453	26%	5.2	3.9	127,631	$0.092	$0.006	18.5	4.2	55	7,515,754	647,490	2,499,920	264	8,608,955	741,670	2,863,544	280	9,155,555	788,760	3,045,357
Efficiency Controls - Study Allocation	Study Allocation	0	0	0	0	0	0	$2,511	$3,835	65%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	3	0	7,534	11,506	0	0	7,534	11,506	0	0	7,534	11,506
Fluid System Optimization	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Custom Opportunities identified in an FSO study, i.e. recommissioning type adjustments, leaks, waste and demand reduction, study driven credit and revisits	Optimized System	141,503	7,779	Non-Optimized System	148,339	7,779	5	$0	$1,163	0%	0.3	0.3	53,182	$0.000	$0.000	6.8	5.2	9	540,703	0	11,045	49	540,703	0	11,045	49	540,703	0	11,045
Compressed Air Efficiency Study	Leaks & Waste Found and Repaired	142,361	7,189	Existing System with Leaks & Waste that have not been repaired	148,339	7,189	5	$4,460	$9,395	47%	3.2	1.7	42,972	$0.104	$0.021	6.0	6.4	40	1,840,349	178,400	375,798	257	1,840,349	178,400	375,798	257	1,840,349	178,400	375,798
Custom compressed air, pump, fan, blower, vacuum and hydraulic opportunities	New Equipment	113,561	6,257	Old or less efficient systems or equipment	148,339	6,257	20	$11,928	$47,846	25%	3.2	2.4	217,607	$0.055	$0.003	34.8	25.3	35	8,154,440	417,466	1,674,601	886	8,154,440	417,466	1,674,601	886	8,154,440	417,466	1,674,601
Cycling Dryers	New Cycling Dryer	2,359	7,188	New Non-Cycling Dryer	3,435	7,188	20	$745	$1,332	56%	2.5	1.1	7,735	$0.096	$0.005	1.1	1.2	62	513,488	46,170	82,595	75	538,334	48,404	86,592	81	579,744	52,127	93,252
Dewpoint Controls	Purge Control for Heatless Dessicant Dryers	72,549	7,123	No Purge Control for Heatless Dessicant Dryers	83,087	7,123	15	$1,000	$3,474	29%	0.7	0.5	75,065	$0.013	$0.001	10.5	11.3	4	321,479	4,000	13,894	68	482,218	6,000	20,842	91	642,957	8,000	27,789
Mist Eliminators	New Mist Eliminator Filter	81,776	7,321	New General Purpose Filter	83,126	7,321	20	$2,100	$4,479	47%	6.1	3.3	9,890	$0.212	$0.011	1.4	1.5	30	317,657	63,000	134,356	51	370,600	73,500	156,749	58	423,543	84,000	179,141
No Air Loss Drain	New No-Air Loss Drains	0	6,996	New Electronic Solenoid/Timed Drains	517	6,996	13	$200	$448	45%	1.8	1.0	3,616	$0.055	$0.004	0.5	0.4	55	212,943	11,000	24,640	23	232,302	12,000	26,880	24	243,917	12,600	28,224
VFD Air Compressor New	New VFD Compressor	14,011	2,999	New Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	20,064	2,999	20	$2,622	$5,334	49%	4.3	2.2	18,155	$0.144	$0.007	6.1	5.8	37	719,187	97,000	197,340	243	816,375	110,108	224,007	243	816,375	110,108	224,007
VFD Air Compressor Upgrade	New VFD Compressor	14,181	3,039	Existing Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	20,666	3,039	20	$5,655	$18,009	31%	13.5	9.3	19,709	$0.287	$0.014	6.5	6.2	20	422,031	113,100	360,183	136	464,234	124,410	396,202	155	527,539	141,375	450,229
VFD Compressor HP Reduction	New VFD Compressor of lesser HP than Baseline Unit	22,490	3,528	Existing Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	36,691	3,528	20	$6,500	$21,666	30%	6.4	4.5	50,102	$0.130	$0.006	14.2	13.6	2	107,284	13,000	43,332	54	214,568	26,000	86,663	81	321,851	39,000	129,995
Demand-side compressed air, pump, fan, blower, vacuum and hydraulic studies.	Study Completed	148,277	0	No Study Completed	148,339	0	5	$9,089	$9,089	100%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.1	0.1	12	0	109,557	109,557	1	0	109,557	109,557	1	0	109,557	109,557
Constant Speed Motor Controller	Motor with Voltage Controller	4,849	4,849	Motor without Voltage Controller	5,717	4,878	20	$345	$1,188	29%	3.6	2.6	4,376	$0.079	$0.004	0.9	0.7	1	4,685	345	1,188	1	4,685	345	1,188	1	4,685	345	1,188
New Motor Enhanced	NEMA Premium +1% Efficient Motor	3,074	6,135	NEMA Premium	3,126	6,135	20	$40	$181	22%	7.5	5.9	319	$0.125	$0.006	0.1	0.0	1	342	40	181	0	342	40	181	0	342	40	181
Upgrade Motor	NEMA Premium Efficient Motor	15,650	4,806	EPACT Efficient Motor	15,950	4,806	20	$926	$2,362	39%	21.8	13.2	1,440	$0.643	$0.032	0.3	0.3	1	1,541	926	2,362	0	1,541	926	2,362	0	1,541	926	2,362
Upgrade Motor Enhanced	NEMA Premium +1% Efficient Motor	5,447	5,243	EPACT Efficient Motor	5,663	5,243	20	$498	$1,407	35%	16.4	10.6	1,136	$0.438	$0.022	0.2	0.2	1	1,217	498	1,407	0	1,217	498	1,407	0	1,217	498	1,407
Variable Frequency Drive	Equipment coupled with an ASD/VFD	7,699	4,643	Equipment without an ASD/VFD	11,443	4,643	15	$1,531	$5,393	28%	4.1	2.9	17,385	$0.088	$0.006	3.7	3.1	1	18,613	1,531	5,393	3	18,613	1,531	5,393	3	18,613	1,531	5,393
Food Service	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Dishwasher - Under Counter, Electric Only or Combo Customer	ENERGY STAR qualified unit	1,190	6,570	Conventional unit as defined by ENERGY STAR	1,592	6,570	10	$195	$82	238%	0.4	-0.5	2,644	$0.074	$0.007	0.4	0.4	8	22,649	1,558	654	5	36,805	2,532	1,062	5	39,636	2,727	1,144
Commercial Dishwasher - Door Type, Electric Only or Combo Customer	ENERGY STAR qualified unit	3,552	6,570	Conventional unit as defined by ENERGY STAR	5,463	6,570	15	$208	$360	58%	0.3	0.1	12,555	$0.017	$0.001	1.9	1.8	7	94,095	1,454	2,518	14	107,537	1,662	2,877	16	120,979	1,870	3,237
Hot Food Holding Cabinet	ENERGY STAR qualified unit	261	5,475	Conventional unit as defined by ENERGY STAR	640	5,475	12	$400	$1,713	23%	12.3	9.5	2,073	$0.193	$0.016	0.4	0.3	28	62,136	11,200	47,964	13	84,327	15,200	65,094	14	90,985	16,400	70,233
Demand Contolled Ventilation - Electric Only or Combo Customer	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	11,766	3,307	Commercial kitchen ventilation hoods without Demand Controlled Ventilation with 8.65 HP Motor	19,597	3,307	20	$865	$16,019	5%	3.9	3.7	25,896	$0.033	$0.002	7.8	4.2	8	221,807	6,920	128,150	33	221,807	6,920	128,150	37	249,533	7,785	144,169
Lighting Efficiency	0	0	0	0	0	0	0.000	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Low Wattage T8 4' lamps - <=28W	T8 25W and 28W Lamps	31	5,336	T8 32W Lamps	37	5,336	5	$1	$4	13%	1.7	1.5	34	$0.015	$0.003	0.0	0.0	27,500	1,008,223	13,750	110,000	131	953,229	13,000	104,000	86	623,265	8,500	68,000
T8 to T8 Lighting Optimization	Fluorescent T8 Fixture with Less Lamps (3,2,1)	63	5,336	Fluorescent T8 Fixture with More Lamps (4,3,2)	113	5,336	20	$12	$43	28%	2.4	1.7	269	$0.045	$0.002	0.1	0.0	1,500	432,293	18,000	64,800	59	432,293	18,000	64,800	59	432,293	18,000	64,800
High Bay Fluorescents replacing 150, 175, 250W HID	High Bay Fluorescents With Electronic Ballasts Replacing 250W HID	184	5,336	250W HID Fixture or Smaller	357	5,336	20	$35	$164	21%	2.6	2.1	924	$0.038	$0.002	0.2	0.1	100	98,933	3,500	16,397	10	74,200	2,625	12,297	7	49,467	1,750	8,198
High Bay Fluorescents replacing 320, 350, 400W HID	High Bay Fluorescents With Electronic Ballasts Replacing 400W HID	328	5,336	310 to 400 W HID Fixture	508	5,336	20	$50	$215	23%	3.3	2.5	962	$0.052	$0.003	0.2	0.1	2,250	2,317,818	112,500	482,727	283	2,060,283	100,000	429,091	212	1,545,212	75,000	321,818
High Bay Fluorescents replacing 750W HID	High Bay Fluorescents With Electronic Ballasts Replacing 750W HID	564	5,336	750 W HID Fixture	1,039	5,336	20	$80	$392	20%	2.3	1.8	2,533	$0.032	$0.002	0.5	0.4	377	1,022,565	30,160	147,800	130	949,330	28,000	137,215	96	699,792	20,640	101,147
High Bay Fluorescents replacing 1000W HID	High Bay Fluorescents With Electronic Ballasts Replacing 1000W HID	762	5,336	1000 W HID Fixture	1,352	5,336	20	$100	$430	23%	2.0	1.6	3,144	$0.032	$0.002	0.6	0.5	35	117,811	3,500	15,053	16	117,811	3,500	15,053	16	117,811	3,500	15,053
Fluorescent Parking Garage, 2 and 3 lamp replacing 150 - 175W HID systems	High Efficiency Fluorescent T8 or T5 Systems	109	8,760	150 or 175W HID Fixture	192	8,760	20	$50	$169	30%	3.2	2.3	722	$0.069	$0.003	0.1	0.1	50	38,655	2,500	8,437	4	38,655	2,500	8,437	4	38,655	2,500	8,437
Fluorescent Parking Garage, Low Wattage T8 lamps <=28W	T8 25W and 28W Lamps	25	8,760	T8 32W Lamps	30	8,760	4	$1	$4	13%	1.2	1.1	45	$0.011	$0.003	0.0	0.0	1,287	62,185	644	5,148	7	57,933	600	4,796	4	38,702	401	3,204
CFL, Pin Based - <=19W	Pin Based CFL	20	5,336	Incandescent	62	5,336	20	$2	$9	22%	0.6	0.5	226	$0.009	$0.000	0.0	0.0	5	1,211	10	46	0	1,211	10	46	0	1,211	10	46
CFL, Pin Based - 19-32W	Pin Based CFL	44	5,336	Incandescent	105	5,336	20	$3	$9	32%	0.4	0.3	328	$0.009	$0.000	0.1	0.0	750	263,697	2,250	6,925	34	246,117	2,100	6,463	31	225,725	1,926	5,928
CFL, Pin Based - 33-100W	Pin Based CFL	37	5,336	Incandescent	104	5,336	20	$4	$12	32%	0.5	0.3	356	$0.011	$0.001	0.1	0.1	800	304,700	3,200	9,870	37	266,613	2,800	8,636	31	228,525	2,400	7,402
CFL, 2-foot Low Wattage - 25 - 28W	PL 25W CFL	33	5,336	PL 40W CFL	50	5,336	5	$1	$12	4%	1.9	1.9	90	$0.006	$0.001	0.0	0.0	5	480	3	59	0	480	3	59	0	480	3	59
Wall mount occupancy sensor - 50 - 300W Controlled Laod	Lighting Fixture with Occupancy Sensor	87	5,336	Lighting Fixture with Manual Switch	125	5,336	8	$15	$55	27%	4.1	3.0	200	$0.075	$0.009	0.0	0.0	1,000	213,839	15,000	55,000	22	160,380	11,250	41,250	15	106,920	7,500	27,500
Wall mount occupancy sensor - 300W+ Controlled Load	Lighting Fixture with Occupancy Sensor	447	5,336	Lighting Fixture with Manual Switch	638	5,336	8	$25	$55	45%	0.8	0.4	1,021	$0.024	$0.003	0.2	0.2	25	27,338	625	1,375	4	27,338	625	1,375	4	27,338	625	1,375
Ceiling mount occupancy sensor - 50 - 300W Controlled Laod	Lighting Fixture with Occupancy Sensor	87	5,336	Lighting Fixture with Manual Switch	125	5,336	8	$30	$125	24%	9.3	7.0	200	$0.150	$0.019	0.0	0.0	3,251	695,192	97,530	406,375	88	641,518	90,000	375,000	73	534,598	75,000	312,500
Ceiling mount occupancy sensor - 300W+ Controlled Load	Lighting Fixture with Occupancy Sensor	447	5,336	Lighting Fixture with Manual Switch	638	5,336	8	$40	$125	32%	1.8	1.2	1,021	$0.039	$0.005	0.2	0.2	600	656,103	24,000	75,000	90	656,103	24,000	75,000	90	656,103	24,000	75,000
Photocell	Lighting Fixture with Photocell	170	5,336	Lighting Fixture with Manual Switch	263	5,336	8	$25	$65	38%	1.9	1.2	494	$0.051	$0.006	0.1	0.1	25	13,227	625	1,625	2	13,227	625	1,625	2	13,227	625	1,625
Stairwell Fixture with Integral Occupancy Sensor	Stairwell Lighting Fixture with Occupancy Sensor	7	5,336	Stairwell Lighting Fixture	70	5,336	14	$75	$306	25%	13.3	10.1	339	$0.221	$0.015	0.1	0.0	10	3,635	750	3,060	0	3,635	750	3,060	0	3,635	750	3,060
Exit sign retrofit and replacement	LED/LEC Exit	1	7,602	Incandescent	44	7,602	20	$25	$82	30%	3.8	2.6	321	$0.078	$0.004	0.0	0.0	1,250	429,341	31,250	102,504	45	343,473	25,000	82,003	34	257,605	18,750	61,502

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	21	5,336	Incandescent Luminaire	53	5,336	20	$35	$133	26%	11.3	8.3	175	$0.200	$0.010	0.0	0.0	2,500	468,513	87,500	333,735	64	468,513	87,500	333,735	64	468,513	87,500	333,735
LED Interior Fixture - 25W - 50W	LED Downlight Luminaire	47	5,336	Incandescent Luminaire	82	5,336	20	$50	$194	26%	15.4	11.5	186	$0.269	$0.013	0.0	0.0	1,000	199,266	50,000	194,061	27	199,266	50,000	194,061	27	199,266	50,000	194,061
LED Refrigerated Case Lighting	LED Strip lighting	51	8,760	T8 or T12 Fluorescent	139	8,760	20	$45	$164	27%	2.9	2.1	771	$0.058	$0.003	0.1	0.1	750	619,418	33,750	122,813	71	619,418	33,750	122,813	66	578,123	31,500	114,625
LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Signals - 9" (Walk/Don't Walk)	8	4,380	Incandescent Pedestrian Signals - Large	69	4,380	20	$30	$80	38%	4.1	2.6	267	$0.112	$0.006	0.1	0.0	5	1,430	150	400	0	1,430	150	400	0	1,430	150	400
LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Signals - 12" (Walk/Don't Walk)	10	4,380	Incandescent Pedestrian Signals - Large	116	4,380	20	$40	$110	36%	3.2	2.1	464	$0.086	$0.004	0.1	0.0	5	2,485	200	550	0	2,485	200	550	0	2,485	200	550
LED Traffic Balls and Arrows - 8" Red	LED Traffic Balls and Arrows 8" Red	8	4,380	Incandescent Traffic Balls and Arrows 8" Red	69	4,380	20	$25	$70	36%	3.6	2.3	267	$0.094	$0.005	0.1	0.0	5	1,430	125	350	0	1,430	125	350	0	1,430	125	350
LED Traffic Balls and Arrows - 12" Red	LED Traffic Balls and Arrows 12" Red	11	4,380	Incandescent Traffic Balls and Arrows 12" Red	135	4,380	20	$25	$90	28%	2.3	1.6	543	$0.046	$0.002	0.1	0.1	5	2,907	125	450	0	2,907	125	450	0	2,907	125	450
LED Traffic Balls and Arrows - 8" Green	LED Traffic Balls and Arrows 8" Green	8	4,380	Incandescent Traffic Balls and Arrows 8" Green	69	4,380	20	$32	$70	46%	3.6	1.9	267	$0.120	$0.006	0.1	0.0	5	1,430	160	350	0	1,430	160	350	0	1,430	160	350
LED Traffic Balls and Arrows - 12" Green	LED Traffic Balls and Arrows 12" Green	11	4,380	Incandescent Traffic Balls and Arrows 12" Green	135	4,380	20	$32	$90	36%	2.3	1.5	543	$0.059	$0.003	0.1	0.1	5	2,907	160	450	0	2,907	160	450	0	2,907	160	450
LED Traffic Arrows - 12" Red	LED Traffic Arrows 12" Red	11	4,380	Incandescent Traffic Arrows 12" Red	14	4,380	20	$50	$90	56%	112.5	50.0	11	$4.566	$0.228	0.0	0.0	5	59	250	450	0	59	250	450	0	59	250	450
LED Parking Garage lighting - 25W - 60W	LED Parking Garage Fixture	41	8,760	HID - HPS, MH, MV, PSMH	179	8,760	20	$135	$352	38%	4.0	2.5	1,208	$0.112	$0.006	0.1	0.1	300	387,976	40,500	105,502	59	517,301	54,000	140,670	74	646,626	67,500	175,837
LED Parking Garage lighting - 61W - 83W	LED Parking Garage Fixture	71	8,760	HID - HPS, MH, MV, PSMH	280	8,760	20	$150	$425	35%	3.2	2.1	1,829	$0.082	$0.004	0.2	0.2	400	783,268	60,000	169,862	135	1,174,901	90,000	254,793	157	1,370,718	105,000	297,259
Integral Occupancy Sensor - 1 per fixture and installed as a manufacturer option	Lighting Fixture with Integral Occupancy Sensor	35	5,336	Lighting Fixture with Manual Switch	51	5,336	8	$20	$38	53%	6.8	3.2	81	$0.247	$0.031	0.0	0.0	800	69,479	16,000	30,000	11	78,164	18,000	33,750	12	86,849	20,000	37,500
Integral Photo Sensor – 1 per fixture and installed as a manufacturer option	Lighting Fixture with Integral Photo Sensor	33	5,336	Lighting Fixture with Manual Switch	51	5,336	8	$8	$13	64%	1.9	0.7	95	$0.084	$0.011	0.0	0.0	800	81,522	6,400	10,000	13	91,712	7,200	11,250	14	101,902	8,000	12,500
Integral Occupancy & Photo Sensor – 1 per fixture and installed as a manufacturer option	Lighting Fixture with Integral Photo and Occupancy Sensor	31	5,336	Lighting Fixture with Manual Switch	51	5,336	8	$28	$50	$1	6.9	3.1	107	$0.262	$0.033	0.0	0.0	500	57,154	14,000	25,000	8	56,696	13,888	24,800	8	57,154	14,000	25,000
LED High-Bay Luminaires - 95 - 189W	LED High Bay 95-189W	177	5,336	HID Fixture <= 250W	313	5,336	20	$135	$405	33%	8.3	5.5	723	$0.187	$0.009	0.1	0.1	750	580,919	101,250	303,790	85	619,647	108,000	324,043	80	580,919	101,250	303,790
LED High-Bay Luminaires - 190 - 290W	LED High Bay 190-290W	297	5,336	HID Fixture <= 400W	511	5,336	20	$150	$682	22%	8.8	6.9	1,141	$0.131	$0.007	0.2	0.2	200	244,282	30,000	136,365	67	491,007	60,300	274,093	76	549,635	67,500	306,820
LED High-Bay Luminaires - 291 - 464W	LED High Bay 291-464W	470	5,336	HID Fixture <= 750W	1,039	5,336	20	$200	$1,080	19%	5.3	4.3	3,034	$0.066	$0.003	0.6	0.4	200	649,759	40,000	216,007	179	1,299,519	80,000	432,014	201	1,461,958	90,000	486,016
LED High-Bay Luminaires - 465 - 625W	LED High Bay 465-625W	679	5,336	HID Fixture <= 1000W	1,354	5,336	20	$250	$1,560	16%	6.4	5.4	3,600	$0.069	$0.003	0.7	0.5	105	404,760	26,250	163,844	109	794,101	51,500	321,447	114	828,794	53,750	335,491
Retrofit Kits for LED High-Bay Luminaires - 95 - 189W	LED High Bay Retrofit Kit 95-189W	177	5,336	HID Fixture <= 250W	312	5,336	20	$40	$322	12%	6.6	5.8	722	$0.055	$0.003	0.1	0.1	200	154,650	8,000	64,408	27	193,313	10,000	80,510	3	23,198	1,200	9,661
Retrofit Kits for LED High-Bay Luminaires - 190 - 290W	LED High Bay Retrofit Kit 190-290W	299	5,336	HID Fixture <= 400W	508	5,336	20	$50	$431	12%	5.7	5.0	1,118	$0.045	$0.002	0.2	0.2	180	215,421	9,000	77,567	21	149,598	6,250	53,866	25	179,518	7,500	64,639
Retrofit Kits for LED High-Bay Luminaires - 291 - 464W	LED High Bay Retrofit Kit 291-464W	470	5,336	HID Fixture <= 750W	1,039	5,336	20	$80	$584	14%	2.8	2.5	3,034	$0.026	$0.001	0.6	0.4	100	324,880	8,000	58,394	56	406,100	10,000	72,993	67	487,319	12,000	87,591
Retrofit Kits for LED High-Bay Luminaires - 465 - 625W	LED High Bay Retrofit Kit 465-625W	679	5,336	HID Fixture <= 1000W	1,354	5,336	20	$160	$770	21%	3.2	2.5	3,600	$0.044	$0.002	0.7	0.5	50	192,743	8,000	38,518	40	289,114	12,000	57,777	66	481,857	20,000	96,295
LED Tube Type A 2 foot	LED 2 Foot Tube Instafit	15	5,336	Fluorescent Lamps	20	5,336	8	$2	$26	8%	15.7	14.5	24	$0.082	$0.010	0.0	0.0	4,750	123,948	9,500	122,894	21	150,017	11,498	148,741	27	195,708	15,000	194,044
LED Tube Type C 2 foot	LED 2 Foot Tube External Driver Retrofit Kits	11	5,336	Fluorescent Lamps	20	5,336	8	$6	$51	12%	17.0	15.0	44	$0.135	$0.017	0.0	0.0	5,000	237,222	30,000	254,875	39	284,714	36,006	305,901	49	355,833	45,000	382,313
LED Tube Type A 4 foot	LED 4 Foot Tube Instafit	18	5,336	Fluorescent Lamps	35	5,336	8	$4	$27	15%	4.2	3.6	95	$0.042	$0.005	0.0	0.0	13,998	1,430,328	55,992	378,277	239	1,737,075	68,000	459,402	281	2,043,617	80,000	540,473
LED Tube Type C 4 foot	LED 4 Foot Tube External Driver Retrofit Kits	22	5,336	Fluorescent Lamps	46	5,336	8	$10	$64	16%	7.6	6.4	125	$0.080	$0.010	0.0	0.0	13,000	1,739,312	130,000	837,200	294	2,140,691	160,000	1,030,400	368	2,675,864	200,000	1,288,000
LED Street lighting - 30-44W	LED Street Light Fixture	37	4,903	70W HID Street Light Fixture	90	4,903	20	$30	$395	8%	20.9	19.3	258	$0.116	$0.006	0.1	0.0	50	13,824	1,500	19,741	0	13,824	1,500	19,741	0	13,824	1,500	19,741
LED Street lighting - 45-55W	LED Street Light Fixture	50	4,903	100W HID Street Light Fixture	126	4,903	20	$40	$418	10%	15.3	13.8	374	$0.107	$0.005	0.1	0.0	50	20,035	2,000	20,924	0	20,035	2,000	20,924	0	20,035	2,000	20,924
LED Street lighting - 56-79W	LED Street Light Fixture	75	4,903	150W HID Fixture	181	4,903	20	$50	$464	11%	12.2	10.9	522	$0.096	$0.005	0.1	0.0	250	139,725	12,500	116,006	0	139,725	12,500	116,006	0	139,725	12,500	116,006
LED Street lighting - 80-109W	LED Street Light Fixture	104	4,903	175W HID Fixture	202	4,903	20	$75	$518	14%	14.8	12.7	478	$0.157	$0.008	0.1	0.0	50	25,598	3,750	25,881	0	25,598	3,750	25,881	0	25,598	3,750	25,881
LED Street lighting - 110-139W	LED Street Light Fixture	125	4,903	250W HID Fixture	287	4,903	20	$100	$554	18%	9.5	7.8	797	$0.125	$0.006	0.2	0.0	175	146,390	17,500	96,957	0	149,390	17,500	96,957	0	149,390	17,500	96,957
LED Street lighting - 140-209W	LED Street Light Fixture	164	4,903	400W HID Fixture	450	4,903	20	$125	$626	20%	6.1	4.9	1,404	$0.089	$0.004	0.3	0.0	125	187,897	15,625	78,260	0	187,897	15,625	78,260	0	187,897	15,625	78,260
LED Area lighting - 45-65W	LED Street Light Fixture	60	4,903	150W MH Fixture	185	4,903	20	$100	$478	21%	10.7	8.5	611	$0.164	$0.008	0.1	0.0	100	65,459	10,000	47,791	0	65,459	10,000	47,791	0	65,459	10,000	47,791
LED Area lighting - 66-89W	LED Street Light Fixture	78	4,903	175W MH Fixture	210	4,903	20	$125	$520	24%	11.0	8.3	650	$0.192	$0.010	0.1	0.0	150	104,333	18,750	78,009	0	104,333	18,750	78,009	0	104,333	18,750	78,009
LED Area lighting - 90-119W	LED Street Light Fixture	105	4,903	250W MH Fixture	295	4,903	20	$150	$586	26%	8.6	6.4	934	$0.161	$0.008	0.2	0.0	200	200,005	30,000	117,249	0	200,005	30,000	117,249	0	200,005	30,000	117,249
LED Area lighting - 120-140W	LED Street Light Fixture	130	4,903	400W MH Fixture	456	4,903	20	$175	$649	27%	5.6	4.1	1,598	$0.109	$0.005	0.3	0.0	300	513,398	52,500	194,627	0	513,398	52,500	194,627	0	513,398	52,500	194,627
LED Troffer Fixture 1X4	LED Troffer Fixture	45	5,336	Fluorescent Fixture	91	5,336	20	$50	$223	22%	13.4	10.4	245	$0.204	$0.010	0.0	0.0	200	52,488	10,000	44,500	7	52,488	10,000	44,500	16	118,097	22,500	100,126
LED Troffer Fixture 2X2	LED Troffer Fixture	39	5,336	Fluorescent Fixture	73	5,336	20	$50	$197	25%	15.8	11.8	184	$0.271	$0.014	0.0	0.0	2,000	394,946	100,000	393,645	68	493,682	125,000	492,056	115	839,260	212,500	836,496
LED Troffer Fixture 2X4	LED Troffer Fixture	63	5,336	Fluorescent Fixture	122	5,336	20	$50	$241	21%	11.3	8.9	317	$0.158	$0.008	0.1	0.0	2,000	677,958	100,000	482,371	128	932,192	137,500	663,260	151	1,101,681	162,500	783,853
LED Troffer Retrofit Kit 1X4	LED Troffer Fixture - Retrofit Kit	34	5,336	Fluorescent Fixture	72	5,336	20	$30	$106	28%	7.7	5.5	203	$0.148	$0.007	0.0	0.0	20	4,347	600	2,120	1	4,347	600	2,120	1	4,347	600	2,120
LED Troffer Retrofit Kit 2X2	LED Troffer Fixture - Retrofit Kit	37	5,336	Fluorescent Fixture	71	5,336	20	$30	$165	18%	13.5	11.1	180	$0.167	$0.008	0.0	0.0	300	57,859	9,000	49,389	8	57,859	9,000	49,389	8	57,859	9,000	49,389
LED Troffer Retrofit Kit 2X4	LED Troffer Fixture - Retrofit Kit	58	5,336	Fluorescent Fixture	115	5,336	20	$30	$188	16%	9.2	7.7	304	$0.099	$0.005	0.1	0.0	2,000	651,684	60,000	376,554	112	814,605	75,000	470,693	134	977,526	90,000	564,831
LED Exterior Wall Pack - <= 25W	LED Wall Pack Fixture	18	4,903	HID Wall Pack Fixture	98	4,903	20	$35	$248	14%	8.6	7.4	395	$0.089	$0.004	0.1	0.0	125	52,819	4,375	31,001	0	63,382	5,250	37,201	0	84,510	7,000	49,601
LED Exterior Wall Pack - 26W - 60W	LED Wall Pack Fixture	44	4,903	HID Wall Pack Fixture	218	4,903	20	$75	$326	23%	5.2	4.0	853	$0.088	$0.004	0.2	0.0	600	547,678	45,000	195,501	0	638,957	52,500	228,084	0	684,597	56,250	244,376
LED Exterior Wall Pack - 61W - 150W	LED Wall Pack Fixture	101	4,903	HID Wall Pack Fixture	416	4,903	20	$100	$496	20%	4.4	3.5	1,546	$0.065	$0.003	0.3	0.0	200	331,078	20,000	99,225	0	413,847	25,000	124,031	0	413,847	25,000	124,031
LED Parking Garage Wall Pack <= 25W	LED Parking Garage Fixture	18	8,760	HID Wall Pack Fixture	99	8,760	20	$35	$279	13%	5.4	4.7	710	$0.049	$0.002	0.1	0.1	15	11,398	525	4,179	2	15,198	700	5,571	2	18,997	875	6,964
LED Parking Garage Wall Pack - 26W - 60W	LED Parking Garage Fixture	44	8,760	HID Wall Pack Fixture	219	8,760	20	$75	$378	20%	3.4	2.7	1,530	$0.049	$0.002	0.2	0.2	15	24,564	1,125	5,666	4	32,752	1,500	7,555	5	40,941	1,875	9,443
LED Parking Garage Wall Pack - 61W - 150W	LED Parking Garage Fixture	94	8,760	HID Wall Pack Fixture	410	8,760	20	$100	$566	18%	2.8	2.3	2,771	$0.036	$0.002	0.3	0.3	15	44,500	1,500	8,497	7	59,333	2,000	11,330	10	88,999	3,000	16,995
LED Outdoor Canopy lighting - 25W - 60W	LED	40	4,903	Metal Halide	202	4,903	20	$100	$351	28%	6.1	4.3	793	$0.126	$0.006	0.2	0.0	35	29,703	3,500	12,299	0	42,433	5,000	17,571	0	63,650	7,500	26,356
LED Outdoor Canopy lighting - 61W - 150W	LED	103	4,903	Metal Halide	454	4,903	20	$125	$328	38%	2.6	1.6	1,719	$0.073	$0.004	0.4	0.0	700	1,288,569	87,500	229,705	0	1,380,609	93,750	246,113	0	1,472,650	100,000	262,520
LED Interior Lamp - A Lamps	LED lamp	11	3,447	Halogen, Incandescent, or CFL Lamp	21	3,447	8	$5	$14	35%	6.0	3.9	33	$0.152	$0.019	0.0	0.0	14,000	494,115	70,000	202,020	157	599,997	85,000	245,310	185	705,879	100,000	288,600
LED Interior Lamp - PAR20, R20	LED lamp	8	3,447	Halogen, Incandescent, or CFL Lamp	27	3,447	9	$10	$13	75%	2.8	0.7	65	$0.153	$0.017	0.0	0.0	1,250	87,364	12,500	16,656	32	122,310	17,500	23,319	37	139,783	20,000	26,650
LED Interior Lamp - PAR30	LED lamp	13	3,447	Halogen, Incandescent, or CFL Lamp	43	3,447	9	$15	$21	71%	2.8	0.8	104	$0.144	$0.016	0.0	0.0	5,500	614,491	82,500	115,390	205	782,080	105,000	146,860	234	893,805	120,000	167,840
LED Interior Lamp - BR30	LED lamp	11	3,447	Halogen, Incandescent, or CFL Lamp	37	3,447	9	$10	$11	92%	1.7	0.1	90	$0.112	$0.012	0.0	0.0	4,500	431,357	45,000	48,960	126	479,286	50,000	54,400	138	527,214	55,000	59,840
LED Interior Lamp - PAR38	LED lamp	17	3,447	Halogen, Incandescent, or CFL Lamp	57	3,447	9	$20	$30	67%	2.9	1.0	139	$0.144	$0.016	0.0	0.0	5,000	744,159	100,000	149,375	214	818,574	110,000	164,313	234	892,990	120,000	179,250
LED Interior Lamp - BR40	LED lamp	15	3,447	Halogen, Incandescent, or CFL Lamp	51	3,447	9	$20	$22	92%	2.4	0.2	124	$0.161	$0.018	0.0	0.0	650	86,404	13,000	14,164	24	93,051	14,000	15,253	26	99,697	15,000	16,343
LED Interior Lamp - PAR16	LED lamp	7	3,447	Halogen, Incandescent, or CFL Lamp	22	3,447	9	$6	$11	55%	2.8	1.3	53	$0.113	$0.013	0.0	0.0	40	2,279	240	436	1	2,849	300	545	1	3,419	360	653
LED Interior Lamp - MR16	LED lamp	6	3,447	Halogen, Incandescent, or CFL Lamp	27	3,447	8	$10	$16	63%	3.0	1.1	73	$0.137	$0.017	0.0	0.0	6,000	468,546	60,000	95,220	143	546,637	70,000	111,090	184	702,820	90,000	142,830
LED Interior Lamp - GU10	LED lamp	6	3,447	Halogen, Incandescent, or CFL Lamp	19	3,447	9	$10	$13	79%	4.0	0.9	43	$0.233	$0.026	0.0	0.0	100	4,602	1,000	1,267	1	4,602	1,000	1,267	1	4,602	1,000	1,267
LED Interior Lamp - Decorative (B, BA, Candle)	LED lamp	5	3,447	Halogen, Incandescent, or CFL Lamp	28	3,447	7	$5	$19	26%	3.3	2.4	80	$0.063	$0.009	0.0	0.0	750	64,083	3,750	14,400	22	85,444	5,000	19,200	28	106,805	6,250	24,000
LED Interior Screw In Fixture Retrofit	LED lamp	15	3,447	Halogen, Incandescent, or CFL Fixture	39	3,447	10	$15	$19	81%	3.1	0.6	82	$0.184	$0.018	0.0	0.0	50	4,372	750	927	2	6,557	1,125	1,391	2	8,743	1,500	1,854
Fluorescent Low Wattage T8 4' lamps	T8 25W and 28W Lamps	31	5,336	T8 32W Lamps	37	5,336	5	$1	$4	13%	1.7	1.5	34	$0.015	$0.003	0.0	0.0	14,500	531,609	7,250	58,000	63	458,283	6,250	50,000	50	366,627	5,000	40,000
Fluorescent High Bay - <= 300W	New Construction High Bay Fluorescents Less Than 300W	323	5,336	400W Metal Halide	568	5,336	20	$10	$93	11%	1.0	0.9	1,306	$0.008	$0.000	0.2	0.2	30	41,948	300	2,775	6	41,948	300	2,775	6	41,948	300	2,775
Fluorescent High Bay - <= 610W	New Construction High Bay Fluorescents Less Than 610W	596	5,336	750W Metal Halide	1,059	5,336	20	$15	$134	11%	0.8	0.7	2,467	$0.006	$0.000	0.5	0.4	750	1,981,332	11,250	100,313	236	1,717,154	9,750	86,938	181	1,320,888	7,500	66,875
Fluorescent High Bay - <= 900W	New Construction High Bay Fluorescents Less Than 900W	762	5,336	1000W Metal Halide	1,345	5,336	20	$20	$159	13%	0.7	0.6	3,111	$0.006	$0.000	0.6	0.6	174	579,499	3,480	27,666	98	522,881	3,140	24,963	84	446,281	2,680	21,306
CFL, Pin Based - <=19W	Pin Based CFL	20	5,336	Incandescent	62	5,336	20	$2	$9	22%	0.6	0.5	226	$0.009	$0.000	0.0	0.0	10	2,422	20	92	0	1,211	10	46	0	969	8	37
CFL, Pin Based - 19-32W	Pin Based CFL	44	5,336	Incandescent	105	5,336	20	$2	$12	16%	0.5	0.5	328	$0.006	$0.000	0.1	0.0	350	123,059	700	4,249	17	123,059	700	4,249	15	107,237	610	3,702
CFL, Pin Based - 33-100W	Pin Based CFL	37	5,336	Incandescent	104	5,336	20	$2	$12	16%	0.5	0.4	356	$0.006	$0.000	0.1	0.1	602	229,287	1,204	7,427	31	228,525	1,200	7,402	26	190,438	1,000	6,169
CFL, 2-foot Low Wattage - 25 - 28W	PL 25W CFL	33	5,336	PL 40W CFL	50	5,336	5	$1	$12	4%	2.0	1.9	90	$0.006	$0.001	0.0	0.0	5	480	3	61	0	480	3	61	0	480	3	61
LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	21	5,336	Incandescent Luminaire	53	5,336	20	$25	$107	23%	9.0	6.9	175	$0.143	$0.007	0.0	0.0	2,000	374,811	50,000	213,655	64	468,513	62,500	267,069	77	562,216	75,000	320,483
LED Interior Fixture - 25W - 50W	LED Downlight Luminaire	47	5,336	Incandescent Luminaire	82	5,336	20	$40	$154	26%	12.3	9.1	186	$0.215	$0.011	0.0	0.0	750	149,450	30,000	115,546	34	249,083	50,000	192,576	41	298,900	60,000	231,091

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
LED Refrigerated Case Lighting	LED Strip lighting	51	8,760	T8 or T12 Fluorescent	139	8,760	20	$35	$145	24%	2.6	1.9	771	$0.045	$0.002	0.1	0.1	750	619,418	26,250	108,428	104	908,479	38,500	159,027	114	991,068	42,000	173,484
LED Parking Garage lighting 25W - 60W	LED Parking Garage Fixture	44	8,760	CMH	177	8,760	20	$25	$108	23%	1.3	1.0	1,165	$0.021	$0.001	0.1	0.1	300	374,047	7,500	32,407	50	436,388	8,750	37,808	57	498,729	10,000	43,210
LED Parking Garage lighting 61W - 83W	LED Parking Garage Fixture	72	8,760	HID Fixture	275	8,760	20	$35	$137	25%	1.1	0.8	1,778	$0.020	$0.001	0.2	0.2		0	0	0	0	0	0	0	0	0	0	0
LED High-Bay Luminaires - 95 - 189W	LED High Bay New Construction 95-189W	177	5,336	HPS Fixture <= 250W	327	5,336	20	$125	$351	36%	6.5	4.2	802	$0.156	$0.008	0.2	0.1	200	171,719	25,000	70,180	29	214,649	31,250	87,725	32	236,114	34,375	96,498
LED High-Bay Luminaires - 190 - 290W	LED High Bay New Construction 190-290W	299	5,336	HPS Fixture <= 400W	569	5,336	20	$140	$608	23%	6.2	4.8	1,442	$0.097	$0.005	0.3	0.2	200	308,863	28,000	121,544	53	386,079	35,000	151,930	58	424,687	38,500	167,123
LED High-Bay Luminaires - 291 - 464W	LED High Bay New Construction 291-464W	470	5,336	HPS Fixture <= 750W	1,046	5,336	20	$165	$954	17%	4.6	3.8	3,075	$0.054	$0.003	0.6	0.5	200	658,468	33,000	190,853	113	823,085	41,250	238,566	124	905,393	45,375	262,423
LED High-Bay Luminaires - 465 - 625W	LED High Bay New Construction 465-625W	675	5,336	HPS Fixture <= 1000W	1,370	5,336	20	$175	$1,552	11%	6.2	5.5	3,709	$0.047	$0.002	0.7	0.5	100	397,082	17,500	155,193	68	496,352	21,875	193,992	82	595,622	26,250	232,790
LED Street lighting - 30-44W	LED Street Light Fixture	37	4,903	70W HID Street Light Fixture	90	4,903	20	$15	$302	5%	16.0	15.2	258	$0.058	$0.003	0.1	0.0	50	0	750	15,086	0	0	750	15,086	0	0	750	15,086
LED Street lighting - 45-55W	LED Street Light Fixture	50	4,903	100W HID Street Light Fixture	126	4,903	20	$25	$331	8%	12.1	11.2	374	$0.067	$0.003	0.1	0.0	50	0	1,250	16,568	0	0	1,250	16,568	0	0	1,250	16,568
LED Street lighting - 56-79W	LED Street Light Fixture	75	4,903	150W HID Street Light Fixture	182	4,903	20	$35	$217	16%	5.7	4.8	522	$0.067	$0.003	0.1	0.0	250	139,852	8,750	54,184	0	139,852	8,750	54,184	0	139,852	8,750	54,184
LED Street lighting - 80-109W	LED Street Light Fixture	105	4,903	175W HID Street Light Fixture	203	4,903	20	$55	$264	21%	7.5	6.0	479	$0.115	$0.006	0.1	0.0	50	25,637	2,750	13,184	0	25,637	2,750	13,184	0	25,637	2,750	13,184
LED Street lighting - 110-139W	LED Street Light Fixture	136	4,903	250W HID Street Light Fixture	288	4,903	20	$65	$317	21%	5.8	4.6	743	$0.087	$0.004	0.2	0.0	175	139,301	11,375	55,409	0	139,301	11,375	55,409	0	139,301	11,375	55,409
LED Street lighting - 140-209W	LED Street Light Fixture	164	4,903	400W HID Street Light Fixture	450	4,903	20	$85	$346	25%	3.4	2.5	1,404	$0.061	$0.003	0.3	0.0	125	187,897	10,625	43,276	0	187,897	10,625	43,276	0	187,897	10,625	43,276
LED Area lighting - 45-65W	LED Parking Area Fixture	55	4,903	150W MH Fixture	168	4,903	20	$55	$243	23%	6.0	4.7	553	$0.099	$0.005	0.1	0.0	50	29,622	2,750	12,163	0	29,622	2,750	12,163	0	29,622	2,750	12,163
LED Area lighting - 66-89W	LED Parking Area Fixture	78	4,903	175W MH Fixture	189	4,903	20	$65	$230	28%	5.8	4.1	547	$0.119	$0.006	0.1	0.0	75	43,899	4,875	17,255	0	43,899	4,875	17,255	0	43,899	4,875	17,255
LED Area lighting - 90-119W	LED Parking Area Fixture	105	4,903	250W MH Fixture	275	4,903	20	$75	$296	25%	4.9	3.6	836	$0.090	$0.004	0.2	0.0	100	89,503	7,500	29,625	0	89,503	7,500	29,625	0	89,503	7,500	29,625
LED Area lighting - 120-140W	LED Parking Area Fixture	130	4,903	400W MH Fixture	435	4,903	20	$85	$351	24%	3.2	2.4	1,495	$0.057	$0.003	0.3	0.0	150	240,163	12,750	52,613	0	240,163	12,750	52,613	0	240,163	12,750	52,613
LED Troffer Fixture 1X4	LED Troffer Fixture	45	5,336	Fluorescent Fixture	91	5,336	20	$30	$173	17%	10.4	8.6	245	$0.122	$0.006	0.0	0.0	100	26,244	3,000	17,268	4	26,244	3,000	17,268	4	26,244	3,000	17,268
LED Troffer Fixture 2X2	LED Troffer Fixture	39	5,336	Fluorescent Fixture	73	5,336	20	$30	$157	19%	12.6	10.2	184	$0.163	$0.008	0.0	0.0	1,250	246,841	37,500	195,712	47	345,578	52,500	273,997	61	444,314	67,500	352,282
LED Troffer Fixture 2X4	LED Troffer Fixture	63	5,336	Fluorescent Fixture	122	5,336	20	$30	$185	16%	8.7	7.2	317	$0.095	$0.005	0.1	0.0	1,500	508,468	45,000	277,555	128	932,192	82,500	508,851	140	1,016,936	90,000	555,111
LED Exterior Wall Pack - <= 25W	LED Wall Pack Fixture	19	4,903	HID Wall Pack Fixture	104	4,903	20	$15	$27	56%	0.9	0.4	419	$0.036	$0.002	0.1	0.0	75	33,621	1,125	2,016	0	33,621	1,125	2,016	0	33,621	1,125	2,016
LED Exterior Wall Pack - 26W - 60W	LED Wall Pack Fixture	48	4,903	HID Wall Pack Fixture	233	4,903	20	$30	$75	40%	1.1	0.7	903	$0.033	$0.002	0.2	0.0	300	290,127	9,000	22,567	0	290,127	9,000	22,567	0	290,127	9,000	22,567
LED Exterior Wall Pack - 61W - 150W	LED Wall Pack Fixture	104	4,903	HID Wall Pack Fixture	423	4,903	20	$50	$206	24%	1.8	1.4	1,567	$0.032	$0.002	0.3	0.0	100	167,774	5,000	20,616	0	167,774	5,000	20,616	0	167,774	5,000	20,616
LED Parking Garage Wall Pack <= 25W	LED Parking Garage Fixture	17	8,760	HID Wall Pack Fixture	92	8,760	20	$15	$77	19%	1.6	1.3	660	$0.023	$0.001	0.1	0.1	1	707	15	77	0	707	15	77	0	707	15	77
LED Parking Garage Wall Pack - 26W - 60W	LED Parking Garage Fixture	43	8,760	HID Wall Pack Fixture	210	8,760	20	$30	$139	22%	1.3	1.0	1,467	$0.020	$0.001	0.2	0.2	10	15,708	300	1,386	2	15,708	300	1,386	2	15,708	300	1,386
LED Parking Garage Wall Pack - 61W - 150W	LED Parking Garage Fixture	106	8,760	HID Wall Pack Fixture	421	8,760	20	$50	$319	16%	1.6	1.3	2,762	$0.018	$0.001	0.3	0.3	15	44,354	750	4,787	5	44,354	750	4,787	5	44,354	750	4,787
LED Outdoor Canopy - 25W - 60W	LED	40	4,903	Metal Halide	202	4,903	20	$50	$145	34%	2.5	1.6	793	$0.063	$0.003	0.2	0.0	50	42,433	2,500	7,255	0	42,433	2,500	7,255	0	42,433	2,500	7,255
LED Outdoor Canopy - 61W - 150W	LED	103	4,903	Metal Halide	454	4,903	20	$100	$66	151%	0.5	-0.3	1,719	$0.058	$0.003	0.4	0.0	250	460,203	25,000	16,554	0	460,203	25,000	16,554	0	460,203	25,000	16,554
Lighting Control System	Automated Lighting Controls Systems	78,412	2,612	Manually Switched System	84,111	2,612	15	$2,280	$18,278	12%	11.0	9.6	14,883	$0.153	$0.010	5.7	0.0	1	15,935	2,280	18,278	0	15,935	2,280	18,278	0	15,935	2,280	18,278
Custom Lighting & Recommissioning	Engineering Study		0	Existing Overlit Lighting System	0	0	0	$52,585	$142,104	37%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Custom Lighting	Custom Lighting Solution	99,000	4,558	Existing Overlit Lighting System	115,053	4,558	16	$6,421	$22,054	29%	4.1	2.9	73,176	$0.088	$0.005	16.1	11.7	153	11,987,156	982,463	3,374,241	1,412	9,480,038	776,980	2,668,517	1,167	7,834,743	642,132	2,205,386
Lighting Redesign Studies	Redesign Lighting Solution Study			Existing Overlit Lighting System				$12,038	$17,949	67%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	10	0	120,381	179,488	0	0	120,381	179,488	0	0	120,381	179,488
Lighting Redesign Implementation	Redesign Lighting Solution Installed	81,354	7,834	Existing Overlit Lighting System	125,000	7,834	20	$17,459	$86,652	20%	3.5	2.8	341,943	$0.051	$0.003	43.6	31.7	1	366,106	17,459	86,652	63	732,212	34,917	173,303	127	1,464,423	69,834	346,606
LED High-Bay Luminaires with Fluorescent Baseline - 95 - 189W	LED High Bay 95-189W	142	5,336	High Bay Flourecent Fixture	209	5,336	20	$75	$325	23%	13.5	10.4	355	$0.211	$0.011	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
LED High-Bay Luminaires with Fluorescent Baseline - 190 - 290W	LED High Bay 190-290W	283	5,336	High Bay Fluorescent Fixture	421	5,336	20	$100	$650	15%	13.1	11.1	735	$0.136	$0.007	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
LED High-Bay Luminaires with Fluorescent Baseline - 291 - 464W	LED High Bay 291-464W	428	5,336	High Bay Fluorescent Fixture	633	5,336	20	$125	$982	13%	13.3	11.6	1,096	$0.114	$0.006	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0
LED High-Bay Luminaires with Fluorescent Baseline - 465 - 625W	LED High Bay 465-625W	671	5,336	High Bay Fluorescent Fixture	988	5,336	20	$150	$1,543	10%	13.5	12.2	1,688	$0.089	$0.004	0.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0
LED Area Lighting - 141-199W	LED Parking Area Fixture	170	4,903	750W MH Fixture	850	4,903	20	$200	$747	27%	3.1	2.2	3,334	$0.060	$0.003	0.7	0.0	50	178,482	10,000	37,340	0	356,964	20,000	74,681	0	446,204	25,000	93,351
LED Area Lighting - 200-550W	LED Parking Area Fixture	375	4,903	1000W MH Fixture	1,080	4,903	20	$250	$1,249	20%	4.9	4.0	3,457	$0.072	$0.004	0.7	0.0	50	185,044	12,500	62,466	0	370,087	25,000	124,932	0	462,609	31,250	156,166
LED Screw-in Lamps - 30 - 39W (70W HID replacement lamp)	LED High Bay Replacement Lamp	72	5,336	<=70W HID Fixture	107	5,336	8	$30	$126	24%	9.9	7.5	188	$0.159	$0.020	0.0	0.0	150	30,210	4,500	18,842	8	60,420	9,000	37,683	14	100,701	15,000	62,805
LED Screw-in Lamps - 40 - 49W (100W HID replacement lamp)	LED High Bay Replacement Lamp	87	5,336	<=100W HID Fixture	155	5,336	8	$40	$126	32%	5.1	3.4	368	$0.109	$0.013	0.1	0.1	50	19,678	2,000	6,281	7	49,194	5,000	15,701	8	59,033	6,000	18,842
LED Screw-in Lamps - 50 - 79W (175W HID replacement lamp)	LED High Bay Replacement Lamp	124	5,336	<=175W HID Fixture	253	5,336	8	$50	$169	30%	3.6	2.6	688	$0.073	$0.009	0.1	0.1	50	36,829	2,500	8,427	13	92,072	6,250	21,067	15	110,486	7,500	25,281
LED Screw-in Lamps - 80 -119W (250W HID replacement lamp)	LED High Bay Replacement Lamp	180	5,336	<=250W HID Fixture	357	5,336	8	$60	$221	27%	3.5	2.5	946	$0.063	$0.008	0.2	0.1	100	101,234	6,000	22,121	28	202,469	12,000	44,241	35	253,086	15,000	55,301
LED Screw-in Lamps - 120 - 144W (320W HID replacement lamp)	LED High Bay Replacement Lamp	227	5,336	<=320W HID Fixture	458	5,336	8	$75	$252	30%	3.0	2.1	1,233	$0.061	$0.007	0.2	0.2	100	132,014	7,500	25,241	36	264,028	15,000	50,482	45	330,035	18,750	63,103
LED Screw-in Lamps - 145 - 230W (400W HID replacement lamp)	LED High Bay Replacement Lamp	303	5,336	<=400W HID Fixture	568	5,336	8	$75	$252	30%	2.6	1.9	1,410	$0.053	$0.007	0.3	0.2	150	226,488	11,250	37,861	52	377,480	18,750	63,102	83	603,967	30,000	100,964
LED PL/G based CFL Replacement lamp	LED Plug In Lamp	21	5,336	CFL lamp	46	5,336	8	$7	$20	35%	2.2	1.4	136	$0.051	$0.006	0.0	0.0	1,000	145,802	7,000	19,888	50	364,505	17,500	49,720	70	510,307	24,500	69,608
LED Interior Fixture <= 25W (CFL baseline)	LED Downlight Fixture	25	5,336	CFL fixture	63	5,336	20	$25	$88	28%	6.4	4.6	204	$0.123	$0.006	0.0	0.0	50	10,905	1,250	4,405	1	10,905	1,250	4,405	1	10,905	1,250	4,405
LED Interior Fixture - 26-50W (CFL baseline)	LED Downlight Fixture	40	5,336	CFL fixture	84	5,336	20	$35	$132	27%	8.4	6.2	233	$0.150	$0.008	0.0	0.0	51	12,730	1,785	6,736	2	12,730	1,785	6,736	2	12,730	1,785	6,736
Recommissioning Study Allocation	Existing building with measures as identified in	0	0	Existing Building	0	0	0	$4,530	$7,246	63%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	14	0	63,420	101,440	0	0	63,420	101,440	0	0	63,420	101,440
Motor Efficiency		0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
New Motor Enhanced	NEMA Premium +1% Efficient Motor	3,074	6,135	NEMA Premium	3,126	6,135	20	$40	$181	22%	7.5	5.9	319	$0.125	$0.006	0.1	0.0	2	683	80	363	0	1,025	120	544	0	1,366	160	725
Upgrade Motor	NEMA Premium Efficient Motor	15,650	4,806	EPACT Efficient Motor	15,950	4,806	20	$926	$2,362	39%	21.8	13.2	1,440	$0.643	$0.032	0.3	0.3	44	67,821	40,760	103,933	14	86,318	51,876	132,278	14	83,235	50,024	127,554
Upgrade Motor Enhanced	NEMA Premium +1% Efficient Motor	5,447	5,243	EPACT Efficient Motor	5,663	5,243	20	$498	$1,407	35%	16.4	10.6	1,136	$0.438	$0.022	0.2	0.2	8	9,734	3,982	11,258	2	15,817	6,470	18,294	2	15,817	6,470	18,294
Variable Frequency Drive	Equipment coupled with an ASD/VFD	7,699	4,643	Equipment without an ASD/VFD	11,443	4,643	15	$1,531	$5,393	28%	4.1	2.9	17,385	$0.088	$0.006	3.7	3.1	1,086	20,213,851	1,662,728	5,857,117	3,489	20,679,179	1,701,004	5,991,950	3,574	21,181,733	1,742,343	6,137,569
CSMC	Motor with Voltage Controller	4,849	4,849	Motor without Voltage Controller	5,717	4,878	20	$345	$1,188	29%	3.6	2.6	4,376	$0.079	$0.004	0.9	0.7	2	9,370	690	2,377	3	18,740	1,379	4,754	3	18,740	1,379	4,754
VFD on Well Pump	VFD Well Pump	60,222	2,653	Throttled Well Pump	85,155	2,653	15	$6,000	$20,797	29%	4.2	3.0	66,143	$0.091	$0.006	24.9	10.2	3	212,449	18,000	62,390	31	212,449	18,000	62,390	31	212,449	18,000	62,390
Study	Motor Study	0	0	No Study	0	0	7	$10,000	$20,000	50%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	1	0	10,000	20,000	0	0	10,000	20,000	0	0	10,000	20,000
Recommissioning Study	Efficient equipment as identified in a recommissioning study	0	0	Existing equipment	0	0	0	$32,980	$56,547	58%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	1	0	32,980	56,547	0	0	32,980	56,547	0	0	32,980	56,547
Custom	New Equipment	47,392	4,549	Existing or New Inefficient	80,699	4,549	16	$7,770	$49,399	16%	3.6	3.0	151,521	$0.051	$0.003	33.3	12.6	3	486,684	23,310	148,196	38	486,684	23,310	148,196	38	486,684	23,310	148,196
Multi Family Building Efficiency		0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	103	8,760	2.5 GPM Showerhead	172	8,760	10	$0	$0	#DIV/0!	0.0	0.0	604	$0.000	$0.000	0.1	0.0	119	76,877	0	0	8	115,315	0	0	13	173,741	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	24	8,760	2.2 GPM Kitchen Faucet Aerator	35	8,760	10	$0	$0	#DIV/0!	0.0	0.0	98	$0.000	$0.000	0.0	0.0	122	12,775	0	0	3	19,162	0	0	4	28,870	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	7	8,760	2.2 GPM Bathroom Faucet Aerator	15	8,760	10	$0	$0	#DIV/0!	0.0	0.0	73	$0.000	$0.000	0.0	0.0	122	9,506	0	0	2	14,259	0	0	3	21,483	0	0
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	3	8,760	2.2 GPM Bathroom Faucet Aerator	15	8,760	10	$0	$0	#DIV/0!	0.0	0.0	103	$0.000	$0.000	0.0	0.0	0	0	0	0	1	8,041	0	0	2	12,117	0	0
Water Heater Blanket on Electric Water Heater	Add commercial Insulation wrap R8 around Water Heater Tank	41	8,760	No External Insulation on water heater	69	8,760	7	$0	$0	#DIV/0!	0.0	0.0	245	$0.000	$0.000	0.0	0.0	4	985	0	0	0	1,477	0	0	0	2,226	0	0
Replace screw-in incandescents within tenant units with LEDs	LED Bulbs	9	642	Average EISA Standard halogen A-Style Bulb	55	642	16	$0	$0	#DIV/0!	0.0	0.0	29	$0.000	$0.000	0.0	0.0	23,263	744,547	0	0	140	1,116,820	0	0	211	1,682,676	0	0
Replace screw-in incandescents in common areas with screw-in LEDs	LED Bulbs	9	4,243	Average EISA Standard halogen A-Style Bulb	70	4,243	6	$0	$0	#DIV/0!	0.0	0.0	257	$0.000	$0.000	0.1	0.0	1,294	356,179	0	0	94	534,268	0	0	142	804,964	0	0
Exit sign retrofit and replacement	LED/LEC Exit	1	7,602	Incandescent	44	7,602	20	$0	$0	#DIV/0!	0.0	0.0	321	$0.000	$0.000	0.0	0.0	30	10,304	0	0	2	15,456	0	0	3	23,287	0	0
Holistic efficiency projects totaling either 15%, 20%, or 25% whole-building savings	Average Performance Building	10,315	8,760	Average existing multifamily building after Direct Install measures completed	11,398	8,760	20	$2,491	$2,366	105%	3.7	-0.2	9,486	$0.263	$0.013	1.1	1.2	45	457,032	112,106	106,471	78	680,470	166,913	158,523	118	1,025,783	251,615	238,968

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
Process Efficiency	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	Optimized System	1,027,147	6,022	Old or less efficient systems or equipment	1,075,269	6,022	19	$19,054	$141,025	14%	2.5	2.2	289,767	$0.066	$0.004	48.1	11.2	79	24,509,173	1,505,258	11,140,969	817	22,647,717	1,390,935	10,294,820	761	21,096,503	1,295,665	9,589,695
Lighting	Optimized System	139	5,042	0	194	5,042	16	$23	$90	26%	4.6	3.4	278	$0.083	$0.005	0.1	0.0	19,500	5,797,138	451,832	1,754,788	752	5,797,138	451,832	1,754,788	752	5,797,138	451,832	1,754,788
Motors	Optimized System	8,003	4,696	Old or less efficient systems or equipment	11,546	4,696	15	$1,488	$5,198	29%	4.2	3.0	16,639	$0.089	$0.006	3.5	3.0	569	10,142,657	846,995	2,959,441	1,692	10,142,657	846,995	2,959,441	1,692	10,142,657	846,995	2,959,441
Implementation of ECO's found in studies	Post-Recommissioned Building	290,028	5,900	Pre-Recommissioned Building	322,254	5,900	7	$4,105	$13,512	30%	1.1	0.7	190,143	$0.022	$0.003	32.2	17.7	1	203,579	4,105	13,512	18	203,579	4,105	13,512	18	203,579	4,105	13,512
Cooling	More efficient cooling equipment	8,890	1,976	Code-minimum equipment	10,366	1,976	19	$975	$2,275	43%	10.3	5.9	2,918	$0.334	$0.017	1.5	1.4	843	2,633,200	822,077	1,917,556	1,198	2,633,200	822,077	1,917,556	1,198	2,633,200	822,077	1,917,556
Compressed Air and FSO Measures	Optimized System	53,197	5,896	Non-Optimized System	59,896	5,896	17	$3,390	$9,751	35%	3.6	2.4	39,501	$0.086	$0.005	6.7	5.1	72	3,037,464	243,447	700,319	366	3,037,464	243,447	700,319	366	3,037,464	243,447	700,319
Energy Design Assistance	More Efficient than Code Building	147,974	4,659	Code-Compliant Building	211,391	4,659	20	$33,092	$116,752	28%	5.6	4.0	295,453	$0.112	$0.006	63.4	49.7	9	2,846,976	297,825	1,050,772	447	2,846,976	297,825	1,050,772	447	2,846,976	297,825	1,050,772
Behavioral Changes	Behavior changes that reduce energy use	2,962,572	8,760	No change in behavior	3,024,892	8,760	1	$0	$0	#DIV/0!	0.0	0.0	545,921	$0.000	$0.000	62.3	34.2	2	1,168,996	0	0	68	1,168,996	0	0	68	1,168,996	0	0
Behavioral Changes	Behavior changes that reduce energy use	-1,975,048	8,760	No change in behavior	-2,016,594	8,760	1	$0	$0	#DIV/0!	0.0	0.0	-363,947	$0.000	$0.000	-41.5	-40.0	2	-779,330	0	0	-80	-779,330	0	0	-80	-779,330	0	0
Phase 2 new customer contribution	0	0	0	0	0	0	0	$0	$6,000	0%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	15	0	0	90,000	0	0	0	90,000	0	0	0	90,000
System Optimization and Annual Achievement Bonuses	0	0	0	0	0	0	0	$46,133	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	10	0	461,325	0	0	0	461,325	0	0	0	461,325	0
Incentives to Trade Partners	0	0	0	0	0	0	0	$2,061	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	16	0	32,977	0	0	0	32,977	0	0	0	32,977	0
Recommissioning	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Recommissioning Implementation	Post-Recommissioned Building	290,028	5,900	Pre-Recommissioned Building	322,254	5,900	7	$4,105	$13,512	30%	1.1	0.7	190,143	$0.022	$0.003	32.2	17.7	35	7,125,276	143,670	472,923	531	6,107,379	123,146	405,363	531	6,107,379	123,146	405,363
Recommissioning Studies	Study Cost and Rebate	0	0	0	0	0	0	$8,053	$12,108	67%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	45	0	362,375	544,856	0	0	322,111	484,317	0	0	322,111	484,317
BOC Program Attributable Savings	Energy Use After Class	319,343	8,760	Energy Usage Before Class	322,254	8,760	5	$318	$646	49%	0.4	0.2	25,498	$0.012	$0.002	2.9	1.6	19	518,704	6,036	12,269	30	518,704	6,036	12,269	30	518,704	6,036	12,269
Refrigeration Recommissioning	Optimized Refrigeration Systems	0	0	Existing Refrigeration Systems - Not Tuned or Optimized	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Turn Key Services	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Identification ~ On site audit	Identification of opportunities	0	0	0	0	0	0	$1,735	$2,275	76%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	120	0	208,200	273,000	0	0	225,550	295,750	0	0	251,575	329,875
Implementation	High Eff Project	29,500	4,393	Lower Efficient Product or System	39,041	4,393	16	$5,630	$13,712	41%	4.2	2.5	41,913	$0.134	$0.008	9.5	5.6	118	5,295,166	664,327	1,617,980	738	5,878,532	737,516	1,796,232	738	5,878,532	737,516	1,796,232
Electric Rate Savings	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
The Electric Rate Savings Program is offered to any business customer who can reduce their electric loads during control periods by at least 50 kW. In return for reducing their electric loads, they receive a monthly discount on their demand charges	Utility Load Control for control period	150,000	18	No Control	350,000	18	5	$0	$0	#DIV/0!	0.0	0.0	3,532	$0.000	$0.000	200.0	102.1	45	170,174	0	0	4,593	170,174	0	0	4,593	170,174	0	0
Saver's Switch For Business	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial AC Switch Single Stage - MN	Utility Load Control for control period with smart switch	0	0	No Control, No Switch	4,562	1	15	$0	$0	#DIV/0!	0.0	0.0	3	$0.000	$0.000	4.562	1.094	2,240	6,276	0	0	2,451	6,276	0	0	2,451	6,276	0	0
Commercial AC Switch Multi Stage - MN	Utility Load Control for control period with smart switch	0	0	No Control, No Switch	14,023	0	15	$0	$0	#DIV/0!	0.0	0.0	6	$0.000	$0.000	14.023	2.449	560	3,393	0	0	1,372	3,393	0	0	1,372	3,393	0	0
Residential Demand Response	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0
Residential AC Switch	Utility Load Control for control period with smart switch	0	0	No Control, No Switch	2,402	1	15	$0	$0	#DIV/0!	0.0	0.0	2	$0.000	$0.000	2.402	0.749	20,000	39,031	0	0	14,987	39,031	0	0	14,987	39,031	0	0
Residential WH Switch	Utility Load Control for control period with smart switch	0	0	No Control, No Switch	4,500	1	15	$0	$0	#DIV/0!	0.0	0.0	3	$0.000	$0.000	4.500	0.219	25	91	0	0	5	91	0	0	5	91	0	0
Residential Smart Thermostat	Utility Load Control for control period with Tier II or III thermostat	0	1	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	1	10	$125	$215	58%	1059.4	443.5	2	$69.926	$6.993	2.4	1.2	5,250	10,246	656,250	1,128,750	13,061	20,491	1,312,500	2,257,500	13,061	20,491	1,312,500	2,257,500
Residential Smart Thermostat	Utility Load Control for control period with Tier II or III thermostat	0	1	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	1	10	$225	$225	100%	1108.7	0.0	2	$125.866	$12.587	2.4	1.2	750	1,464	168,750	168,750	1,866	2,927	337,500	337,500	1,866	2,927	337,500	337,500
Residential Smart Thermostat	Utility Load Control for control period with Tier II or III thermostat	0	1	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	1	10	$75	$0	#DIV/0!	0.0	-369.6	2	$41.955	$4.196	2.4	1.2	1,500	2,927	112,500	0	3,732	5,855	225,000	0	3,732	5,855	225,000	0
Residential Smart Thermostat	New Tier II Thermostat	2,402	393	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	416	10	$0	$0	#DIV/0!	0.0	0.0	54	$0.000	$0.000	0.0	0.0	2,394	141,014	0	0	0	211,521	0	0	0	141,014	0	0
Residential Smart Thermostat	New Tier II Thermostat	2,402	393	Utilzed Tier I Thermostat	2,402	401	10	$0	$0	#DIV/0!	0.0	0.0	18	$0.000	$0.000	0.0	0.0	1,830	35,917	0	0	0	53,875	0	0	0	35,917	0	0
Residential Smart Thermostat	New Tier III Thermostat	2,402	379	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	416	10	$0	$0	#DIV/0!	0.0	0.0	89	$0.000	$0.000	0.0	0.0	0	0	0	0	0	116,206	0	0	0	232,412	0	0
Residential Smart Thermostat	New Tier III Thermostat	2,402	379	Utilzed Tier I Thermostat	2,402	401	10	$0	$0	#DIV/0!	0.0	0.0	53	$0.000	$0.000	0.0	0.0	0	0	0	0	0	52,877	0	0	0	105,755	0	0
Residential Smart Thermostat	New Tier II Thermostat	2,402	393	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	416	10	$0	$0	#DIV/0!	0.0	0.0	54	$0.000	$0.000	0.0	0.0	1,007	59,290	0	0	0	88,935	0	0	0	59,290	0	0
Residential Smart Thermostat	New Tier II Thermostat	2,402	393	Utilzed Tier I Thermostat	2,402	401	10	$0	$0	#DIV/0!	0.0	0.0	18	$0.000	$0.000	0.0	0.0	769	15,101	0	0	0	22,652	0	0	0	15,101	0	0
Residential Smart Thermostat	New Tier III Thermostat	2,402	379	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	416	10	$0	$0	#DIV/0!	0.0	0.0	89	$0.000	$0.000	0.0	0.0	0	0	0	0	0	48,859	0	0	0	97,719	0	0
Residential Smart Thermostat	New Tier III Thermostat	2,402	379	Utilzed Tier I Thermostat	2,402	401	10	$0	$0	#DIV/0!	0.0	0.0	53	$0.000	$0.000	0.0	0.0	0	0	0	0	0	22,233	0	0	0	44,465	0	0
Home Energy Savings Program	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerator Replacements	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	66	5,592	Top Mounted Freeezer w/ Auto Defrost Refrigerator 22.0 Cf > 15 years	173	5,592	18	$617	$617	100%	9.4	0.0	595	$1.036	$0.058	0.1	0.1	650	422,399	400,938	400,938	48	422,399	400,938	400,938	48	422,399	400,938	400,938
Freezer Replacement	Energy Star standard freezer	57	5,592	Existing unit vintage > 15 years old	147	5,592	18	$320	$320	100%	5.7	0.0	508	$0.629	$0.035	0.1	0.1	270	149,852	86,357	86,357	17	149,852	86,357	86,357	17	149,852	86,357	86,357
Refrigerator Recycling	Removal of second refrigerator	0	0	Existing primary unit - age mostly >15 years	203	5,592	8	$47	$47	100%	0.4	0.0	1,133	$0.041	$0.005	0.2	0.1	5	6,184	235	235	1	6,184	235	235	1	6,184	235	235
Freezer Recycling	Removal of freezer	0	0	Existing primary unit - age mostly >10 years	206	5,592	6	$43	$43	100%	0.3	0.0	1,155	$0.037	$0.006	0.2	0.1	2	2,521	85	85	0	2,521	85	85	0	2,521	85	85
Window Air Conditioner Replacement	Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	885	662	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	917	662	9	$409	$409	100%	173.2	0.0	21	$19.044	$2.116	0.0	0.0	450	10,562	184,243	184,243	14	10,562	184,243	184,243	14	10,562	184,243	184,243
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	917	662	5	$63	$63	100%	0.9	0.0	607	$0.103	$0.023	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0
EC Fan Motor on New Residential Furnace without AC	ECM Furnace Fan	301	2,783	Non-ECM Fan	504	2,783	18	$525	$525	100%	10.9	0.0	565	$0.929	$0.052	0.2	0.1	110	67,849	57,733	57,733	7	67,849	57,733	57,733	7	67,849	57,733	57,733
Attic Insulation - Gas Heated & Electrically Cooled Home	Insulate the attic to R-48 & perform Bypass air sealing	32,685	490	Existing home with average attic area of 823 sq. ft. and R-17 insulation	32,770	490	20	$24	$24	100%	5.1	0.0	42	$0.567	$0.028	0.1	0.0	114	5,182	2,689	2,689	0	5,182	2,689	2,689	0	5,182	2,689	2,689
Attic Insulation - Electrically Heated & Non-Cooled Home	Insulate the attic to R-48 & perform Bypass air sealing	31,626	1,261	Existing home with average attic area of 823 sq. ft. and R-17 insulation	32,770	1,261	20	$1,524	$1,524	100%	9.6	0.0	1,443	$1.056	$0.053	1.1	0.0	5	7,875	7,621	7,621	0	7,875	7,621	7,621	0	7,875	7,621	7,621
Attic Insulation - Electrically Heated & Cooled Home	Insulate the attic to R-48 & perform Bypass air sealing	31,922	1,751	Existing home with average attic area of 823 sq. ft. and R-17 insulation	32,770	1,751	20	$1,524	$1,524	100%	9.3	0.0	1,484	$1.027	$0.051	0.8	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Air Sealing - Gas Heated & Electrically Cooled Home	Perform Bypass air sealing along with Attic Insulation	32,624	490	Existing home with average home size of 1406 sq. ft.	32,685	490	10	$77	$77	100%	23.3	0.0	30	$2.573	$0.257	0.1	0.1	114	3,713	8,749	8,749	8	3,713	8,749	8,749	8	3,713	8,749	8,749
Air Sealing - Electrically Heated & Non-Cooled Home	Perform Bypass air sealing along with Attic Insulation	30,480	1,261	Existing home with average home size of 1406 sq. ft.	31,626	1,261	10	$880	$880	100%	5.5	0.0	1,445	$0.609	$0.061	1.1	0.0	5	7,889	4,401	4,401	0	7,889	4,401	4,401	0	7,889	4,401	4,401
Air Sealing - Electrically Heated & Cooled Home	Perform Bypass air sealing along with Attic Insulation	31,080	1,751	Existing home with average home size of 1406 sq. ft.	31,922	1,751	10	$880	$880	100%	5.4	0.0	1,475	$0.597	$0.060	0.8	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Wall Insulation - Gas Heated and Electricallly Cooled Home	Add Insulation to Walls (R-11 added)	32,580	490	Existing Home with empty wall cavity (assume structure insulation value)	32,770	490	20	$103	$103	100%	10.0	0.0	93	$1.105	$0.055	0.2	0.2	18	1,832	1,855	1,855	4	1,832	1,855	1,855	4	1,832	1,855	1,855
Wall Insulation - Electricallly Heated and Non-Cooled Home	Add Insulation to Walls (R-11 added)	30,208	1,261	Existing Home with empty wall cavity (assume structure insulation value)	32,770	1,261	20	$1,295	$1,295	100%	3.6	0.0	3,230	$0.401	$0.020	2.6	0.0	7	24,686	9,065	9,065	0	24,686	9,065	9,065	0	24,686	9,065	9,065

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
Wall Insulation - Electricallly Heated and Cooled Home	Add Insulation to Walls (R-11 added)	30,872	1,751	Existing Home with empty wall cavity (assume structure insulation value)	32,770	1,751	20	$1,295	$1,295	100%	3.5	0.0	3,324	$0.390	$0.019	1.9	0.2	0	0	0	0	0	0	0	0	0	0	0	0
LEDs - 2017	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	7	$3	$3	100%	0.9	0.0	34	$0.099	$0.014	0.0	0.0	2,400	89,965	8,160	8,160	0	0	0	0	0	0	0	0
LEDs - 2018	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	6	$3	$3	100%	0.9	0.0	34	$0.101	$0.016	0.0	0.0	0	0	0	0	8	89,965	8,285	8,285	0	0	0	0
LEDs - 2019	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	5	$4	$4	100%	0.9	0.0	34	$0.102	$0.020	0.0	0.0	0	0	0	0	0	0	0	0	8	89,965	8,413	8,413
0	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Multi-Family Energy Savings Program																			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Refrigerator Replacement with new Energy Star Refrigerator	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	66	5,592	Top Mounted Freeezer w/ Auto Defrost Refrigerator 22.0 Cf > 15 years	173	5,592	18	$520	$520	100%	7.9	0.0	595	$0.874	$0.049	0.1	0.1	697	452,942	362,440	362,440	52	452,942	362,440	362,440	52	452,942	362,440	362,440
Freezer Replacement with new Energy Star Freezer	Energy Star standard freezer	57	5,592	Existing unit vintage > 15 years old	147	5,592	18	$244	$244	100%	4.4	0.0	508	$0.480	$0.027	0.1	0.1	22	12,210	5,368	5,368	1	12,210	5,368	5,368	1	12,210	5,368	5,368
Refrigerator Removal and Recycling	Removal of second refrigerator	0	0	Existing primary unit - age mostly >15 years	203	5,592	8	$33	$33	100%	0.3	0.0	1,133	$0.029	$0.004	0.2	0.1	11	13,606	363	363	2	13,606	363	363	2	13,606	363	363
Freezer Removal and Recycling	Removal of freezer	0	0	Existing primary unit - age mostly >10 years	206	5,592	6	$33	$33	100%	0.3	0.0	1,155	$0.029	$0.005	0.2	0.1	11	13,865	363	363	2	13,865	363	363	2	13,865	363	363
Window Air Conditioner Replacement with Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	885	662	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	917	662	9	$409	$409	100%	180.2	0.0	21	$19.044	$2.116	0.0	0.0	414	9,717	169,504	169,504	8	9,717	169,504	169,504	8	9,717	169,504	169,504
Window Air Conditioner Removal and Recycling 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	0	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	917	662	5	$33	$33	100%	0.5	0.0	607	$0.054	$0.012	0.9	0.6	0	0	0	0	0	0	0	0	0	0	0
Value LED Bulbs - 2017	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	7	$5	$5	100%	1.4	0.0	34	$0.151	$0.021	0.0	0.0	12,702	476,139	66,050	66,050	0	0	0	0	0	0	0	0
Value LED Bulbs - 2018	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	6	$5	$5	100%	1.4	0.0	34	$0.151	$0.025	0.0	0.0	0	0	0	0	42	476,139	66,050	66,050	0	0	0	0
Value LED Bulbs - 2019	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	5	$5	$5	100%	1.4	0.0	34	$0.151	$0.030	0.0	0.0	0	0	0	0	0	0	0	0	42	476,139	66,050	66,050
Energy Efficient Showerhead	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	87	8,760	2.5 GPM Showerhead	146	8,760	10	$3	$3	100%	0.0	0.0	510	$0.006	$0.001	0.1	0.0	1,920	641,916	5,952	5,952	0	0	0	0	0	0	0	0
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	59	8,760	2.5 GPM Showerhead	98	8,760	10	$3	$3	100%	0.1	0.0	343	$0.009	$0.001	0.0	0.0	1,440	269,730	4,464	4,464	0	0	0	0	0	0	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	18	8,760	2.2 GPM Kitchen Faucet Aerator	26	8,760	10	$2	$2	100%	0.1	0.0	74	$0.020	$0.002	0.0	0.0	1,920	61,867	2,880	2,880	0	0	0	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	6	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$0	$0	100%	0.0	0.0	64	$0.007	$0.001	0.0	0.0	1,920	53,689	922	922	0	0	0	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	6	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$0	$0	100%	0.0	0.0	64	$0.007	$0.001	0.0	0.0	1,440	30,200	691	691	0	0	0	0	0	0	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	87	8,760	2.5 GPM Showerhead	146	8,760	10	$3	$3	100%	0.0	0.0	510	$0.006	$0.001	0.1	0.0	0	0	0	0	47	641,916	6,163	6,163	0	0	0	0
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	59	8,760	2.5 GPM Showerhead	98	8,760	10	$3	$3	100%	0.1	0.0	343	$0.009	$0.001	0.0	0.0	0	0	0	0	20	269,730	4,622	4,622	0	0	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	18	8,760	2.2 GPM Kitchen Faucet Aerator	26	8,760	10	$2	$2	100%	0.1	0.0	74	$0.021	$0.002	0.0	0.0	0	0	0	0	9	61,867	2,995	2,995	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	3	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$2	$2	100%	0.1	0.0	91	$0.018	$0.002	0.0	0.0	0	0	0	0	11	76,060	3,120	3,120	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	3	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$2	$2	100%	0.1	0.0	91	$0.018	$0.002	0.0	0.0	0	0	0	0	6	42,784	2,340	2,340	0	0	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	87	8,760	2.5 GPM Showerhead	146	8,760	10	$3	$3	100%	0.0	0.0	510	$0.007	$0.001	0.1	0.0	0	0	0	0	0	0	0	0	47	641,916	6,374	6,374
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	59	8,760	2.5 GPM Showerhead	98	8,760	10	$3	$3	100%	0.1	0.0	343	$0.010	$0.001	0.0	0.0	0	0	0	0	0	0	0	0	20	269,730	4,781	4,781
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	18	8,760	2.2 GPM Kitchen Faucet Aerator	26	8,760	10	$2	$2	100%	0.1	0.0	74	$0.022	$0.002	0.0	0.0	0	0	0	0	0	0	0	0	9	61,867	3,091	3,091
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	6	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$1	$1	100%	0.0	0.0	64	$0.009	$0.001	0.0	0.0	0	0	0	0	0	0	0	0	8	53,689	1,056	1,056
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	6	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$1	$1	100%	0.0	0.0	64	$0.009	$0.001	0.0	0.0	0	0	0	0	0	0	0	0	4	30,200	792	792
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	3	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$2	$2	100%	0.1	0.0	91	$0.019	$0.002	0.0	0.0	0	0	0	0	0	0	0	0	11	76,060	3,300	3,300
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	3	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$2	$2	100%	0.1	0.0	91	$0.019	$0.002	0.0	0.0	0	0	0	0	0	0	0	0	6	42,784	2,475	2,475
Energy Feedback Residential	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Rollup: Online Group Savings	Treatment	809	8,426	Control	811	8,426	1	$0	$0	#DIV/0!	0.0	0.0	19	$0.000	$0.000	0.0	0.0	26,220	538,606	0	0	55	538,606	0	0	55	538,606	0	0
Rollup: Existing Participant 2017 Savings	Treatment	1,215	4,108	Control	1,267	4,106	1	$0	$0	#DIV/0!	0.0	0.0	212	$0.000	$0.000	0.1	0.1	155,600	35,927,948	0	0	0	0	0	0	0	0	0	0
Rollup: New Participant 2017 Savings	Treatment	1,073	4,156	Control	1,098	4,155	1	$0	$0	#DIV/0!	0.0	0.0	105	$0.000	$0.000	0.0	0.0	74,500	8,504,367	0	0	0	0	0	0	0	0	0	0
Behavioral Adjustment-Online Group Savings	Treatment	-539	8,426	Control	-541	8,426	0	$0	$0	#DIV/0!	0.0	0.0	-13	$0.000	#DIV/0!	0.0	0.0	26,220	-359,071	0	0	-36	-359,071	0	0	-36	-359,071	0	0
Behavioral Adjustments Rollup: Existing Participants 2017 Savings	Treatment	-810	4,108	Control	-845	4,106	0	$0	$0	#DIV/0!	0.0	0.0	-141	$0.000	#DIV/0!	0.0	0.0	155,600	-23,951,965	0	0	0	0	0	0	0	0	0	0
Behavioral Adjustments Rollup: New Participant 2017 Savings	Treatment	-715	4,156	Control	-732	4,155	0	$0	$0	#DIV/0!	0.0	0.0	-70	$0.000	#DIV/0!	0.0	0.0	74,500	-5,669,578	0	0	0	0	0	0	0	0	0	0
Efficient New Home Construction	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Low Income Envelope Improvements - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 1773 and Average 12.7% Better Than Code	12,586	678	Reference Home Based upon Local Code	12,686	678	20	$34	$80	42%	10.0	5.8	68	$0.494	$0.025	0.1	0.1	25	1,850	837	1,993	2	1,850	837	1,993	2	1,850	837	1,993
10% to 15% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3630 and Average 13.1% Better Than Code	43,895	269	Reference Home Based upon Local Code	44,223	269	20	$31	$157	19%	15.1	12.2	88	$0.346	$0.017	0.3	0.3	200	19,233	6,100	31,368	65	19,233	6,100	31,368	65	19,233	6,100	31,368
15% to 20% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3834 and Average 17.4% Better Than Code	35,432	339	Reference Home Based upon Local Code	35,843	339	20	$57	$258	22%	15.7	12.2	139	$0.409	$0.020	0.4	0.4	376	57,255	21,432	96,969	153	57,255	21,432	96,969	153	57,255	21,432	96,969
20% to 25% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4439 and Average 21.3% Better Than Code	22,868	564	Reference Home Based upon Local Code	23,421	564	20	$122	$417	29%	11.3	8.0	312	$0.391	$0.020	0.6	0.5	144	49,060	17,568	60,098	79	49,060	17,568	60,098	79	49,060	17,568	60,098

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
25% to 30% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5711 and Average 25.9% Better Than Code	45,217	349	Reference Home Based upon Local Code	46,217	349	20	$160	$630	25%	15.3	11.4	349	$0.458	$0.023	1.0	1.0	40	15,218	6,384	25,182	39	15,218	6,384	25,182	39	15,218	6,384	25,182
30% to 35% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5613 and Average 32.7% Better Than Code	6,876	2,660	Reference Home Based upon Local Code	10,209	2,660	20	$774	$4,054	19%	3.9	3.1	8,866	$0.087	$0.004	3.3	1.1	40	387,180	30,960	162,168	43	387,180	30,960	162,168	43	387,180	30,960	162,168
35% and greater improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4362 and Average 35.8% Better Than Code	4,393	2,419	Reference Home Based upon Local Code	5,893	2,419	20	$432	$2,184	20%	5.1	4.1	3,629	$0.119	$0.006	1.5	0.6	0	0	0	0	0	0	0	0	0	0	0	0
10% to 15% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3630 and Average 8.1% Better Than Code	20,147	620	Reference Home Based upon Local Code	20,556	620	20	$100	$158	63%	5.3	2.0	254	$0.394	$0.020	0.4	0.4	201	55,663	20,100	31,835	81	55,663	20,100	31,835	81	55,663	20,100	31,835
15% to 20% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3834 and Average 13.2% Better Than Code	21,509	565	Reference Home Based upon Local Code	21,970	565	20	$100	$259	39%	8.4	5.2	261	$0.384	$0.019	0.5	0.5	717	204,039	71,700	185,994	326	204,039	71,700	185,994	326	204,039	71,700	185,994
20% to 25% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4439 and Average 17.5% Better Than Code	20,709	613	Reference Home Based upon Local Code	21,257	613	20	$100	$419	24%	10.6	8.0	336	$0.298	$0.015	0.5	0.5	220	80,709	22,000	92,106	119	80,709	22,000	92,106	119	80,709	22,000	92,106
25% to 30% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5711 and Average 21.3% Better Than Code	45,217	349	Reference Home Based upon Local Code	46,217	349	20	$100	$630	16%	15.3	12.9	349	$0.287	$0.014	1.0	1.0	61	23,208	6,100	38,402	60	23,208	6,100	38,402	60	23,208	6,100	38,402
30% to 35% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5613 and Average 25.9% Better Than Code	6,876	2,660	Reference Home Based upon Local Code	10,209	2,660	20	$100	$4,054	2%	3.9	3.8	8,866	$0.011	$0.001	3.3	1.1	0	0	0	0	0	0	0	0	0	0	0	0
35% and greater improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4362 and Average 32.7% Better Than Code	4,393	2,419	Reference Home Based upon Local Code	5,893	2,419	20	$100	$2,184	5%	5.1	4.9	3,629	$0.028	$0.001	1.5	0.6	0	0	0	0	0	0	0	0	0	0	0	0
Energy Star Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Clothes Washer	370	295	Standard Clothes Washer	477	295	11	$10	$30	33%	2.2	1.5	32	$0.316	$0.029	0.1	0.0	1	35	10	30	0	35	10	30	0	35	10	30
Energy Star Clothes Washer - Electric Only Customers w/ Electric DHW	Energy Star Clothes Washer	370	295	Standard Clothes Washer	477	295	11	$10	$30	33%	2.2	1.5	32	$0.316	$0.029	0.1	0.0	345	11,904	3,450	10,350	1	11,904	3,450	10,350	1	11,904	3,450	10,350
Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	111	295	Standard Clothes Washer	132	295	11	$3	$10	33%	0.9	0.6	6	$0.514	$0.047	0.0	0.0	256	1,767	832	2,496	0	1,767	832	2,496	0	1,767	832	2,496
Energy Star Clothes Washer - Electric Only Customers w/ Gas DHW	Energy Star Clothes Washer	111	295	Standard Clothes Washer	132	295	11	$10	$10	103%	0.9	0.0	6	$1.582	$0.144	0.0	0.0	1	7	10	10	0	7	10	10	0	7	10	10
Energy Star Refrigerator	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	66	5,592	Top Mounted Freeezer w/ Auto Defrost Standard refrigerator 22.0 Cf	74	5,592	18	$15	$26	58%	5.4	2.3	41	$0.364	$0.020	0.0	0.0	1,000	45,000	15,000	26,040	5	45,000	15,000	26,040	5	45,000	15,000	26,040
Residential Heating	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
EC Fan Motor on Retrofit Residential Furnace with AC	ECM Furnace Fan	357	2,542	Non-ECM Fan	569	2,542	7	$100	$212	47%	4.3	2.3	539	$0.186	$0.027	0.2	0.1	50	29,421	5,000	10,600	7	29,421	5,000	10,600	7	29,421	5,000	10,600
EC Fan Motor on Retrofit Residential Furnace no AC	ECM Furnace Fan	298	2,133	Non-ECM Fan	501	2,133	7	$100	$212	47%	5.6	2.9	433	$0.231	$0.033	0.2	0.1	50	23,635	5,000	10,600	3	23,635	5,000	10,600	3	23,635	5,000	10,600
EC Fan Motor on new Residential Furnace with AC	ECM Furnace Fan	390	3,556	Non-ECM Fan	579	3,556	18	$100	$212	47%	3.5	1.9	672	$0.149	$0.008	0.2	0.1	8,900	6,529,258	890,000	1,886,800	1,310	6,529,258	890,000	1,886,800	1,310	6,529,258	890,000	1,886,800
EC Fan Motor on new Residential Furnace no AC	ECM Furnace Fan	301	2,783	Non-ECM Fan	504	2,783	18	$100	$212	47%	4.4	2.3	565	$0.177	$0.010	0.2	0.1	1,000	616,812	100,000	212,000	60	616,812	100,000	212,000	60	616,812	100,000	212,000
Home Energy Squad	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
NEC Energy Squad Service 2017	weighted average Energy Efficient measures by participant	63	955	weighted average Baseline measures by participant	104	955	7		$3	0%	0.5	0.5	40	$0.000	$0.000	0.0	0.0	50,831	2,218,264	0	154,000	0	0	0	0	0	0	0	0
NEC Energy Squad Service 2018	weighted average Energy Efficient measures by participant	63	955	weighted average Baseline measures by participant	104	955	6		$3	0%	0.5	0.5	40	$0.000	$0.000	0.0	0.0	0	0	0	0	230	2,218,264	0	154,000	0	0	0	0
NEC Energy Squad Service 2019	weighted average Energy Efficient measures by participant	63	955	weighted average Baseline measures by participant	104	955	5		$3	0%	0.5	0.5	40	$0.000	$0.000	0.0	0.0	0	0	0	0	0	0	0	0	230	2,218,264	0	154,000
NEC - TV peripherals turned off with Timer	TV peripherals turned off with Timer (replacing power strip)	2	4,420	Power used in "standby" mode while equipment is unused	28	4,420	5	$0	$20	0%	1.5	1.5	115	$0.000	$0.000	0.0	0.0	1	120	0	19	0	120	0	19	0	120	0	19
Install Second Programmable Thermostat	Second T-state w/ Auto setup by 1 F for cooling assume 3 ton AC, 10 SEER	1,504	442	Base modeled home w/ 10 SEER AC and no setup temp	1,565	449	10	$0	$30	0%	1.0	1.0	38	$0.000	$0.000	0.1	0.1	17	709	0	518	1	709	0	518	1	709	0	518
CEE Energy Squad Service 2017	weighted average Energy Efficient measures by participant	83	973	weighted average Baseline measures by participant	125	973	7		$0	0%	0.1	0.1	41	$0.000	$0.000	0.0	0.0	41,688	1,875,592	0	19,495	0	0	0	0	0	0	0	0
CEE Energy Squad Service 2018	weighted average Energy Efficient measures by participant	83	973	weighted average Baseline measures by participant	125	973	6		$0	0%	0.1	0.1	41	$0.000	$0.000	0.0	0.0	0	0	0	0	205	1,875,592	0	16,660	0	0	0	0
CEE Energy Squad Service 2019	weighted average Energy Efficient measures by participant	83	973	weighted average Baseline measures by participant	125	973	6		$0	0%	0.1	0.1	41	$0.000	$0.000	0.0	0.0	0	0	0	0	0	0	0	0	205	1,875,592	0	14,805
CEE - TV peripherals turned off with Timer	TV peripherals turned off with Timer (replacing power strip)	2	4,420	Power used in "standby" mode while equipment is unused	28	4,420	5	$0	$20	0%	1.5	1.5	115	$0.000	$0.000	0.0	0.0	1	139	0	22	0	139	0	22	0	139	0	22
CEE - Install Second Programmable Thermostat	Second T-state w/ Auto setup by 1 F for cooling assume 3 ton AC, 10 SEER	1,504	442	Base modeled home w/ 10 SEER AC and no setup temp	1,565	449	10	$0	$9	0%	2.0	2.0	38	$0.000	$0.000	0.1	0.1	20	821	0	181	1	821	0	181	1	821	0	181
Home Lighting																			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Average CFL	Average CFL	15	854	Average EISA Standard Halogen A-Style Bulb	48	854	7	$1	$1	119%	0.3	-0.1	29	$0.044	$0.006	0.0	0.0	35,015	1,093,519	44,119	37,081	0	0	0	0	0	0	0	0
Average CFL	Average CFL	15	6,148	Average EISA Standard Halogen A-Style Bulb	48	6,148	2	$1	$1	119%	0.0	0.0	206	$0.006	$0.004	0.0	0.0	2,235	502,488	2,816	2,367	0	0	0	0	0	0	0	0
Average LED Bulb	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	7	$3	$7	38%	1.9	1.2	34	$0.080	$0.011	0.03777	0.00331	1,021,780	38,301,782	2,789,459	7,324,229	0	0	0	0	0	0	0	0
Average LED Bulb	Average LED Bulb	10	6,148	Average EISA Standard Halogen A-Style Bulb	48	6,148	3	$3	$7	38%	0.3	0.2	232	$0.012	$0.004	0.0	0.0	65,220	16,535,310	178,051	467,504	0	0	0	0	0	0	0	0
Average Value LED Bulb	Average Value LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	43	909	7	$2	$2	68%	0.7	0.2	30	$0.049	$0.007	0.0	0.0	846,000	27,998,490	1,269,000	1,876,313	0	0	0	0	0	0	0	0
Average Value LED Bulb	Average Value LED Bulb	10	6,148	Average EISA Standard Halogen A-Style Bulb	43	6,148	2	$2	$2	68%	0.1	0.0	205	$0.007	$0.004	0.0	0.0	54,000	12,087,263	81,000	119,765	0	0	0	0	0	0	0	0
Whole Home Efficiency	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
EC Fan Motor on new Residential Furnace with AC	ECM Furnace Fan	390	3,556	Non-ECM Fan	579	3,556	18	$125	$212	59%	3.5	1.5	672	$0.186	$0.010	0.2	0.1	30	22,009	3,750	6,360	4	22,009	3,750	6,360	4	22,009	3,750	6,360

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
EC Fan Motor on new Residential Furnace no AC	ECM Furnace Fan	301	2,783	Non-ECM Fan	504	2,783	18	$125	$212	59%	4.4	1.8	565	$0.221	$0.012	0.2	0.1	10	6,168	1,250	2,120	1	6,168	1,250	2,120	1	6,168	1,250	2,120
EC Fan Motor on Retrofit Residential Furnace with AC	ECM Furnace Fan	357	2,542	Non-ECM Fan	569	2,542	7	$125	$212	59%	4.3	1.7	539	$0.232	$0.033	0.2	0.1	20	11,769	2,500	4,240	3	11,769	2,500	4,240	3	11,769	2,500	4,240
EC Fan Motor on Retrofit Residential Furnace no AC	ECM Furnace Fan	298	2,133	Non-ECM Fan	501	2,133	7	$125	$212	59%	5.6	2.3	433	$0.289	$0.041	0.2	0.1	5	2,364	625	1,060	0	2,364	625	1,060	0	2,364	625	1,060
Installation of new AC 15 SEER 2.5 tons	Non - Quality Installation of 15 SEER 2.5 tons	2,479	435	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	2,732	456	15	$200	$461	43%	25.2	14.3	166	$1.205	$0.080	0.3	0.2	2	362	400	921	0	362	400	921	0	362	400	921
Installation of new AC 16 SEER 2.5 tons	Non - Quality Installation of 16 SEER 2.5 tons	2,380	425	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	2,732	456	15	$300	$691	43%	26.9	15.2	233	$1.286	$0.086	0.4	0.3	10	2,547	3,000	6,910	3	2,547	3,000	6,910	3	2,547	3,000	6,910
Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Quality Installation of 13 - 14.5 SEER 2.5 tons	2,318	421	Non-Quality Installation of 2.5 Ton AC 13 - 14.5 SEER 2.5 tons	2,620	447	15	$175	$152	115%	7.1	-1.1	196	$0.894	$0.060	0.3	0.3	5	1,069	875	761	1	1,069	875	761	1	1,069	875	761
Provide Quality Installation of new AC 15 SEER 2.5 tons	Quality Installation of 15 SEER 2.5 tons	2,195	409	Non-Quality Installation of 2.5 Ton AC 15 SEER 2.5 tons	2,479	435	15	$175	$121	144%	6.1	-2.7	180	$0.971	$0.065	0.3	0.3	2	394	350	243	1	394	350	243	1	394	350	243
Provide Quality Installation of new AC 16 SEER 2.5 tons	Quality Installation of 16 SEER 2.5 tons	2,109	399	Non-Quality Installation of 2.5 Ton AC 16 SEER 2.5 tons	2,380	425	15	$175	$98	178%	5.3	-4.1	169	$1.036	$0.069	0.3	0.3	10	1,845	1,750	984	3	1,845	1,750	984	3	1,845	1,750	984
Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	111	295	Standard Clothes Washer	132	295	11	$2	$7	33%	2.3	1.5	6	$0.363	$0.033	0.0	0.0	15	104	34	103	0	104	34	103	0	104	34	103
Refrigerator Replacement	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	66	5,592	Top Mounted Freeezer w/ Auto Defrost Standard refrigerator 22.0 Cf	74	5,592	18	$15	$26	58%	5.7	2.4	41	$0.364	$0.020	0.0	0.0	20	900	300	521	0	900	300	521	0	900	300	521
Attic Insulation in Gas Heated Homes With Cooling - Combo Customer	Home with additional insulation	3,880	490	Home with R20 or less existing Insulation	4,000	490	20	$39	$263	15%	40.7	34.7	59	$0.664	$0.033	0.1	0.1	100	6,404	3,896	26,267	13	6,404	3,896	26,267	13	6,404	3,896	26,267
Wall Insulation in Gas Heated Homes With Cooling - Combo Customer	R-11 insulation	3,682	490	Baseline assumes R-0 in wall cavities as existing level	4,000	490	20	$34	$249	14%	14.5	12.6	156	$0.217	$0.011	0.3	0.3	120	20,429	4,057	29,901	42	20,429	4,057	29,901	42	20,429	4,057	29,901
Air Sealing T2 - 25% - Gas Heated Homes With Cooling - Combo Customer	Home with Tier 2 Air Sealing - Average 27% reduction	7,787	490	Existing Home Without Air Sealing	8,000	490	10	$28	$163	17%	14.2	11.8	104	$0.268	$0.027	0.2	0.2	40	4,562	1,120	6,524	9	4,562	1,120	6,524	9	4,562	1,120	6,524
Air Sealing T3 - 30% - Gas Heated Homes With Cooling - Combo Customer	Home with Tier 3 Air Sealing - average 42% reduction	7,524	490	Existing Home Without Air Sealing	8,000	490	10	$19	$131	15%	5.1	4.4	233	$0.083	$0.008	0.5	0.5	70	17,819	1,350	9,194	37	17,819	1,350	9,194	37	17,819	1,350	9,194
Programmable Thermostat (Install and Program)	New T-stat w/ Auto setup by 1.2 F for cooling assume 3 ton AC, 10 SEER	3,008	442	Base modeled home w/ 10 SEER AC and no setup temp	3,130	449	10	$2	$8	31%	0.9	0.6	75	$0.031	$0.003	0.1	0.1	40	3,285	94	302	4	3,285	94	302	4	3,285	94	302
Energy Efficient Showerhead in home with electric DHW (Direct Install)	1.5 GPM Showerhead	87	8,760	2.5 GPM Showerhead	146	8,760	10	$4	$4	100%	0.0	0.0	510	$0.007	$0.001	0.1	0.0	12	6,687	45	45	0	6,687	45	45	0	6,687	45	45
Energy Efficient Bathroom Aerator in home with electric DHW (Direct Install	1.5 GPM Kitchen Faucet Aerator	18	8,760	2.2 GPM Kitchen Faucet Aerator	26	8,760	10	$1	$1	100%	0.1	0.0	74	$0.014	$0.001	0.0	0.0	18	1,450	18	18	0	1,450	18	18	0	1,450	18	18
Energy Efficient Kitchen Aerator in home with electric DHW (Direct Install)	1.0 GPM Bathroom Faucet Aerator	6	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$2	$2	100%	0.2	0.0	64	$0.031	$0.003	0.0	0.0	12	839	24	24	0	839	24	24	0	839	24	24
Energy Efficient Bathroom Aerator in home with electric DHW (Direct Install)	0.5 GPM Bathroom Faucet Aerator	3	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$1	$1	0%	0.1	0.1	91	$0.000	$0.000	0.0	0.0	0	0	0	0	0	396	0	4	0	396	0	4
Water heater blankets (direct install)	Add commercial Insulation wrap R8 around Water Heater Tank	40	8,760	No External Insulation on water heater	69	8,760	7	$23	$23	100%	0.8	0.0	254	$0.092	$0.014	0.0	0.0	25	6,936	587	587	1	6,936	587	587	1	6,936	587	587
Average Value LED Bulb - 2017 (Direct Install)	Average Value LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	43	909	7	$3	$3	100%	0.8	0.0	30	$0.091	$0.013	0.0	0.0	1,600	52,952	4,400	4,400	0	0	0	0	0	0	0	0
Average Value LED Bulb - 2018 (Direct Install)	Average Value LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	43	909	6	$3	$3	100%	0.8	0.0	30	$0.091	$0.015	0.0	0.0	0	0	0	0	5	52,952	4,400	4,400	0	0	0	0
Average Value LED Bulb - 2019 (Direct Install)	Average Value LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	43	909	5	$3	$3	100%	0.8	0.0	30	$0.091	$0.018	0.0	0.0	0	0	0	0	0	0	0	0	5	52,952	4,400	4,400
Mini-Split Heat Pump	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	5	0	0	0	0	0	0	0	0	0	0	0
≤ 50 pints/day dehumidifier	ENERGY STAR Dehumidifier - low capacity	389	1,620	Standard efficiency dehumidifier (Current Federal Standard)	519	1,620	12	$25	$50	50%	2.2	1.1	211	$0.119	$0.010	0.1	0.1	0	0	0	0	2	3,570	388	776	2	3,570	388	776
>50 pints/day dehumidifier	ENERGY STAR Dehumidifier - high capacity	647	1,620	Standard efficiency dehumidifier (Current Federal Standard)	757	1,620	12	$25	$48	52%	2.5	1.2	178	$0.140	$0.012	0.1	0.1	0	0	0	0	2	2,534	326	631	2	2,534	326	631
Insulation Rebate	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Electric Heat Homes Without Cooling	Home with additional insulation	5,936	1,261	Home with R20 or less existing Insulation	8,000	1,261	20	$297	$2,077	14%	7.3	6.2	2,602	$0.114	$0.006	2.1	0.0	20	56,816	5,934	41,539	0	62,497	6,528	45,693	0	65,338	6,824	47,770
Electric Heat Homes With Cooling	Home with additional insulation	6,687	1,751	Home with R20 or less existing Insulation	8,000	1,751	20	$288	$1,682	17%	6.7	5.5	2,299	$0.125	$0.006	1.3	0.1	30	75,301	8,631	50,449	4	77,811	8,919	52,130	5	87,851	10,070	58,857
Gas Heat Homes With Cooling, Combo Customer	Home with additional insulation	3,880	490	Home with R20 or less existing Insulation	4,000	490	20	$292	$1,966	15%	22.5	19.1	59	$4.971	$0.249	0.1	0.1	325	20,814	94,766	638,980	43	20,942	95,349	642,912	46	22,415	102,055	688,132
Electric Heat Homes Without Cooling	R-11 insulation	392	1,261	Baseline assumes R-0 in wall cavities as existing level	8,000	1,261	20	$276	$3,935	7%	3.7	3.5	9,594	$0.029	$0.001	7.6	0.0	65	680,788	17,916	255,777	0	733,156	19,294	275,452	0	890,261	23,428	334,477
Electric Heat Homes With Cooling	R-11 insulation	-665	1,751	Baseline assumes R-0 in wall cavities as existing level	8,000	1,751	20	$300	$1,751	17%	1.0	0.9	15,173	$0.020	$0.001	8.7	1.0	10	165,640	3,000	17,509	21	364,408	6,600	38,521	28	480,356	8,700	50,777
Gas Heat Homes With Cooling, Combo Customer	R-11 insulation	3,682	490	Baseline assumes R-0 in wall cavities as existing level	4,000	490	20	$253	$1,865	14%	8.0	6.9	156	$1.623	$0.081	0.3	0.3	111	18,897	28,087	207,024	40	19,408	28,846	212,619	42	20,429	30,364	223,810
Electric Heat Homes Without Cooling	Home with Tier 2 Air Sealing	3,481	1,261	Existing Home Without Air Sealing	8,000	1,261	10	$131	$2,338	6%	3.7	3.5	5,699	$0.023	$0.002	4.5	0.0	7	43,547	919	16,368	0	62,211	1,313	23,383	0	93,316	1,969	35,074
Electric Heat Homes With Cooling	Home with Tier 2 Air Sealing	4,980	1,751	Existing Home Without Air Sealing	8,000	1,751	10	$135	$635	21%	1.1	0.9	5,289	$0.026	$0.003	3.0	0.2	6	34,641	810	3,809	2	46,189	1,080	5,079	3	63,509	1,485	6,983
Gas Heat Homes With Cooling, Combo Customer	Home with Tier 2 Air Sealing	3,781	490	Existing Home Without Air Sealing	4,000	490	10	$143	$874	16%	4.0	3.3	107	$1.330	$0.133	0.2	0.2	140	16,385	19,964	122,310	35	16,970	20,677	126,679	36	17,438	21,247	130,173
Refrigerator Recycling	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Remove refrigerator from service and recycle	removal of refrigerator	0	0	existing secondary unit - age mostly >10 years	170	5,592	9	$35	$0	#DIV/0!	0.0	-0.3	953	$0.037	$0.004	0.2	0.1	5,750	5,979,693	201,250	0	692	6,031,691	203,000	0	715	6,239,680	210,000	0
Remove freezer from service and recycle	removal of freezer	0	0	existing freezer unit - age mostly >10 years	206	5,592	6	$35	$0	#DIV/0!	0.0	-0.3	1,155	$0.030	$0.005	0.2	0.1	900	1,134,437	31,500	0	130	1,134,437	31,500	0	130	1,134,437	31,500	0
Residential Cooling	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Installation of new AC 15 SEER 2.5 tons	Non - Quality Installation of 15 SEER 2.5 tons	2,439	412	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	2,683	432	15	$200	$461	43%	27.1	15.3	155	$1.294	$0.086	0.2	0.24112	10	1,688	2,000	4,606	2	1,688	2,000	4,606	2	1,688	2,000	4,606
Installation of new AC 16 SEER 2.5 tons	Non - Quality Installation of 16 SEER 2.5 tons	2,344	402	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	2,683	432	15	$300	$691	43%	28.9	16.4	217	$1.380	$0.092	0.3	0.33514	25	5,933	7,500	17,274	8	5,695	7,200	16,583	8	5,695	7,200	16,583
Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Quality Installation of 13 - 14.5 SEER 2.5 tons	2,576	386	Non-Quality Installation of 13 - 14.5 SEER 2.5 tons	2,576	424	15	$150	$117	128%	10.8	-3.1	98	$1.527	$0.102	0.0	0.00000	38	4,074	5,700	4,444	0	3,860	5,400	4,210	0	3,967	5,550	4,327
Provide Quality Installation of new AC 15 SEER 2.5 tons	Quality Installation of 15 SEER 2.5 tons	2,439	375	Non-Quality Installation of 15 SEER 2.5 tons	2,439	412	15	$150	$117	128%	11.8	-3.3	90	$1.659	$0.111	0.0	0.00000	10	987	1,500	1,170	0	987	1,500	1,170	0	987	1,500	1,170
Provide Quality Installation of new AC 16 SEER 2.5 tons	Quality Installation of 16 SEER 2.5 tons	2,344	366	Non-Quality Installation of 16 SEER 2.5 tons	2,344	402	15	$150	$117	128%	12.5	-3.5	85	$1.769	$0.118	0.0	0.00000	25	2,314	3,750	2,924	0	2,221	3,600	2,807	0	2,221	3,600	2,807
Installation of new AC 15 SEER 2.5 tons	Non - Quality Installation of 15 SEER 2.5 tons	2,479	435	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	2,732	456	15	$200	$461	43%	25.2	14.3	166	$1.205	$0.080	0.3	0.24931	1,782	322,793	356,400	820,834	427	309,932	342,200	788,129	433	314,460	347,200	799,645
Installation of new AC 16 SEER 2.5 tons	Non - Quality Installation of 16 SEER 2.5 tons	2,380	425	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	2,732	456	15	$300	$691	43%	26.9	15.2	233	$1.286	$0.086	0.4	0.34685	4,894	1,246,645	1,468,200	3,381,509	1,636	1,201,303	1,414,800	3,258,520	1,657	1,217,096	1,433,400	3,301,359
Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Quality Installation of 13 - 14.5 SEER 2.5 tons	2,318	421	Non-Quality Installation of 2.5 Ton AC 13 - 14.5 SEER 2.5 tons	2,620	447	15	$150	$152	99%	7.1	0.1	196	$0.766	$0.051	0.3021	0.29817	4,840	1,034,462	726,000	736,273	1,391	997,273	699,900	709,804	1,409	1,010,310	709,050	719,083
Provide Quality Installation of new AC 15 SEER 2.5 tons	Quality Installation of 15 SEER 2.5 tons	2,195	409	Non-Quality Installation of 2.5 Ton AC 15 SEER 2.5 tons	2,479	435	15	$150	$121	124%	6.1	-1.4	180	$0.832	$0.055	0.2838	0.28003	1,782	350,664	267,300	216,362	479	336,692	256,650	207,741	486	341,612	260,400	210,776
Provide Quality Installation of new AC 16 SEER 2.5 tons	Quality Installation of 16 SEER 2.5 tons	2,109	399	Non-Quality Installation of 2.5 Ton AC 16 SEER 2.5 tons	2,380	425	15	$150	$98	152%	5.3	-2.8	169	$0.888	$0.059	0.2707	0.26711	4,894	902,855	734,100	481,484	1,260	870,018	707,400	463,972	1,276	881,456	716,700	470,072
Installation of new ASHP 15 SEER ASHP 2.5 Tons	Non - Quality Installation of 15 SEER ASHP 2.5 Tons	2,439	412	Non-Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	2,551	422	15	$200	$457	44%	57.9	32.6	72	$2.787	$0.186	0.1120	0.11052	1	78	200	457	0	78	200	457	0	78	200	457
Installation of new ASHP 16 SEER ASHP 2.5 Tons	Non - Quality Installation of 16 SEER ASHP 2.5 Tons	2,344	402	Non-Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	2,551	422	15	$300	$914	33%	61.8	41.5	135	$2.229	$0.149	0.2073	0.20454	1	147	300	914	0	147	300	914	0	147	300	914
Provide Quality Installation of new ASHP 14 SEER (Baseline) ASHP 2.5 Tons	Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	2,551	384	Non-Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	2,551	422	15	$150	$117	128%	11.0	-3.1	97	$1.548	$0.103	0.0000	0.00000	1	106	150	117	0	106	150	117	0	106	150	117

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)	2017 Units (-)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																		2,359,894	385,711,816	35,722,901	106,208,065	98,057	386,074,175	36,375,859	104,905,155	98,973	385,594,587	37,033,870	106,066,515
Provide Quality Installation of new ASHP 15 SEER ASHP 2.5 Tons	Quality Installation of 15 SEER ASHP 2.5 Tons	2,439	375	Non-Quality Installation of 15 SEER ASHP 2.5 Tons	2,439	412	15	$150	$117	128%	11.8	-3.3	90	$1.659	$0.111	0.0000	0.00000	1	99	150	117	0	99	150	117	0	99	150	117
Provide Quality Installation of new ASHP 16 SEER ASHP 2.5 Tons	Quality Installation of 16 SEER ASHP 2.5 Tons	2,344	366	Non-Quality Installation of 16 SEER ASHP 2.5 Tons	2,344	402	15	$150	$117	128%	12.5	-3.5	85	$1.769	$0.118	0.0	0.00000	1	93	150	117	0	93	150	117	0	93	150	117
Installation of new ASHP 15 SEER ASHP 2.5 Tons	Non - Quality Installation of ASHP 15 SEER ASHP 2.5 Tons	2,479	435	Non-Quality Installation of ASHP 14 SEER (Baseline) ASHP 2.5 Tons	2,595	445	15	$200	$457	44%	53.9	30.3	77	$2.596	$0.173	0.1	0.11439	14	1,177	2,800	6,397	1	1,093	2,600	5,940	2	1,177	2,800	6,397
Installation of new ASHP 16 SEER ASHP 2.5 Tons	Non - Quality Installation of ASHP 16 SEER ASHP 2.5 Tons	2,380	425	Non-Quality Installation of ASHP 14 SEER (Baseline) ASHP 2.5 Tons	2,595	445	15	$300	$914	33%	57.5	38.6	144	$2.077	$0.138	0.2	0.21194	25	3,942	7,500	22,845	5	3,785	7,200	21,931	5	3,942	7,500	22,845
Provide Quality Installation of new ASHP 14 SEER (Baseline) ASHP 2.5 Tons	Quality Installation of 2.5 Ton ASHP 14 SEER (Baseline) ASHP 2.5 Tons	2,296	419	Non-Quality Installation of 2.5 Ton ASHP 14 SEER (Baseline) ASHP 2.5 Tons	2,595	445	15	$150	$79	190%	3.7	-3.4	193	$0.777	$0.052	0.3	0.29496	4	843	600	315	1	843	600	315	1	843	600	315
Provide Quality Installation of new ASHP 15 SEER ASHP 2.5 Tons	Quality Installation of 2.5 Ton ASHP 15 SEER ASHP 2.5 Tons	2,195	409	Non-Quality Installation of 2.5 Ton ASHP 15 SEER ASHP 2.5 Tons	2,479	435	15	$150	$75	200%	3.8	-3.8	180	$0.832	$0.055	0.3	0.28003	3	590	450	225	1	590	450	225	1	590	450	225
Provide Quality Installation of new ASHP 16 SEER ASHP 2.5 Tons	Quality Installation of 2.5 Ton ASHP 16 SEER ASHP 2.5 Tons	2,109	399	Non-Quality Installation of 2.5 Ton ASHP 16 SEER ASHP 2.5 Tons	2,380	425	15	$150	$75	200%	4.0	-4.0	169	$0.888	$0.059	0.3	0.26711	14	2,583	2,100	1,050	6	4,428	3,600	1,800	7	4,612	3,750	1,875
Installation of High Efficiency GSHP equipment New/Existing Home	Quality Installation of 2 Ton, closed loop, 14.1 EER GSHP	1,702	414	Non-Quality Installation of 2 Ton 13 SEER AC	2,185	524	20	$300	$1,168	26%	24.2	18.0	440	$0.682	$0.034	0.5	0.47673	68	32,632	20,400	79,424	31	31,193	19,500	75,920	31	31,673	19,800	77,088
Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 10.50 HSPF	1,088	1,216	MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	1,647	1,216	18	$200	$512	39%	6.9	4.2	680	$0.294	$0.016	0.6	0.55159	150	111,276	30,000	76,854	83	111,276	30,000	76,854	83	111,276	30,000	76,854
School Education Kits	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
9 Watt LED Bulbs - 2017	High efficiency LED lighting (2 at 9W)	18	909	Incandescent light bulb	86	909	7	$6	$6	100%	0.9	0.0	62	$0.103	$0.015	0.1	0.0	14,000	519,599	89,320	89,320	0	0	0	0	0	0	0	0
11 Watt LED Bulbs - 2017	High efficiency LED lighting (2 at 11W)	22	909	Incandescent light bulb	106	909	7	$10	$10	100%	1.1	0.0	76	$0.126	$0.018	0.1	0.0	14,000	641,857	134,680	134,680	0	0	0	0	0	0	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with Unknown DHW heater - 2017	1.5 GPM Showerhead	87	8,760	2.5 GPM Showerhead	146	8,760	10	$3	$3	100%	0.0	0.0	510	$0.006	$0.001	0.1	0.0	1,680	327,645	5,416	5,416	0	0	0	0	0	0	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2017	1.5 GPM Kitchen Faucet Aerator	18	8,760	2.2 GPM Kitchen Faucet Aerator	26	8,760	10	$1	$1	100%	0.1	0.0	74	$0.016	$0.002	0.0	0.0	1,680	40,600	2,042	2,042	0	0	0	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2017	1.0 GPM Bathroom Faucet Aerator	6	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$0	$0	100%	0.0	0.0	64	$0.008	$0.001	0.0	0.0	1,680	29,361	813	813	0	0	0	0	0	0	0	0
Self Direct	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Average Project	New Equipment	828,135	2,876	Old or less efficient systems or equipment	1,150,184	2,876	17	$173,612	$503,145	35%	6.9	4.5	926,303	$0.187	$0.011	322.0	217.2	0	0	0	0	0	0	0	0	0	0	0	0
LI Home Energy Squad	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Squad Service 2017	Weighted Average of 2017 LI Squad Services	63	965	Existing Home	104	965	7	$0	$0	#DIV/0!	0.0	0.0	39	$0.000	$0.000	0.0	0.0	31,942	1,374,942	0	0	0	0	0	0	0	0	0	0
Energy Star Retail Products	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Sound Bars	ENERGY STAR ® + 50%	3	8,760	Industry Standard	10	8,760	7	$15	$0	#DIV/0!	0.0	-2.1	66	$0.227	$0.032	0.0	0.0	2,614	188,345	39,210	0	32	282,590	58,830	0	39	339,079	70,590	0
Freezers	ENERGY STAR ®	58	4,818	Industry Standard	65	4,818	11	$20	$10	198%	3.0	-2.9	31	$0.640	$0.058	0.0	0.0	1,160	39,573	23,200	11,730	7	59,360	34,800	17,595	8	71,232	41,760	21,114
Gas Clothes Dryers	ENERGY STAR ®	121	283	Industry Standard	149	283	12	$5	$26	19%	30.2	24.6	8	$0.614	$0.051	0.0	0.0	582	4,920	2,767	14,953	0	7,379	4,151	22,429	1	8,859	4,963	26,925
Electric Clothes Dryers	ENERGY STAR ®	2,150	283	Industry Standard	2,717	283	12	$50	$225	22%	12.8	9.9	160	$0.312	$0.026	0.6	0.0	4,963	869,266	248,150	1,116,228	76	1,303,812	372,200	1,674,230	91	1,564,609	446,650	2,009,121
Air Cleaners	ENERGY STAR ®	54	5,840	Industry Standard	91	5,840	9	$20	$56	36%	2.4	1.5	214	$0.094	$0.010	0.0	0.0	2,244	523,971	44,880	125,664	135	785,957	67,320	188,496	162	943,101	80,780	226,184
Room Air Conditioners (MN)	ENERGY STAR ®	848	662	Industry Standard	922	662	9	$10	$114	9%	22.9	20.9	49	$0.205	$0.023	0.1	0.1	7,539	401,119	75,390	862,839	822	601,651	113,080	1,294,201	986	721,950	135,690	1,552,972
Clothes Washer	Clothes Washer	0	0	0	0	0	11	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	286	#DIV/0!	#DIV/0!	0.0	0.032	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerators	Refrigerators	0	0	0	0	0	18	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	67	#DIV/0!	#DIV/0!	0.0	0.008	0	0	0	0	0	0	0	0	0	0	0	0
Energy Information Systems	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Energy Information System	New Energy Information System	0	0	No EIS	0	0	5	$9,720	$32,400	30%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	5	0	48,600	162,000	0	0	48,600	162,000	0	0	48,600	162,000
Behavioral and Operational Measures	Efficient behavior/operations	853,920	8,760	Less efficient behavior/operations	875,815	8,760	1	$1,752	$0	#DIV/0!	0.0	0.3	191,804	$0.009	$0.009	21.9	12.0	10	2,053,571	17,516	0	180	3,080,357	26,274	0	241	4,107,142	35,033	0
Behavioral and Operational Measures Adjustment	Efficient behavior/operations	-683,136	8,760	Less efficient behavior/operations	-700,652	8,760	1	$0	$0	#DIV/0!	0.0	0.0	-153,443	$0.000	$0.000	-17.5	-9.6	10	-1,642,857	0	0	-144	-2,464,285	0	0	-192	-3,285,714	0	0
Retrocommissioning Measures	Optimized Building Systems	1,293,826	5,900	Non-optimized Building Systems	1,300,271	5,900	7	$656	$821	80%	0.1	0.0	38,029	$0.017	$0.002	6.4	3.5	38	1,547,203	24,947	31,197	159	1,832,214	29,542	36,944	184	2,117,225	34,138	42,691
Heating Efficiency	0	0	0	0	0	0	0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0

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	Incremental Cost of Efficient Product	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 2017	Total Dth Saved for All Units Installed in 2017
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	
Business															
Business New Construction															
Average EDA Project - 2017	More Efficient than Code Building	0	Code-Compliant Building	5,132	20	$25,662	$259,342	10%	5.8	5.3	5,132	$5.000	$0.250	18	91,715
Average EEB Project - 2017	More Efficient than Code Building	0	Code-Compliant Building	153	20	$1,537	$5,329	29%	4.0	2.9	153	$10.029	$0.501	136	20,776
Commercial Efficiency															36,675
Custom Gas Project	New Equipment	0	Less Efficient Product/Systems	40	15	$83	$680	12%	2.0	1.7	40	$2.087	$0.139	924	36,675
Phase 2 Customer Contribution	0	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Changes	ehavior changes that reduce energy us	0	No change in behavior	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Changes	ehavior changes that reduce energy us	0	No change in behavior	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Cooling Efficiency						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		4,401
ERV Install on RTU/AHU for reduced heating load	iveness Heat Recovery on 11193 CFM	0	No heat recovery on 11193 CFM OA	1,100	15	$6,750	$22,103	31%	2.3	1.6	1,100	$6.136	$0.409	4	4,401
Custom Efficiency						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		15,966
Custom Efficiency Gas	High Efficiency Product/system	0	Less Efficient Product/Systems	1,451	19	$7,257	$37,243	19%	3.0	2.4	1,451	$5.000	$0.257	11	15,966
Custom Studies Gas	0	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Efficiency Controls						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		22,441
Efficiency Controls - Gas	New Digital Controls System	0	Non Digital or Obsolete Digital System	898	15	$4,862	$64,789	8%	8.3	7.7	898	$5.416	$0.361	25	22,441
Efficiency Controls - Study Allocation	Study Allocation	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Food Service						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		11,671
Convection Oven	Convection Oven	0	Deck Oven	97	11	$500	$1,920	26%	2.3	1.7	97	$5.154	$0.469	33	3,201
Conveyor Oven	Conveyor Oven	0	Pizza Deck Oven	183	11	$750	$6,997	11%	4.4	3.9	183	$4.102	$0.373	5	914
Combi-Oven	Combination Oven	0	Steamer	167	11	$1,000	$5,023	20%	3.5	2.8	167	$5.992	$0.545	18	3,004
Rotisserie Oven	Rotisserie Oven - Infrared	0	Open Flame Rotisserie Oven	0	11	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Rotating Rack Oven	Rotating Rack Oven	0	Deck Oven	325	11	$500	$5,673	9%	2.0	1.8	325	$1.538	$0.140	3	975
Commercial Gas Fryer	High Efficiency Unit	0	Standard Efficiency Unit	77	11	$250	$3,363	7%	5.0	4.6	77	$3.230	$0.294	6	464
Upright Broiler	Upright Broiler	0	Standard Radiant Broiler	0	11	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
High Efficiency Charbroiler	High Efficiency Charbroiler	0	Standard Charbroiler	0	11	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
High Efficiency Salamander Broiler	High Efficiency Salamander Broiler	0	Standard Salamander Broiler	35	11	$150	$1,490	10%	4.9	4.4	35	$4.237	$0.385	2	71
Pasta Cooker	Pasta Cooker	0	Gas Range	115	11	$200	$2,017	10%	2.0	1.8	115	$1.733	$0.158	6	693
Commercial Dishwasher - Under Counter, Gas Only or Combo Customer	ENERGY STAR qualified unit	0	ventional unit as defined by ENERGY S	16	10	$208	$361	58%	2.6	1.1	16	$12.994	$1.299	3	48
Commercial Dishwasher - Door Type, Gas Only or Combo Customer	ENERGY STAR qualified unit	0	ventional unit as defined by ENERGY S	40	15	$150	$388	39%	1.1	0.7	40	$3.754	$0.250	3	100
Demand Controlled Ventilation - Gas Only or Combo Customer	tion hoods with Demand Controlled Ve	0	tion hoods with Demand Controlled Ve	199	20	$1,381	$3,754	37%	2.2	1.4	199	$6.930	$0.346	11	2,201
Multi Family Building Efficiency						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		7,423
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead	1.5 GPM Showerhead	0	2.5 GPM Showerhead	2	10	$7	$7	100%	0.3	0.0	2	$2.758	$0.276	683	1,639
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 g	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$3	$3	100%	0.9	0.0	0	$7.375	$0.738	810	314
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$1	$1	100%	0.6	0.0	0	$5.128	$0.513	1,113	321
Water Heater Blanket on Gas Water Heater	rcial Insulation wrap R8 around Water	0	No External Insulation on water heater	0	7	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Holistic efficiency projects totaling either 15%, 20%, or 25% whole-building s	Average Performance Building	0	ultifamily building after Direct Install m	303	20	$5,285	$27,111	19%	10.3	8.3	303	$17.449	$0.872	17	5,148
Process Efficiency						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		153,877
Custom	New System	0	Old System	8,387	4	$28,836	$168,273	17%	2.3	1.9	8,387	$3.438	$0.977	16	134,198
Commercial Heating	New System	0	Old System	69	10	$39	$529	7%	0.9	0.8	69	$0.573	$0.059	287	19,679
Recommissioning	Optimized Building Systems	0	ng Building System - Not Tuned or Opti	0	7	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Changes	ehavior changes that reduce energy us	0	No change in behavior	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Changes	ehavior changes that reduce energy us	0	No change in behavior	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Design Assistance	High Efficiency Building	0	Code Level Efficiency Building	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Phase 2 customer contribution	0	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Recommissioning						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		16,670
Recommissioning Implementation	Post-Recommissioned Building	0	Pre-Recommissioned Building	1,592	7	$1,635	$7,772	21%	0.6	0.4	1,592	$1.027	$0.147	10	15,925
Recommissioning Studies	Study Cost and Rebate	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
BOC Program Attributable Savings	After BOC Training	0	Before BOC Training	388	5	$501	$866	58%	0.3	0.1	388	$1.290	$0.258	2	746
Turn Key Services						$0	$0	0%	0.0	0.0	0	$0.000	$0.000		42,844
Identification ~ On site audit	Perform Study + Low Cost No Cost	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Implementation	High Eff Project	0	Less Efficient System	726	13	$5,520	$47,831	12%	7.6	6.7	726	$7.602	$0.604	59	42,844
Home Energy Savings Program										0.0	0	$0.000	$0.000		5,143
Attic Insulation and Bypass Air Sealing - Gas Heated & Non-Cooled Home	the attic to R-48 & perform Bypass air	0	vith average attic area of 823 sq. ft. and	8	20	$2,463	$2,463	100%	33.2	0.0	8	$302.599	$15.130	23	183
Attic Insulation and Bypass Air Sealing - Gas Heated & Electrically Cooled H	the attic to R-48 & perform Bypass air	0	vith average attic area of 823 sq. ft. and	8	20	$2,071	$2,068	100%	29.9	-0.1	8	$273.392	$13.670	84	617
Air Sealing - Gas Heated & Non-Cooled Home	n Bypass air sealing along with Attic Ins	0	g home with average home size of 140	22	10	$231	$231	100%	1.2	0.0	22	$10.525	$1.053	27	578
Air Sealing - Gas Heated & Electrically Cooled Home	n Bypass air sealing along with Attic Ins	0	g home with average home size of 140	14	10	$205	$204	100%	1.7	0.0	14	$15.136	$1.514	77	1,018
Wall Insulation - Gas Heated and Non-Cooled Home	R-11 insulation	0	vith average attic area of 823 sq. ft. and	43	20	$2,106	$2,106	100%	5.4	0.0	43	$49.335	$2.467	11	458

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	Incremental Cost of Efficient Product	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 2017	Total Dth Saved for All Units Installed in 2017
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	
Wall Insulation - Gas Heated and Electricallly Cooled Home	R-11 insulation	0	ith average attic area of 823 sq. ft. and	36	20	$1,815	$1,801	101%	5.5	0.0	36	$50.521	$2.526	36	1,268
0.67 EF Hot Water Heater (SF)	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$1,600	$1,600	100%	89.9	0.0	2	$819.734	$63.056	135	257
New 84% boiler (SF)	84% Efficient Boiler	0	82% Efficient Boiler	2	20	$4,700	$4,700	100%	209.3	0.0	2	$1,908.629	$95.431	8	19
Replace Furnace AFUE 80 to 95 (SF)	95% Efficient Furnace	0	80% Efficient Furnace	13	18	$3,000	$3,000	100%	25.0	0.0	13	$227.540	$12.641	58	746
Energy Efficient Showerhead						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	32,907
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead i	1.5 GPM Showerhead	0	2.5 GPM Showerhead	2	10	$3	$3	93%	0.2	0.0	2	$1.442	$0.144	13,138	21,572
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5	1.5 GPM Showerhead	0	2.5 GPM Showerhead	1	10	$3	$3	93%	0.2	0.0	1	$2.114	$0.211	10,458	7,658
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 g	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$2	$2	100%	0.6	0.0	0	$5.423	$0.542	13,052	1,223
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$1	$1	100%	0.2	0.0	0	$1.774	$0.177	13,055	1,531
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM for second faucet t	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$1	$1	100%	0.2	0.0	0	$1.766	$0.177	10,443	923
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead i	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 g	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM for second faucet t	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead i	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 g	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM for second faucet t	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Feedback						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	36,599
Rollup: Online Group Savings	Treatment	0	Control	1	1	$0	$0	#DIV/0!	0.0	0.0	1	$0.000	$0.000	5,336	2,793
Rollup: Existing Participant 2017 Savings	Treatment	0	Control	1	1	$0	$0	#DIV/0!	0.0	0.0	1	$0.000	$0.000	122,072	102,873
Rollup: New Participant 2017 Savings	Treatment	0	Control	0	1	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	$0.000	31,469	4,131
Rollup: Existing Participant 2018 Savings	Treatment	0	Control	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Rollup: New Participant 2018 Savings	Treatment	0	Control	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Rollup: Existing Participant 2019 Savings	Treatment	0	Control	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Rollup: New Participant 2019 Savings	Treatment	0	Control	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: Online Group Savings	Treatment	0	Control	0	0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	#DIV/0!	5,336	-1,862
Behavioral Adjustments Rollup: Existing Participants 2017 Savings	Treatment	0	Control	-1	0	$0	$0	#DIV/0!	0.0	0.0	-1	$0.000	#DIV/0!	122,072	-68,582
Behavioral Adjustments Rollup: New Participant 2017 Savings	Treatment	0	Control	0	0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	#DIV/0!	31,469	-2,754
Behavioral Adjustments Rollup: Existing Participants 2018 Savings	Treatment	0	Control	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: New Participant 2018 Savings	Treatment	0	Control	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: Existing Participants 2019 Savings	Treatment	0	Control	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: New Participant 2019 Savings	Treatment	0	Control	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Efficient New Home Construction						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	25,609
Low Income Envelope Improvements - Combo Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	17	20	$502	$1,213	41%	7.8	4.6	17	$29.340	$1.467	1	16
10% to 15% improvement over local code - Combo Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	19	20	$249	$1,199	21%	6.8	5.4	19	$12.951	$0.648	308	5,932
15% to 20% improvement over local code - Combo Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	30	20	$498	$2,122	23%	7.7	5.9	30	$16.420	$0.821	381	11,547
20% to 25% improvement over local code - Combo Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	41	20	$998	$3,444	29%	9.3	6.6	41	$24.564	$1.228	89	3,610
25% to 30% improvement over local code - Combo Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	52	20	$1,196	$5,661	21%	11.9	9.4	52	$23.005	$1.150	10	543
30% to 35% improvement over local code - Combo Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
35% and greater improvement over local code - Combo Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	6	20	$2,010	$11,942	17%	212.8	177.0	6	$326.583	$16.329	1	5
Low Income Envelope Improvements - Gas Only Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
10% to 15% improvement over local code - Gas Only Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	15	20	$250	$998	25%	7.1	5.3	15	$16.227	$0.811	76	1,171
15% to 20% improvement over local code - Gas Only Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	25	20	$500	$1,950	26%	8.4	6.3	25	$19.728	$0.986	83	2,104
20% to 25% improvement over local code - Gas Only Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	34	20	$1,000	$3,011	33%	9.8	6.5	34	$29.551	$1.478	15	508
25% to 30% improvement over local code - Gas Only Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	23	20	$1,200	$4,705	26%	22.1	16.5	23	$51.502	$2.575	1	23
30% to 35% improvement over local code - Gas Only Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	81	20	$1,500	$3,415	44%	4.6	2.6	81	$18.473	$0.924	1	81
35% and greater improvement over local code - Gas Only Customers	model by House Rater with Average Si	0	eference Home Based upon Local Coc	49	20	$2,000	$8,148	25%	18.1	13.7	49	$40.568	$2.028	1	49
Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$10	$30	33%	22.2	14.8	0	$67.500	$6.136	103	15
Energy Star Clothes Washer - Gas Only Customers w/ Gas DHW	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$10	$20	49%	22.2	11.2	0	$100.000	$9.091	47	5
Residential Heating						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	126,080
95% Efficient Furnace in New Home	95% Efficient Furnace	0	90% Efficient Furnace	3	18	$100	$165	61%	5.2	2.0	3	$28.777	$1.599	8	28
96% Efficient Furnace in New Home	96% Efficient Furnace	0	90% Efficient Furnace	5	18	$150	$379	$0	8.5	5.2	5	$30.806	$1.711	13	63
97% Efficient Furnace in New Home	97% Efficient Furnace	0	90% Efficient Furnace	5	18	$200	$477	42%	10.4	6.0	5	$39.735	$2.208	3	15
95% Efficient Furnace in Existing Home	95% Efficient Furnace	0	80% Efficient Furnace	16	18	$200	$736	27%	5.0	3.7	16	$12.430	$0.691	384	6,179
96% Efficient Furnace in Existing Home	96% Efficient Furnace	0	80% Efficient Furnace	18	18	$300	$1,004	30%	6.2	4.4	18	$16.989	$0.944	5,135	90,675
97% Efficient Furnace in Existing Home	97% Efficient Furnace	0	80% Efficient Furnace	20	18	$400	$1,048	38%	5.8	3.6	20	$20.175	$1.121	1,044	20,699
84% Efficient Boiler	84% Efficient Boiler	0	82% Efficient Boiler	4	20	$100	$1,198	8%	34.5	31.6	4	$26.268	$1.313	306	1,165
90% Efficient Boiler	90% Efficient Boiler	0	82% Efficient Boiler	15	20	$245	$2,321	11%	16.7	14.9	15	$16.110	$0.805	22	335
95% Efficient Boiler	95% Efficient Boiler	0	82% Efficient Boiler	20	20	$320	$3,266	10%	17.9	16.2	20	$16.037	$0.802	230	4,596

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	Incremental Cost of Efficient Product	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 2017	Total Dth Saved for All Units Installed in 2017
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	
New 92% AFUE Furnace Gas Only Customers Post new DOE Install Stand	70.545 mbh Furnace w/ 4.9% oversi	0	90% AFUE Furnace w/o ECM	14	18	$51	$951	5%	7.3	6.9	14	$3.568	$0.198	162	2,327
Home Energy Squad						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	8,600
NEC Energy Squad Service 2017	erage Energy Efficient Gas measures	0	average Baseline Gas measures by p	8,600	10	$0	$1,170	0%	0.0	0.0	8,600	$0.000	$0.000	1	8,600
NEC Energy Squad Service 2018	erage Energy Efficient Gas measures	0	average Baseline Gas measures by p	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
NEC Energy Squad Service 2019	erage Energy Efficient Gas measures	0	average Baseline Gas measures by p	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Weatherstrip 1 additional door	al Door to achieve leakage rate or 0.18	0	oor with leakage rate of 0.68 cfm/linear	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Install Second Programmable Thermostat	-stat and Auto setback thermostat by 2	0	Existing non-programmable thermostat	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Whole Home Efficiency						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	2,930
Attic Insulation - Gas Heated Homes Without Cooling	Home with additional insulation	0	ome with R20 or less existing Insulatio	8	20	$286	$1,935	15%	25.5	21.8	8	$34.399	$1.720	17	141
Attic Insulation - Gas Heat Homes With Cooling, Combo Customer	Home with additional insulation	0	ome with R20 or less existing Insulatio	12	20	$270	$1,730	16%	16.4	13.9	12	$23.403	$1.170	31	361
Attic Insulation - Gas Heat Homes With Cooling, Gas Only Customer	Home with additional insulation	0	ome with R20 or less existing Insulatio	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Wall Insulation - Gas Heat Homes Without Cooling	R-11 insulation	0	e assumes R-0 in wall cavities as exist	24	20	$214	$1,450	15%	6.6	5.6	24	$8.859	$0.443	18	435
Wall Insulation - Gas Heat Homes With Cooling, Combo Customer	R-11 insulation	0	e assumes R-0 in wall cavities as exist	31	20	$215	$1,553	14%	5.4	4.7	31	$6.851	$0.343	24	763
Wall Insulation - Gas Heat Homes With Cooling, Gas Only Customer	R-11 insulation	0	e assumes R-0 in wall cavities as exist	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Air Sealing T2 - 25% reduction - Gas Heat Homes Without Cooling	ith Tier 2 Air Sealing - Average 27% re	0	Existing Home Without Air Sealing	31	10	$150	$1	15000%	0.0	-0.5	31	$4.808	$0.481	1	31
Air Sealing T2 - 25% reduction - Gas Heat Homes With Cooling, Combo Cu	ith Tier 2 Air Sealing - Average 27% re	0	Existing Home Without Air Sealing	17	10	$151	$113	133%	0.7	-0.2	17	$8.862	$0.886	2	41
Air Sealing T2 - 25% reduction - Gas Heat Homes With Cooling, Gas Only C	ith Tier 2 Air Sealing - Average 27% re	0	Existing Home Without Air Sealing	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Air Sealing T3 - 30% reduction - Gas Heat Homes Without Cooling	ith Tier 3 Air Sealing - average 42% re	0	Existing Home Without Air Sealing	30	10	$200	$247	81%	0.9	0.2	30	$6.739	$0.674	13	386
Air Sealing T3 - 30% reduction - Gas Heat Homes With Cooling, Combo Cu	ith Tier 3 Air Sealing - average 42% re	0	Existing Home Without Air Sealing	27	10	$201	$204	98%	0.8	0.0	27	$7.507	$0.751	16	433
Air Sealing T3 - 30% reduction - Gas Heat Homes With Cooling, Gas Only C	ith Tier 3 Air Sealing - average 42% re	0	Existing Home Without Air Sealing	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
0.67 EF Storage Water Heater	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$100	$223	45%	11.9	6.6	2	$48.780	$3.752	8	16
0.7 EF Storage Water Heater	0.7 EF Storage Water Heater	0	0.62 EF Storage Water Heater	0	13	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
0.9 EF Tankless Water Heater	0.9 EF Tankless Water Heater	0	0.62 EF Storage Water Heater	10	20	$250	$608	41%	6.7	3.9	10	$25.000	$1.250	1	10
95% Efficient Furnace in Existing Home	95% Efficient Furnace	0	80% Efficient Furnace	0	18	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
96% Efficient Furnace in Existing Home	96% Efficient Furnace	0	80% Efficient Furnace	16	18	$325	$950	34%	6.5	4.3	16	$20.197	$1.122	12	193
97% Efficient Furnace in Existing Home	97% Efficient Furnace	0	80% Efficient Furnace	16	18	$425	$1,048	41%	7.1	4.2	16	$26.398	$1.467	1	16
84% Efficient Boiler	84% Efficient Boiler	0	82% Efficient Boiler	2	20	$125	$1,446	9%	72.1	65.8	2	$56.818	$2.841	2	4
90% Efficient Boiler	90% Efficient Boiler	0	82% Efficient Boiler	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
95% Efficient Boiler	95% Efficient Boiler	0	82% Efficient Boiler	16	20	$400	$3,001	13%	20.4	17.7	16	$24.845	$1.242	1	16
Programmable Thermostat (Install and Program)	T-state w/ Auto setback by 2.6 F for he	0	Existing non-programmable thermostat	7	10	$10	$32	31%	0.5	0.4	7	$1.475	$0.147	12	83
Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Efficient Showerhead (Direct Install)	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Efficient Bathroom Aerator (Direct Install	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Efficient Kitchen Aerator (Direct Install)	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Efficient Bathroom Aerator (Direct Install	0.5 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Water Heater Blanket	rcial Insulation wrap R8 around Water	0	No External Insulation on water heater	0	7	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Gas Water Heater Setback	setback WH setpoint to 120 F	0	Existing WH at setpoint of 130 F	0	8	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Insulation Rebate						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	9,961
Gas Heat Homes Without Cooling	Home with additional insulation	0	ome with R20 or less existing Insulatio	14	20	$276	$1,970	14%	15.3	13.1	14	$19.488	$0.974	33	467
Gas Heat Homes With Cooling, Combo Customer	Home with additional insulation	0	ome with R20 or less existing Insulatio	14	20	$280	$2,041	14%	15.9	13.8	14	$19.977	$0.999	309	4,336
Gas Heat Homes With Cooling, Gas Only Customer	Home with additional insulation	0	ome with R20 or less existing Insulatio	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Gas Heat Homes Without Cooling	R-11 insulation	0	e assumes R-0 in wall cavities as exist	35	20	$263	$3,238	8%	10.2	9.3	35	$7.503	$0.375	13	455
Gas Heat Homes With Cooling, Combo Customer	R-11 insulation	0	e assumes R-0 in wall cavities as exist	44	20	$270	$2,952	9%	7.3	6.6	44	$6.080	$0.304	42	1,880
Gas Heat Homes With Cooling, Gas Only Customer	R-11 insulation	0	e assumes R-0 in wall cavities as exist	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Gas Heat Homes Without Cooling	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	17	10	$135	$959	14%	6.2	5.3	17	$7.925	$0.792	16	272
Gas Heat Homes With Cooling, Combo Customer	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	27	10	$128	$842	15%	3.5	2.9	27	$4.823	$0.482	91	2,411
Gas Heat Homes With Cooling, Gas Only Customer	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	4	10	$152	$1,178	13%	33.1	28.9	4	$38.939	$3.894	36	140
School Education Kits						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	23,813
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead	1.5 GPM Showerhead	0	eral Maximum Standard flow rate 2.5 G	2	10	$3	$3	100%	0.2	0.0	2	$1.481	$0.148	12,338	19,232
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 g	1.5 GPM Kitchen Faucet Aerator	0	eral Maximum Standard flow rate 2.2 G	0	10	$1	$1	100%	0.4	0.0	0	$3.860	$0.386	12,338	2,389
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing	1.0 GPM Bathroom Faucet Aerator	0	eral Maximum Standard flow rate 2.2 G	0	10	$0	$0	100%	0.2	0.0	0	$1.773	$0.177	12,338	2,193
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead	1.5 GPM Showerhead	0	eral Maximum Standard flow rate 2.5 G	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 g	1.5 GPM Kitchen Faucet Aerator	0	eral Maximum Standard flow rate 2.2 G	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing	1.0 GPM Bathroom Faucet Aerator	0	eral Maximum Standard flow rate 2.2 G	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead	1.5 GPM Showerhead	0	eral Maximum Standard flow rate 2.5 G	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 g	1.5 GPM Kitchen Faucet Aerator	0	eral Maximum Standard flow rate 2.2 G	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0

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	Incremental Cost of Efficient Product	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 2017	Total Dth Saved for All Units Installed in 2017
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing	1.0 GPM Bathroom Faucet Aerator	0	eral Maximum Standard flow rate 2.2 G	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Water Heater Rebates						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	5,215
0.67 EF Storage Water Heater	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	3	13	$97	$317	30%	11.5	8.0	3	$32.113	$2.470	783	2,211
0.7 EF Storage Water Heater	0.7 EF Storage Water Heater	0	0.62 EF Storage Water Heater	4	13	$150	$402	37%	12.2	7.6	4	$41.417	$3.186	438	1,490
0.9 EF Tankless Water Heater	0.9 EF Tankless Water Heater	0	0.62 EF Storage Water Heater	9	20	$218	$651	34%	7.6	5.1	9	$23.256	$1.163	137	1,207
0.62 EF Storage Water Heater	0.62 EF Storage Water Heater	0	0	1	13	$40	$80	50%	8.2	4.1	1	$37.408	$2.878	241	242
0.64 EF Storage Water Heater	0.64 EF Storage Water Heater	0	0	3	13	$60	$136	44%	4.9	2.8	3	$19.885	$1.530	23	65
Self Direct										0.0	0	$0.000	$0.000		0
Average Project	New Equipment	0	ld or less efficient systems or equipme	0	17	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Heating Efficiency						$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	90,594
Hot Water Boiler - Non Condensing -Plan A	85% Efficient Boiler	0	80% Efficient Boiler	117	20	$1,620	$3,313	49%	3.3	1.7	117	$13.814	$0.691	8	896
Hot Water Boiler - Condensing - Plan A	92% Efficient Boiler	0	80% Efficient Boiler	103	20	$3,071	$5,283	58%	5.9	2.5	103	$29.679	$1.484	59	5,830
Hot Water Boiler - Condensing - Plan B	92% Efficient Boiler	0	78% Efficient Boiler	105	20	$2,559	$6,800	38%	7.5	4.6	105	$24.305	$1.215	6	603
Low Pressure Steam Boiler - Total	84% Efficient Boiler	0	80% Efficient Boiler	115	20	$1,610	$3,168	51%	3.2	1.6	115	$14.061	$0.703	1	109
High Pressure Steam Boiler - Total	83% Efficient Boiler	0	80% Efficient Boiler	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Commercial Water Heaters - Total	nt Storage or 95% Efficient Tankless W	0	80% Efficient Storage Water Heater	61	15	$510	$2,891	18%	5.5	4.5	61	$8.394	$0.560	49	2,846
90% Efficient Furnaces	90% Efficient Furnaces	0	78% Eff Furnace	0	18	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
92% Efficient Furnaces	92% Efficient Furnaces	0	78% Eff Furnace	11	18	$200	$1,342	15%	13.5	11.5	11	$17.505	$0.973	12	131
94% Efficient Furnaces	94% Efficient Furnaces	0	78% Eff Furnace	17	18	$250	$1,429	17%	9.8	8.1	17	$14.900	$0.828	41	657
96% Efficient Furnaces	96% Efficient Furnaces	0	78% Eff Furnace	16	18	$300	$1,517	20%	10.8	8.7	16	$18.598	$1.033	75	1,155
Non-Condensing Power Vent (83% efficiency)	Non-condensing power vent unit heate	0	-condensing standard forced-air unit he	10	20	$55	$148	37%	1.8	1.1	10	$5.774	$0.289	4	36
Condensing (>90% efficiency)	Condensing power vent unit heater	0	-condensing standard forced-air unit he	71	20	$1,336	$2,417	55%	4.0	1.8	71	$18.931	$0.947	9	607
Infrared	Infrared heater	0	-condensing standard forced-air unit he	32	15	$132	$247	53%	0.9	0.4	32	$4.178	$0.279	16	491
Custom Boiler - Total	Various	0	Various	60	18	$297	$3,186	9%	6.2	5.6	60	$4.992	$0.277	1	60
Boiler Tune up - Total	on-condensing; 0.8% additive improve	0	oning at 78% efficiency for non-conden	66	2	$120	$534	23%	0.9	0.7	66	$1.822	$0.911	524	33,013
Outdoor Air Reset - Total	83% Efficient Boiler	0	80% Efficient existing boiler	94	20	$200	$1,192	17%	1.5	1.2	94	$2.129	$0.106	18	1,615
Stack Dampers - Total	81% Efficient Boiler	0	80% Efficient existing boiler	22	12	$129	$540	24%	2.8	2.1	22	$5.788	$0.482	25	532
Modulating Burners - Total	83% Efficient Boiler	0	80% Efficient existing boiler	408	20	$6,750	$43,807	15%	12.4	10.5	408	$16.525	$0.826	7	2,731
Turbulators - Totals	83% Efficient Boiler	0	80% Efficient existing boiler	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
O2 Trim Control - Totals	82% Efficient Boiler	0	80% Efficient existing boiler	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Steam Traps - Total	New Steam Traps	0	isting Boiler, malfunctioning steam tra	45	5	$30	$860	3%	2.2	2.1	45	$0.665	$0.133	895	38,538
Pipe Insulation - Total	100 ft of pipe with new insulation	0	100 ft of pipe with no or old insulation	5	13	$147	$348	42%	7.7	4.5	5	$28.283	$2.176	150	745
Heating System Optimization Study - Total	implement recommended measures	0	Existing system	0	7	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Recommissioning Study Allocation	uipment as identified in a recommissio	0	Existing equipment	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
LI Home Energy Squad										0.0	0	$0.000	$0.000		4,749
Total LI Energy Squad Service 2017	ighted Average of 2017 LI Squad Servi	0	Existing Home	4,749	10	$0	$0	#DIV/0!	0.0	0.0	4,749	$0.000	$0.000	1	4,749
Total LI Energy Squad Service 2018	ighted Average of 2018 LI Squad Servi	0	Existing Home	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Total LI Energy Squad Service 2019	ighted Average of 2019 LI Squad Servi	0	Existing Home	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Star Retail Products	0	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	2,484
Gas Clothes Dryers	ENERGY STAR ®	0	Industry Standard	2	12	$58	$729	8%	45.7	42.0	2	$33.117	$2.760	669	1,171
Clothes Washers	ENERGY STAR ®	0	Industry Standard	55	11	$0	$0	#DIV/0!	0.0	0.0	55	$0.000	$0.000	24	1,313
Energy Information Systems	0	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Information System	New Energy Information System	0	No EIS	0	5	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral and Operational Measures	Efficient behavior/operations	0	Less efficient behavior/operations	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral and Operational Measures	Efficient behavior/operations	0	Less efficient behavior/operations	0	1	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Retrocommissioning Measures	Optimized Building Systems	0	Non-optimized Building Systems	0	7	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Residential Demand Response	0	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	456
Residential Smart Thermostat	New tier II Thermostat	0	tandard manual or Non Utilized Tier I T	3	10	$0	$2,587	0%	85.3	85.3	3	$0.000	$0.000	8	27
Residential Smart Thermostat	New tier II Thermostat	0	Utilized Tier I Thermostat	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Residential Smart Thermostat	New tier III Thermostat	0	tandard manual or Non Utilized Tier I T	8	10	$0	$474	0%	6.9	6.9	8	$0.000	$0.000	57	429
Residential Smart Thermostat	New tier III Thermostat	0	Utilized Tier I Thermostat	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Commercial Refrigeration	0	0	0	0	0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Faucet Aerator (Restroom), gas water heating	gallons per minute restroom faucet aera	0	2.2 gallons per minute faucet	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Faucet Aerator (Kitchen), gas water heating	gallons per minute kitchen faucet aera	0	2.2 gallons per minute faucet	0	10	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
CHW Pre-Rinse Sprayer - gas water heating	1.28 gallons per minute sprayer	0	1.60 gallons per minute sprayer	0	5	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Retrofit of open multi-deck cooler cases with solid glass doors (per linear fo	Closed Case with Doors	0	Open Case with No Doors	0	12	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Retrofit of open multi-deck freezer cases with solid glass doors (per linear fo	Closed Case with Doors	0	Open Case with No Doors	0	12	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0

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		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	
Demand Controlled Ventilation - Gas Only or Combo Customer	ion hoods with Demand Controlled Ve	0	ion hoods with Demand Controlled Ve	0	20	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0

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