2019 STATUS REPORT & ASSOCIATED COMPLIANCE FILINGS

MINNESOTA ELECTRIC AND NATURAL GAS
CONSERVATION IMPROVEMENT PROGRAM
DOCKET NO. E,G002/CIP-16-115

Xcel Energy®

414 Nicollet Mall
Minneapolis, MN 55401

April 29, 2020

—Via Electronic Filing—

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

RE: 2019 Status Report & Associated Compliance Filings
Minnesota Electric and Natural Gas Conservation Improvement Program
Docket No. E,G002/CIP-16-115.08

Dear Commissioner Kelley:

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 2019 Status Report and Associated Compliance Filings for its Minnesota Electric and Natural Gas Conservation Improvement Program. Please note that this filing contains several corrections to an earlier version.

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 2019 CIP Status Report can access the eDockets system through the websites of the Department of Commerce, the Public Utilities Commission, or by going to the eDockets homepage and searching for docket E,G002/CIP-16-115.08. 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
PROGRAM POLICY & STRATEGY

Enclosures
c: Service Lists

CERTIFICATE OF SERVICE

I, Lynnette Sweet, 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-16-115.08 & CIP Special Service List

Dated this 29th day of April 2020.

/s/

_____

Lynnette Sweet
Regulatory Administrator

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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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
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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	OFF_SL_16-115_G002,E002.CIP-16-115
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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
Steve	Downer	sdowner@mmua.org	MMUA	3025 Harbor Ln N Ste 400 Plymouth, MN 554475142	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Charles	Drayton	charles.drayton@enbridge.com	Enbridge Energy Company, Inc.	7701 France Ave S Ste 600 Edina, MN 55435	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
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Pat	Green	N/A	N Energy Dev	City Hall 401 E 21st St Hibbing, MN 55746	Paper Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Jason	Grenier	jgrenier@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
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Bill	Poppert	info@technologycos.com	Technology North	2433 Highwood Ave St. Paul, MN 55119	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
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Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	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
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

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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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Pat	Green	N/A	N Energy Dev	City Hall 401 E 21st St Hibbing, MN 55746	Paper Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jason	Grenier	jgrenier@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	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
Tony	Hainault	anthony.hainault@co.hennepin.mn.us	Hennepin County DES	701 4th Ave S Ste 700 Minneapolis, MN 55415-1842	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Tyler	Hamman	tylerh@bepc.com	Basin Electric Power Cooperative	1717 E Interstate Ave Bismarck, ND 58501	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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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Dave	Johnson	dave.johnson@aeoa.org	Arrowhead Economic Opportunity Agency	702 3rd Ave S Virginia, MN 55792	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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Tina	Koecher	tkoecher@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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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
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Joyce	Peppin	joyce@mrea.org	Minnesota Rural Electric Association	11640 73rd Ave N Maple Grove, MN 55369	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lisa	Pickard	lseverson@minnkota.com	Minnkota Power Cooperative	5301 32nd Ave S Grand Forks, ND 58201	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
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Christopher	Schoenherr	cp.schoenherr@smmpa.org	SMMPA	500 First Ave SW Rochester, MN 55902-3303	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

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Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company	200 First St SE Cedar Rapids, IA 52401	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

Northern States Power Company,
a Minnesota corporation
2019 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 2019. This report addresses:

- Overall CIP achievements including participation, expenditures, energy conserved, demand reduced, and estimated carbon dioxide (CO_2) emissions avoided by each segment and program;
- CIP Trackers, including 2019 expenditures and cost recovery by month;
- Calculation of the CIP Adjustment Factors for the period from October 2020 through September 2021, including estimated expenditures, cost recovery, and financial incentives;
- Calculation of the 2019 CIP Financial Incentives;
- Cost-benefit analyses by program, as well as explanations of deviations from goal and changes during 2019; and,
- Other compliance reports, as required by the Minnesota Department of Commerce, Division of Energy Resources ("Department") and the Minnesota Public Utilities Commission ("Commission").

Achievements

In 2019, the electric portfolio met and surpassed the state's 1.5% energy savings target for the eighth consecutive year, achieving more than 528 GWh of electric savings, or 1.84% of sales. While we met and exceeded our savings target, our electric savings performance was lower than recent years due to two main factors: first, several large commercial and industrial (C&I) projects moving completion to 2020; and, second, a decline in savings from our lighting programs.

While much of the 2019 electric portfolio's achievement was attributable to the Company's sustained, aggressive pursuit of cost-effective home and business LED lighting projects, we have begun to experience a decline in energy savings from our lighting programs. Energy savings from lighting projects were down 43 GWh from 2018 in our Lighting Efficiency program and down 3 GWh in our Home Lighting program. As we have noted in our recent Status Report filings, we expect savings from lighting programs to continue to decline in the coming years.

Nonetheless, lighting still made up a large portion of the Company's energy savings in the Business Segment in 2019. Lighting Efficiency accounted for more than 38% of the business electric portfolio achievement in 2019. 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 200 GWh of electric savings, accounting for more than three-fourths of total electric savings in the business portfolio.

Lighting also still played a major role in the Residential Segment's electric savings achievement. The Home Lighting program alone accounted for more than 72% 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 171 GWh, which translates to 90% of the residential portfolio's total electric achievement.

The natural gas portfolio did not surpass the state's 1.0% energy savings goal in 2019. The portfolio achieved 584,761 Dth of total natural gas savings, which is 0.81% of sales. We believe the main factor for the reduced natural gas savings performance was a tendency for industrial customers to prioritize electric saving projects over natural gas saving projects, which had more attractive paybacks due to low natural gas prices.

In 2019, the Company spent a total of $106.79 million to achieve our savings results, including $92.82 million on electric programs and $13.97 million on gas programs. Electric spending was 97% of the approved regulatory budget and natural gas spending was 81% of the approved regulatory budget.

In sum, the electric programs will provide more than $175 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 $25 million in net benefits to our customers.

Our 2019 CIP achievements are summarized in Table 1.

Table 1: Xcel Energy's 2019 CIP Expenditures and Energy Savings

2019	Expenditures ($)	Energy Savings (kWh or Dth)	Demand Savings (kW)
Total Electric CIP	$92,816,075	528,899,459 kWh	120,344
Total Gas CIP	$13,929,520	584,761 Dth	
Total Expenditures	$106,790,206		

The Company's cumulative achievements since 1992 are nearly 10,200 GWh of electric energy saved, 17.3 million Dth of natural gas saved, and more than $6.6 billion in net benefits achieved, with total spending of $1.9 billion. Figures 1 and 2 highlight total achievements and spending for electric and gas programs from 2005 to 2019.

Figure 1: Xcel Energy's 2005-2019 Electric CIP Achievements

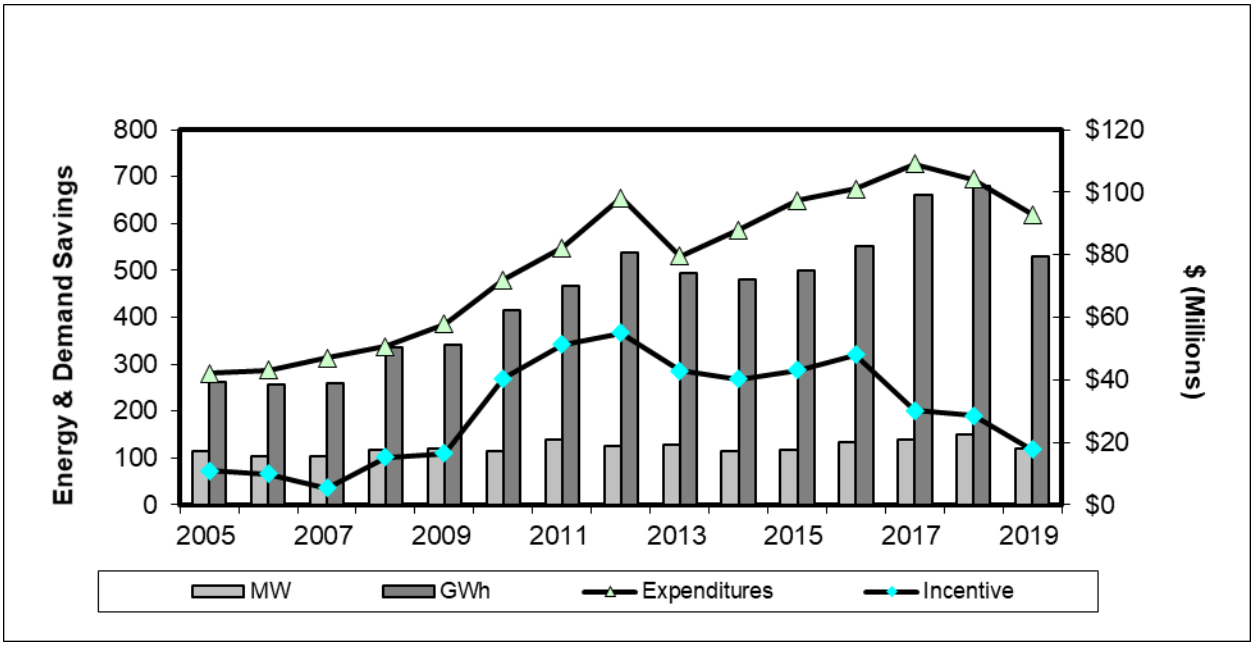
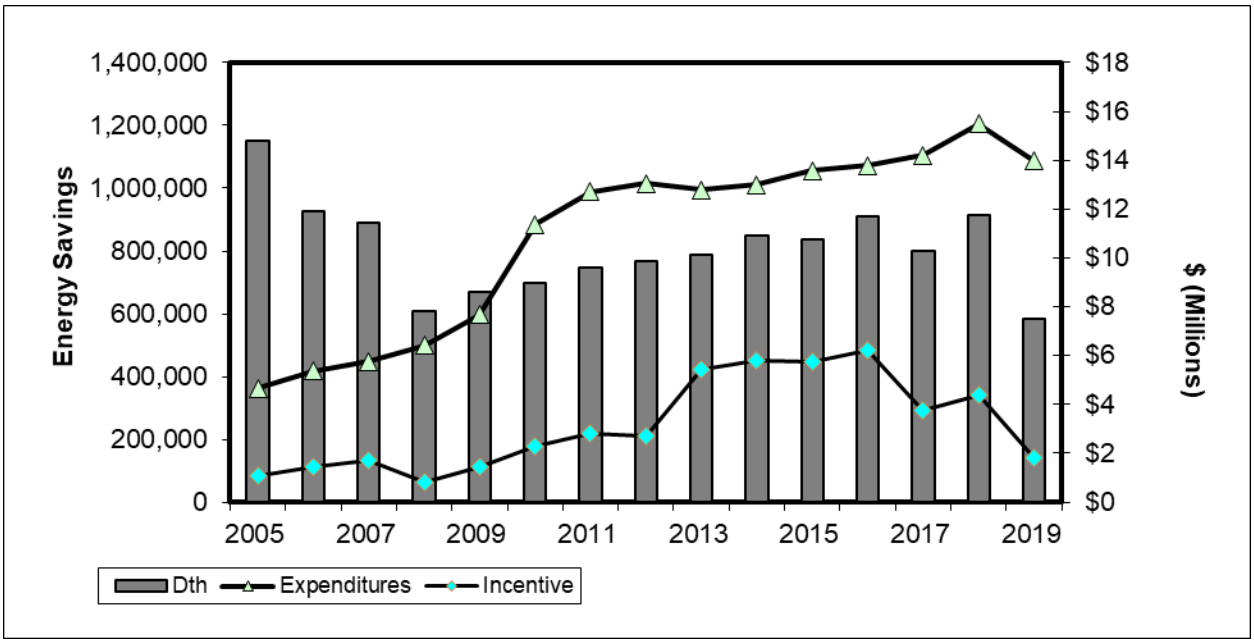


Figure 2: Xcel Energy's 2005-2019 Natural Gas CIP Achievements



The following sections provide greater, in-depth detail on Xcel Energy's 2019 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 2019 CIP Trackers. Xcel Energy seeks approval to record $92,816,075 in electric spending and $13,929,520 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 2019 conservation expenditures, effective for the period October 2020 through September 2021. Xcel Energy is proposing new electric and gas CIP Adjustment Factors of $0.001928/kWh and $0.019478/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 $17,589,180 in electric and $1,790,002 in natural gas DSM performance incentives in its CIP Trackers.

- ***2019 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.

Avoided Emissions

In addition to the cost-effectiveness of our 2019 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 2019, the analysis is based on a 2018 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 or equal to $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 2019 are summarized in Table 4.

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

2019	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Gas Participants	Gas Budget	Dth Savings
Business Segment								
Business New Construction	122	$4,671,924	5,502	4,316	23,001,531	25	$384,505	23,360
Commercial Efficiency	182	$3,709,232	4,417	3,803	28,029,199	46	$512,882	41,186
Commercial Refrigeration	343	$362,735	1,330	237	2,165,547	51	$31,621	1,472
Computer Efficiency - PC Power MGMT	0	$0	0	0	0	0	$0	0
Cooling Efficiency	1,806	$2,676,399	2,787	2,351	6,450,540	3	$48,579	5,968
Custom Efficiency	52	$1,385,389	984	783	4,894,015	21	$225,559	17,011
Data Center Efficiency	80	$1,357,410	1,139	961	9,495,027	0	$0	0
Efficiency Controls	70	$1,232,065	1,239	280	9,155,555	17	$184,029	16,062
Fluid Systems Optimization	347	$1,644,768	2,275	1,930	14,117,816	0	$0	0
Foodservice Equipment	73	$54,753	109	73	501,133	67	$96,428	5,992
Heating Efficiency	64	$7,830	40	32	156,350	576	$1,455,793	122,620
Lighting Efficiency	1,623	$6,665,907	9,986	7,559	57,699,400	0	$0	0
Motor Efficiency	965	$2,987,576	6,190	5,114	29,932,508	0	$0	0
Multi-Family Building Efficiency	6,865	$1,489,615	2,715	494	3,771,090	2,591	$619,898	9,558
Process Efficiency	238	$6,764,286	8,734	5,222	46,147,183	75	$1,088,323	180,160
Recommissioning	89	$808,898	1,022	561	6,626,083	49	$203,129	21,058
Self-Direct	0	$28,312	0	0	0	0	$9,243	0
Turn Key	306	$1,680,254	1,571	928	7,990,299	70	$240,922	5,785
Business Segment Energy Efficiency Total	**13,225**	**$37,527,353**	**50,041**	**34,644**	**250,133,276**	**3,591**	**$5,100,911**	**450,232**
Electric Rate Savings	45	$559,716	9,000	4,593	170,174	0	$0	0
Saver's Switch for Business	933	$2,388,642	18,071	3,823	9,668	0	$0	0
Business Segment Load Management Total	**978**	**$2,948,358**	**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	60,000	$62,983	0	0	0	0	$0	0
Indirect Business Subtotal	**74,000**	**$310,481**	**0**	**0**	**0**	**19,000**	**$37,412**	**0**
Business Segment with Indirect Participants	**88,203**	**$40,786,192**	**77,112**	**43,059**	**250,313,119**	**22,591**	**$5,138,323**	**450,232**
Business Segment Direct Participants Only	**14,203**	**$40,475,711**	**77,112**	**43,059**	**250,313,119**	**3,591**	**$5,100,911**	**450,232**
Residential Segment								
Energy Efficient Showerhead	1,920	$41,801	114	92	1,092,357	14,080	$293,766	31,295
Energy Feedback Residential	256,320	$2,179,675	3,718	3,930	16,722,476	170,898	$330,672	24,762
Efficient New Home Construction	2,226	$752,352	1,126	981	1,012,391	960	$1,573,561	30,514
Residential Heating	10,000	$1,233,702	1,906	1,380	7,199,127	12,272	$2,517,413	120,000
Home Energy Squad	5,371	$889,545	3,975	526	4,239,092	2,200	$1,306,189	20,261
Home Lighting	146,067	$7,471,646	71,614	9,773	93,301,606	0	$0	0
Whole Home Efficiency	229	$122,496	180	134	180,822	205	$290,615	7,998
Insulation Rebate	619	$252,072	1,210	164	1,743,586	773	$330,435	17,985
Refrigerator Recycling	7,100	$972,934	1,299	940	7,496,782	0	$0	0
Residential Cooling	11,582	$4,139,360	5,479	5,406	3,930,467	0	$0	0
School Education Kits	14,000	$476,011	1,212	136	1,559,062	14,000	$326,365	11,391
Thermostat Optimization	3,881	$168,144	1,167	973	631,062	3,168	$140,356	22,126
Water Heater Rebate	0	$0	0	0	0	1,071	$202,544	3,461
Total	**459,315**	**$18,699,737**	**93,001**	**24,436**	**139,108,829**	**219,627**	**$7,311,916**	**289,795**
Residential Demand Response	35,025	$8,671,373	84,186	33,651	68,395	0	$0	0
Consumer Education	433,854	$765,640	0	0	0	382,912	$540,806	0
Home Energy Audit	3,500	$691,758	0	0	0	2,800	$561,704	0
Lamp Recycling - Residential	325,000	$513,529	0	0	0	0	$0	0
Indirect Residential Subtotal	**762,354**	**$1,970,927**	**0**	**0**	**0**	**385,712**	**$1,102,510**	**0**
Residential Segment Total	**1,256,694**	**$29,342,036**	**177,188**	**58,087**	**139,177,225**	**605,339**	**$8,414,426**	**289,795**
Participants Only	**1,256,694**	**$29,342,036**	**177,188**	**58,087**	**139,177,225**	**605,339**	**$8,414,426**	**289,795**
Low Income Segment	0		0	0	0	0		0
Home Energy Savings Program	2,117	$1,349,151	329	115	905,770	554	$1,488,341	4,919
LI Home Energy Squad	1,900	$327,675	1,305	152	1,374,942	1,500	$412,977	9,777
Multi-Family Energy Savings Program	1,766	$813,518	574	107	978,479	0	$0	0
Low Income Segment Total	**5,783**	**$2,490,344**	**2,208**	**374**	**3,259,191**	**2,054**	**$1,901,318**	**14,697**
Planning Segment	0		0	0	0	0		0
Application Development and Maintenance	0	$1,242,743	0	0	0	0	$455,912	0
Advertising & Promotion	0	$3,300,000	0	0	0	0	$808,360	0
CIP Training	0	$148,974	0	0	0	0	$54,847	0
Regulatory Affairs	0	$473,159	0	0	0	0	$153,533	0
Planning Segment Total	**0**	**$5,164,876**	**0**	**0**	**0**	**0**	**$1,472,652**	**0**
Research, Evaluations & Pilots Segment	0		0	0	0	0	$0	0
Market Research	0	$953,478	0	0	0	0	$262,471	0
Product Development	0	$1,764,124	0	0	0	0	$216,187	0
Energy Star Retail Products	38,861	$719,223	8,014	1,360	4,206,508	541	$4,325	271
Energy Information Systems	45	$326,580	423	232	2,938,653	13	$117,575	4,568
Total	**38,906**	**$3,763,405**	**8,437**	**1,592**	**7,145,162**	**554**	**$600,558**	**4,839**
Anticipated Alternative Filings	0		0	0	0	0		0
CEE One Stop Efficiency Shop	1,671	$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	$402,750	0	0	0	0	$18,500	0
Trillion BTU	0	$174,600	0	0	0	0	$19,400	0
Energy Intelligence	0	$328,840	0	0	0	0	$36,760	0
Total	**1,671**	**$14,289,470**	**10,419**	**10,500**	**48,000,000**	**0**	**$121,160**	**0**
Assessments Segment	**0**	**$1,974,981**	**0**	**0**	**0**	**0**	**$345,600**	**0**
Electric Utility Infrastructure	**0**	**$0**	**0**	**0**	**0**	**0**	**$0**	**0**
PORTFOLIO TOTAL	**1,391,257**	**$97,811,305**	**275,364**	**113,612**	**447,894,696**	**630,538**	**$17,994,036**	**759,563**

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

2019	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Electric Societal	Electric Utility	Gas Participants	Gas Budget	Dth Savings	Gas Societal	Gas Utility
Business Segment												
Business New Construction	176	$7,352,715	8,791	7,550	32,894,830	1.43	3.38	32	$640,832	60,173	1.77	8.33
Commercial Efficiency	85	$2,512,432	4,104	2,882	21,894,195	1.82	5.01	7	$150,656	16,403	4.39	7.74
Commercial Refrigeration	192	$259,269	119	97	897,658	1.20	2.29	30	$3,884	91	1.92	0.97
Cooling Efficiency	667	$2,138,457	2,800	2,672	4,262,702	1.17	2.39	2	$11,503	939	3.63	5.80
Custom Efficiency	18	$816,746	788	635	3,481,176	2.71	2.74	7	$98,199	21,269	7.78	19.20
Data Center Efficiency	35	$471,754	606	258	5,530,945	0.42	0.58	0	$0	0		
Efficiency Controls	26	$533,452	567	82	4,720,990	1.51	3.05	5	$46,113	5,704	1.35	8.79
Fluid Systems Optimization	127	$1,092,752	1,438	1,229	8,520,457	1.79	3.74	0	$0	0		
Foodservice Equipment	32	$38,846	123	74	512,704	3.44	7.36	42	$85,853	14,714	2.48	10.03
Heating Efficiency	66	$12,946	45	47	206,106	4.19	10.49	404	$795,127	70,731	1.00	3.52
Lighting Efficiency	4,102	$9,398,727	20,563	15,273	102,035,381	1.88	5.59	0	$0	0		
Motor Efficiency	300	$2,062,575	3,324	2,703	15,462,330	1.71	4.40	0	$0	0		
Multi-Family Building Efficiency	219	$923,166	2,334	269	2,730,755	1.24	1.31	72	$374,599	6,340	2.59	0.89
Process Efficiency	93	$5,491,816	7,135	6,124	43,366,356	2.39	4.69	7	$465,952	34,668	2.84	5.26
Recommissioning	29	$745,041	947	255	6,732,716	1.73	1.98	9	$105,483	20,258	5.83	7.10
Self-Direct	1	$172,878	192	0	1,558,009	2.09	3.81	1	$176	0	0.00	0.00
Turn Key	104	$1,544,056	2,370	1,975	11,624,997	1.87	4.81	19	$125,461	4,794	2.03	2.35
Business Segment Energy Efficiency Total	**6,272**	**$35,567,627**	**56,246**	**42,127**	**266,432,308**	**1.83**	**4.21**	**637**	**$2,903,837**	**256,083**	**2.01**	**5.63**
Electric Rate Savings	188	$553,572	20,465	10,453	387,833	5.63	5.59					
Saver's Switch for Business	357	$1,977,996	9,158	1,831	3,222	0.64	0.64					
Business Segment Load Management Total	**545**	**$2,531,568**	**29,623**	**12,284**	**391,055**	**1.73**	**1.72**	**0**	**$0**	**0**		
Business Education	14,000	$188,836	0	0	0			19,000	$24,220	0		
Small Business Lamp Recycling	90,913	$20,487	0	0	0			0	$0	0		
Indirect Business Subtotal	**104,913**	**$209,323**	**0**	**0**	**0**			**19,000**	**$24,220**	**0**		
Business Segment with Indirect Participants	**111,730**	**$38,308,518**	**85,869**	**54,411**	**266,823,363**	**1.82**	**4.03**	**19,637**	**$2,928,057**	**256,083**	**2.01**	**5.58**
Business Segment Direct Participants Only	**6,817**	**$38,099,195**	**85,869**	**54,411**	**266,823,363**	**1.83**	**4.05**	**637**	**$2,903,837**	**256,083**	**2.01**	**5.63**
Residential Segment												
Energy Efficient Showerhead	2,314	$35,717	103	79	992,613	15.09	5.41	12,115	$276,161	33,364	21.03	6.12
Energy Feedback Residential	243,303	$1,806,717	11,840	4,227	17,790,581	2.42	2.02	137,772	$275,720	50,829	3.41	3.18
Efficient New Home Construction	2,633	$795,171	1,370	1,298	4,174,437	2.59	4.39	1,424	$1,359,962	37,457	1.23	2.44
Residential Heating	13,718	$1,636,984	2,634	2,009	10,230,815	1.39	4.07	7,853	$2,683,301	139,767	2.00	4.29
Home Energy Squad	4,978	$668,959	5,893	693	6,000,098	2.75	2.11	1,598	$827,354	9,324	1.21	0.56
Home Lighting	213,009	$5,593,255	106,075	14,341	137,290,860	3.56	4.48					
Whole Home Efficiency	28	$28,265	28	26	24,151	0.93	1.42	29	$64,122	1,860	1.22	2.23
Insulation Rebate	610	$77,585	320	271	280,702	1.19	5.16	645	$285,444	23,899	1.21	5.50
Refrigerator Recycling	4,644	$844,287	743	538	4,338,909	2.27	1.57					
Residential Cooling	17,690	$5,436,293	8,470	8,307	5,931,378	1.29	2.18	0	$0	0		
School Education Kits	14,058	$438,492	2,010	219	2,496,670	1.86	1.33	14,058	$315,979	16,036	9.19	2.57
Thermostat Optimization	1,057	$232,272	319	266	155,550	1.58	1.19	496	$95,746	3,486	22.69	1.85
Water Heater Rebate	0	$0	0	0	0			992	$185,406	4,339	1.06	1.81
Total	**518,042**	**$17,593,996**	**139,804**	**32,274**	**189,706,764**	**2.15**	**3.12**	**176,982**	**$6,369,193**	**320,359**	**2.13**	**3.28**
Residential Demand Response	27,437	$6,152,125	67,436	21,431	61,170	2.41	2.38	0	$0	0		
Consumer Education	433,854	$735,435	0	0	0	0	0	382,912	$488,231	0	0.00	0
Home Energy Audit	3,469	$628,652	0	0	0	0	0	2,674	$521,787	0	0.00	0
Lamp Recycling - Residential	515,173	$407,132	0	0	0	0	0	0	$0	0		
Indirect Residential Subtotal	**952,496**	**$1,771,219**	**0**	**0**	**0**	**0.00**	**0.00**	**385,586**	**$1,010,017**	**0**	**0.00**	**0.00**
Residential Segment Total	**1,497,975**	**$25,517,339**	**207,241**	**53,705**	**189,767,933**	**2.10**	**2.73**	**562,568**	**$7,379,210**	**320,359**		
Participants	**1,497,975**	**$25,517,339**	**207,241**	**53,705**	**189,767,933**			**562,568**	**$7,379,210**	**320,359**	**2.02**	**2.83**
Only												
Low Income Segment												
Home Energy Savings Program	1,902	$1,192,275	802	160	1,113,197	0.69	0.34	355	$1,387,364	5,915	0.48	0.31
LI Home Energy Squad	944	$153,247	752	104	839,051	1.78	1.26	404	$160,989	2,404	1.48	0.74
Multi-Family Energy Savings Program	1,423	$1,141,467	263	75	435,528	0.10	0.16	0	$0	0		
Low Income Segment Total	**4,269**	**$2,486,988**	**1,817**	**340**	**2,387,776**	**0.42**	**0.32**	**759**	**$1,548,353**	**8,319**	**0.59**	**0.36**
Planning Segment												
Application Development and Maintenance	0	$955,300	0	0	0			0	$245,444	0		
Advertising & Promotion	0	$4,207,904	0	0	0			0	$1,094,927	0		
CIP Training	0	$163,824	0	0	0			0	$48,922	0		
Regulatory Affairs	0	$547,133	0	0	0	0	0	0	$146,364	0	0.00	0
Planning Segment Total	**0**	**$5,874,161**	**0**	**0**	**0**	**0.00**	**0.00**	**0**	**$1,535,657**	**0**	**0.00**	**0.00**
Research, Evaluations & Pilots Segment												
Market Research	0	$688,574	0	0	0	0	0	0	$65,707	0	0.00	0
Product Development	0	$1,653,610	0	0	0	0.00	0.00	0	$69,981	0	0.00	0
Energy Star Retail Products	18,444	$612,366	6,079	554	2,551,332	0.59	0.68	0	-$748	0	0.00	0
Energy Information Systems	5	$377,416	133	109	1,291,897	0.35	0.15	0	$23,359	0	0.00	0
Total	**18,449**	**$3,331,966**	**6,213**	**663**	**3,843,229**	**0.26**	**0.14**	**0**	**$158,299**	**0**	**0.00**	**0.00**
PORTFOLIO SUBTOTAL	**1,632,423**	**$75,518,973**	**301,140**	**109,119**	**462,822,301**	**1.77**	**2.98**	**582,964**	**$13,549,577**	**584,761**	**1.85**	**2.79**
Anticipated Alternative Filings												
CEE One Stop Efficiency Shop	2,265	$14,215,113	14,111	11,215	66,077,157	1.64	2.73	0	$0.00	0		
EnerChange	0	$409,780	0	0	0			0	$45,682	0		
Energy Smart	0	$396,665	0	0	0			0	$17,927	0		
Trillion BTU	0	$119,673	0	0	0			0	$10,182	0		
Energy Intelligence	0	$175,598	0	0	0			0	$17,287	0		
Total	**2,265**	**$15,316,828**	**14,111**	**11,215**	**66,077,157**			**0**	**$91,077**	**0**		
Assessments Segment	**0**	**$1,980,274**	**0**	**0**	**0**			**0**	**$288,866**	**0**		
Electric Utility Infrastructure												
PORTFOLIO TOTAL	**1,634,688**	**$92,816,075**	**315,251**	**120,334**	**528,899,459**	**1.73**	**2.84**	**582,964**	**$13,929,520**	**584,761**	**1.83**	**2.71**

Table 4: Xcel Energy's Electric Avoided CO2 Emissions

2019	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	14,604	190,358	888	579
Commercial Efficiency	9,720	113,219	888	591
Commercial Refrigeration	383	3,368	854	645
Cooling Efficiency	1,921	21,993	901	613
Custom Efficiency	1,545	18,724	888	579
Data Center Efficiency	2,335	21,040	844	670
Efficiency Controls	1,922	21,404	814	605
Fluid Systems Optimization	3,600	38,918	845	585
Foodservice Equipment	216	2,683	844	576
Heating Efficiency	87	1,064	844	580
Lighting Efficiency	39,641	431,692	777	570
Motor Efficiency	6,865	73,698	932	657
Multi-Family Building Efficiency	1,146	11,917	953	655
Process Efficiency	19,259	227,187	888	591
Recommissioning	2,741	17,683	814	754
Self-Direct	719	8,265	923	624
Turn Key	5,363	59,291	923	623
Total	**112,069**	**1,262,505**	**841**	**589**
Electric Rate Savings	193	918	993	947
Saver's Switch for Business	2	17	993	717
Management Total	**194**	**936**	**993**	**942**
Business Education	0	0	0	0
Small Business Lamp Recycling	0	0	0	0
Business Indirect	**0**	**0**	**0**	**0**
Participants	**112,263**	**1,263,441**	**1,835**	**1,531**
Participants Only	**112,263**	**1,263,441**	**1,835**	**1,531**
Residential Segment				
Energy Efficient Showerhead	433	3,610	872	727
Energy Feedback Residential	8,114	24,343	912	912
Efficient New Home Construction	1,753	23,882	840	573
Residential Heating	4,293	54,092	839	589
Home Energy Squad	2,518	11,784	839	712
Home Lighting	56,559	230,977	824	748
Whole Home Efficiency	11	118	873	632
Insulation Rebate	128	1,367	912	686
Refrigerator Recycling	1,436	10,302	662	618
Residential Cooling	2,705	30,544	912	676
School Education Kits	1,040	5,766	833	745
Thermostat Optimization	65	551	839	708
Water Heater Rebate	0	0	0	0
Total	**79,055**	**397,335**	**833**	**706**
Residential Demand Response	30	326	993	719
Consumer Education	0	0	0	0
Home Energy Audit	0	0	0	0
Residential Segment Total	**79,085**	**397,661**	**833**	**706**
Participants	**79,085**	**397,661**	**833**	**706**
Only	**79,085**	**397,335**	**833**	**706**
Low Income Segment				
Home Energy Savings Program	463	3,651	832	633
LI Home Energy Squad	366	1,720	872	778
Multi-Family Energy Savings Program	829	5,371	840	625
Low Income Segment Total	**1,658**	**10,741**	**848**	**662**
Research, Evaluations & Pilots Segment				
Market Research	0	0	0	0
Product Development	0	0	0	0
Energy Star Retail Products	219	1,796	171	124
Energy Information Systems	542	1,048	839	843
Total	**761**	**2,844**	**396**	**181**
PORTFOLIO SUBTOTAL	**193,767**	**1,674,687**	**835**	**611**

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	$100,660,665	$92,816,075	$35,808,891
Gas	$2,180,986	$17,994,036	$13,929,520	$11,748,534
Total	$59,188,170	$118,654,701	$106,745,595	$47,557,425

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

2019 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
2019	528,899	28,947,564	1.84%	584,761	71,897,513	0.81%

2019 Low-Income Spending Requirement

The following table compares our 2019 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	$2,490,344	$2,486,988	$327,416
Gas	$1,282,022	$1,901,318	$1,548,353	$266,331
Total	$3,441,594	$4,391,662	$4,035,341	$593,747

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

2019 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	$1,764,124	$1,653,610	-$4,047,108
Gas	$218,099	$216,187	$69,981	-$148,118
Total	$5,918,817	$1,980,311	$1,723,591	-$4,195,226

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. In 2019, the Company did not have any distributed energy resources spending in CIP.

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.

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 2019, the Company completed six EUI improvement projects that result in energy savings as documented in Table 9. While the Company does not request to claim these EUI savings in 2019, we are including them in our 2019 CIP Status Report to document the projects and make them eligible for the carry forward provision in future program years.

Table 9: 2019 EUI Project Energy Savings

Facility	Project Type	kWh savings
414 Nicollet Mall	Mezzanine lighting upgrade	36,400
Rice St	Outdoor Lighting replacement	22,566
Wyoming	LED lighting replacement	62,620
Maple Grove	Perimeter LED lighting wall packs	21,842
Maple Grove	Hallway LED can lighting	4,292
Centre Point	LED parking lot lighting	8,760
	Total:	**156,480**

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. In 2019, no segment level spending exceeded approved spending flexibility.

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 2019, the Company submitted the following program modification requests and courtesy notifications that impact our 2017-2019 CIP Triennial Plan.

Table 10: Program Modification Filings

Modification Filing Date	Programs Included	Approval Date
February Modification Request (2/19/19)	EV Charging Perks Pilot	Not Approved
March Modification Request (3/22/19)	ENERGY STAR Retail Product Platform Pilot	5/10/19
	Home Lighting	
	Motor and Drive Efficiency	
Courtesy Notification (5/20/19)	Geotargeting Pilot	N/A

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 9 projects that met these criteria and required monitoring. We submitted monitoring reports for all of these qualifying projects to the Department.

2019 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 2019, the Company had a total of $316,633 in employee expenses related to CIP. These expenses comprise about 0.30% of our total CIP spending for 2019, 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 2019.

Table 11: Summary of 2019 Employee Expenses

Employee Expense Category	Electric Amount	Gas Amount	Total
Airfare	$43,668.08	$5,518.38	$49,186.46
Hotel	$52,260.26	$8,352.04	$60,612.30
Car Rental	$315.92	N/A	$315.92
Taxi/bus	$4,256.79	$652.25	$4,909.04
Mileage	$43,343.23	$6,328.90	$49,672.13
Parking	$6,303.65	$946.62	$7,250.27
Business Meals- Employees Only	$14,236.21	$2,569.15	$16,805.36
Business Meals- Including Non-Employees	$17,973.59	$1,816.96	$19,790.55
Conferences/Seminars/Training	$86,957.66	$21,133.27	$108,090.93
Total Employee Expenses	**$269,315.39**	**$47,317.57**	**$316,632.96**

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.

2019 Influenced Savings Projects

There are two influenced savings projects to report for 2019. 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 role in achieving 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 two influenced savings projects in 2019. Table 12 summarizes the programs affected by these projects and the associated savings. To maintain customer anonymity, the projects will be referred using their OID number. As required for Influenced Savings, these projects received Xcel Energy preapproval and passed the societal and participant tests, but did not receive a rebate. Influenced savings projects are included in the programs they fall under. Savings from Influenced Savings projects account for less than 0.01% of total electric savings.

Table 12: Summary of Influenced Savings Projects

Project OID	Program	Customer KW	Customer kWh	Dth
3513021	Lighting Efficiency	48.67	270,352	0
3515802/3578243	Custom Efficiency	137.95	401,697	13,224
	Totals	**186.62**	**672,049**	**13,224**

Influenced Savings Project Descriptions

The 2019 Influenced Savings Project summary trackers comprise the following two pages.

2019 Influenced Savings
Supplementary Information Worksheet

Project Number OID3513021

Program Name Lighting Efficiency

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
September 17, 2018	24 W TLED Tubes	0.72

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
9.85	Infinite	0.64	8.14

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

Project Description
Retrofit 1240 54W T5 4' fluorescent in 4 and 6 lamp configurations to 24 W TLED tubes

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
48.67	270,352	0	Payback less than 9 months

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
8/16/2018	Conditional approval requested
8/20/2018	Conditional approval granted
8/23/2018	Completed custom application and workbook submitted
9/17/2018	Pre-approval analysis complete - not rebate eligible
10/31/2018	Project complete

2019 Influenced Savings
Supplementary Information Worksheet

Project Number OID3515802 & OID3578243

Program Name Custom Efficiency

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
November 16, 2018	Tunnel Washer	-4.60

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
Infinite	Infinite	0.54	Infinite

Gas Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
Infinite	Infinite	0.69	Infinite

Project Description
Install new high efficiency tunnel washer

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
137.95	401,697	13,224	Payback less than 9 months

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
8/23/2018	Conditional approval requested and granted
10/22/2018	Completed custom application and workbook submitted
11/16/2018	Pre-approval analysis complete - not rebate eligible
5/20/2019	Project Complete

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 2013 are shown in the following table:

Table 13: Xcel Energy's Process and/or Impact Analysis Efforts Since 2013

Product	**Type**	**Status**
MN Electric Potential Study - Xcel Energy Service Area	Potential Study	Completed in 2012 Updated in 2014
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
Business New Construction	Process and Impact Evaluation	Completed in 2018
Motor and Drive Efficiency	Process and Impact Evaluation	Completed in 2018
Multi-Family Building Efficiency	Process Evaluation +	Completed in 2018
Water Heater Rebates	Process Evaluation +	Completed in 2018
Efficient New Home Construction	Process and Impact Evaluation	Completed in 2019
Residential Cooling *	Process and Impact Evaluation	Completed in 2019-2020
Saver's Switch	Process Evaluation +	Completed in 2019
Saver's Switch for Business	Process Evaluation +	Completed in 2019

+ 2018 Multi-Family Building Efficiency (MFBE) and Water Heater Rebates and 2019 Saver's Switch/Saver's Switch for Business evaluations included a modified impact component that examined qualitative indicators of free ridership and/or spillover..

* Residential Cooling evaluation commenced in late 2019 to capture responses from customers who installed equipment during the 2019 cooling season; the reporting element of this evaluation will be completed in 2020.

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 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 2019, 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 14 and 15 provide the following information.

Table 14: Low-Income Participation by Project, 2019

Project	Low-Income - Electric			Low-Income - Gas		
	Participants	Low-Income Participants	Percent of Participation	Participants	Low-Income Participants	Percent of Participation
Business Segment						
Multi-Family Building Efficiency	11,888	10,212	85.9%	3,511	3,204	91.3%
Residential Segment						
Energy Efficient Showerhead	2,314	202	8.7%	12,115	605	5.0%
Energy Feedback Residential	243,303	9,492	3.9%	137,772	6,446	4.7%
Efficient New Home Construction	2,633	10	0.4%	1,424	6	0.4%
Residential Heating	13,718	209	1.5%	7,853	165	2.1%
Home Energy Squad	4,978	100	2.0%	1,598	22	1.4%
Home Lighting	213,009	1,268	0.6%			
Whole Home Efficiency	28	2	7.1%	29	2	6.9%
Insulation Rebate	610	16	2.6%	645	16	2.5%
Refrigerator Recycling	4,644	97	2.1%			
Residential Cooling	17,690	168	0.9%	0		
Residential Demand Response	14,058	680	4.8%	14,058	0	0.0%
Thermostat Optimization	1,057	11	1.0%	496	4	0.8%
Water Heater Rebate				992	26	2.6%
Residential Demand Response	27,437	680	2.5%			
Consumer Education	433,854	47,724	11.0%	382,912	42,120	11.0%
Home Energy Audit	3,469	131	3.8%	2,674	132	4.9%
Lamp Recycling - Residential	515,173	3,066	0.6%	0		
Residential Total	**1,497,975**	**63,856**	**4.3%**	**562,568**	**49,544**	**8.8%**
Low Income Segment						
Home Energy Savings Program	1,902	1,902	100.0%	355	355	100.0%
LI Home Energy Squad	944	944	100.0%	404	404	100.0%
Multi-Family Energy Savings Program	1,423	1,423	100.0%			
Low Income Segment Total	**4,269**	**4,269**	**100.0%**	**759**	**759**	**100.0%**
TOTAL	**1,514,132**	**78,337**	**5.2%**	**566,838**	**53,507**	**9.4%**

Table 15: Renter Participation by Project, 2019

Project	Renter - Electric			Renter - Gas		
	Participants	Renter Participants	Percent of Participation	Participants	Renter Participants	Percent of Participation
Business Segment						
Multi-Family Building Efficiency	11,888	10,212	85.9%	3,511	3,204	91.3%
Residential Segment						
Energy Efficient Showerhead	2,314	81	3.5%	12,115	221	1.8%
Energy Feedback Residential	243,303	111,058	45.6%	137,772	63,408	46.0%
Efficient New Home Construction	2,633	0	0.0%	1,424	0	0.0%
Residential Heating	13,718	200	1.5%	7,853	103	1.3%
Home Energy Squad	4,978	408	8.2%	1,598	36	2.3%
Home Lighting	213,009	46,223	21.7%			
Whole Home Efficiency	28	0	0.0%	29	0	0.0%
Insulation Rebate	610	11	1.8%	645	14	2.2%
Refrigerator Recycling	4,644	114	2.5%			
Residential Cooling	17,690	316	1.8%	0		
School Education Kits	14,058	3,051	21.7%	14,058	3,051	21.7%
Thermostat Optimization	1,057	11	1.0%	496	4	0.8%
Water Heater Rebate				992	13	1.3%
Residential Demand Response	27,437	739	2.7%			
Consumer Education	433,854	47,724	11.0%	382,912	42,120	11.0%
Home Energy Audit	3,469	100	2.9%	2,674	75	2.8%
Lamp Recycling - Residential	515,173	111,793	21.7%	0		
Residential Total	**1,497,975**	**321,828**	**21.5%**	**562,568**	**109,045**	**19.4%**
Low Income Segment						
Home Energy Savings Program	1,902	194	10.2%	355	9	2.5%
LI Home Energy Squad	944	278	29.4%	404	42	10.4%
Multi-Family Energy Savings Program	1,423	1,423	100.0%			
Low Income Segment Total	**4,269**	**1,895**	**44.4%**	**759**	**51**	**6.7%**
TOTAL	**1,514,132**	**333,935**	**22.1%**	**566,838**	**112,300**	**19.8%**

Northern States Power Company
a Minnesota corporation
2019 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 2019 spending and cost recovery, as well as the electric tax and rate base factors and calculation of the cost of capital.

Electric Achievements

In 2019, Xcel Energy spent $89,734,086 on its electric CIP efforts. These expenditures provided an overall reduction of nearly 529 GWh. Xcel Energy is requesting recovery of $89,734,086 in 2018 electric CIP expenses. We are also requesting recovery of $17,589,180 in financial incentives earned for our 2019 electric CIP performance for total electric recovery of $107,326,266.

Gas Achievements

Xcel Energy conserved 584,761 Dth through its 2019 natural gas CIP at a cost of $13,929,520. The Company requests recovery of $13,929,520 in CIP expenditures, as well as $1,790,002 in financial incentive earned for our 2019 gas CIP performance for total natural gas recovery of $15,719,522.

The tables on the following pages include:

- Xcel Energy's 2019 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.

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

	EXPENSES	Jan Actual	Feb Actual	Mar Actual	Apr Actual	May Actual	Jun Actual	Jul Actual	Aug Actual	Sep Actual	Oct Actual	Nov Actual	Dec Actual	Annual
1.	Balance	27,130,615	23,051,676	18,962,105	14,788,353	12,235,431	11,506,765	10,661,582	33,689,635	28,640,007	26,525,000	23,388,174	18,652,823	
2.	CIP Program Expenditures	7,595,319	6,038,059	7,423,673	7,348,712	9,811,689	10,647,394	7,752,443	7,432,251	9,262,329	7,363,402	5,637,357	6,503,447	92,816,075
3.	2018 Performance Incentive							28,856,219						28,856,219
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	34,725,934	29,089,735	26,385,778	22,137,064	22,047,120	22,154,159	47,270,244	41,121,886	37,902,335	33,888,402	29,025,531	25,156,270	
	RECOVERY													
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	
6.	CCRC Cost Recovery (CCRC times Sales)	7,431,521	6,445,336	7,365,416	6,291,510	6,694,947	7,296,785	8,655,956	7,951,965	7,248,947	6,870,343	6,779,654	7,218,834	86,251,215
7.	CIP Adjustment Factor Rate ($/MWh)	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.682	1.682	1.682	
8.	CIP Adjustment Factor Recovery (Factor times Sales)	4,300,462	3,729,778	4,269,042	3,640,762	3,874,222	4,222,489	5,009,016	4,601,632	4,194,810	3,688,451	3,639,763	3,875,544	49,045,972
9.	Sub-Balance (Line 4 - 6 - 8)	22,993,952	18,914,621	14,751,321	12,204,792	11,477,951	10,634,884	33,605,272	28,568,289	26,458,578	23,329,607	18,606,114	14,061,892	
10.	Accum Deferred Tax (Line 9 * 28.742%)	6,608,922 28.74%	5,436,440 28.74%	4,239,825 28.74%	3,507,901 28.74%	3,298,993 28.74%	3,056,678 28.74%	9,658,827 28.74%	8,211,098 28.74%	7,604,724 28.74%	6,705,396 28.74%	5,347,769 28.74%	4,041,669 28.74%	
11.	Net Investment (Line 9 - 10)	16,385,030	13,478,181	10,511,496	8,696,891	8,178,958	7,578,206	23,946,445	20,357,191	18,853,854	16,624,211	13,258,345	10,020,223	
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	57,724	47,484	37,032	30,639	28,814	26,698	84,363	71,718	66,422	58,567	46,709	35,301	591,471
13.	End of Month Balance (Line 9 + 12)	23,051,676	18,962,105	14,788,353	12,235,431	11,506,765	10,661,582	33,689,635	28,640,007	26,525,000	23,388,174	18,652,823	14,097,193	

Table 17: 2019 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 ($)
2019 Actual

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
EXPENSES	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
1. Balance	########	($7,003,338)	($8,786,194)	($9,731,859)	($8,195,127)	($7,742,696)	($7,115,818)	($1,941,830)	($1,471,958)	($832,637)	($627,509)	($2,030,428)	
1a. Other Adjustments				$1,635,006				$30					
1b. Adj. Beginning Balance	(5,295,926)	(7,003,338)	(8,786,194)	(8,096,853)	(8,195,127)	(7,742,696)	(7,115,818)	(1,941,800)	(1,471,958)	(832,637)	(627,509)	(2,030,428)	
2. CIP Program Expenditures	1,399,912	931,398	1,063,508	1,186,710	1,238,944	1,081,205	1,208,346	904,487	1,134,315	1,535,097	973,186	1,272,413	13,929,520
3. 2018 Performance Incentive							4,391,216						4,391,216
4. **Total Expenses** (Line 1b. + 2 + 3)	**(3,896,014)**	**(6,071,941)**	**(7,722,685)**	**(6,910,144)**	**(6,956,183)**	**(6,661,491)**	**(1,516,256)**	**(1,037,313)**	**(337,643)**	**702,460**	**345,677**	**(758,015)**	**18,320,736**
RECOVERY													
5. CCRC Rate ($/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	783,502	683,850	505,553	322,600	197,108	113,323	107,108	109,494	124,869	280,248	500,534	625,863	4,354,051
7. CIP Adjustment Factor Rate ($/Dth)	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.19618	0.19618	0.19618	
8. CIP Adjustment Factor Recovery	2,318,208	2,023,360	1,495,819	954,502	583,198	335,298	316,910	323,970	369,459	1,049,218	1,873,944	2,343,166	13,987,050
9. **Total Recovery** (Line 6 + 8)	**3,101,709**	**2,707,209**	**2,001,371**	**1,277,102**	**780,306**	**448,622**	**424,018**	**433,464**	**494,327**	**1,329,465**	**2,374,478**	**2,969,029**	**18,341,101**
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9+10)	(6,997,724)	(8,779,150)	(9,724,057)	(8,187,246)	(7,736,489)	(7,110,113)	(1,940,273)	(1,470,778)	(831,970)	(627,006)	(2,028,801)	(3,727,044)	
12. Accum Deferred Tax (Line 11 * 28.742%)	(2,011,286)	(2,523,303)	(2,794,888)	(2,353,178)	(2,223,622)	(2,043,589)	(557,673)	(422,731)	(239,125)	(180,214)	(583,118)	(1,071,227)	(17,003,954)
13. Net Investment (Line 11-12)	(4,986,438)	(6,255,847)	(6,929,168)	(5,834,068)	(5,512,867)	(5,066,524)	(1,382,600)	(1,048,047)	(592,845)	(446,792)	(1,445,683)	(2,655,817)	(42,156,695)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(5,615)	(7,044)	(7,802)	(7,881)	(6,207)	(5,705)	(1,557)	(1,180)	(668)	(503)	(1,628)	(2,990)	(48,780)
15. **End of Month Balance** (Line 11+14)	**(7,003,338)**	**(8,786,194)**	**(9,731,859)**	**(8,195,127)**	**(7,742,696)**	**(7,115,818)**	**(1,941,830)**	**(1,471,958)**	**(832,637)**	**(627,509)**	**(2,030,428)**	**(3,730,035)**	

Table 18: 2019 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 2019 Multi-Year rate case, which was based off of the 2019 test year, (E002/GR15-826) beginning January 1, 2019.

Variables	2019	Tax Rates	2019
Number of Months =	12	Tax Factor =	1.92%
Monthly Carrying Charge =	0.3523%		
Annual Amortization Fctr =	20.00%	Accumulated Deferred Tax =	28.74%
		Tax Rate =	28.74%
Common Equity % =	52.50%		
Preferred Equity % =	0.00%	Rate Base Factor =	8.92%
Total Debt % =	47.50%		
Weighted Cost Common Equity =	4.76%		
Weighted Cost Pref Equity =	0.00%		
Weighted Cost Total Debt =	2.25%		
Normal ROI =	7.01%		
CCRC ($/MWh)	$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 16 (2019 Electric CIP Tracker) and 18 (Summary of Electric Tax and Rate Base Factors).

Capital Structure	Capitalization	Cost of Capital	Weighted Average
	2019 Test Yr	2019 Test Yr	2019 Test Yr
Long-Term Debt	45.81%	4.75%	2.18%
Short-Term Debt	1.69%	4.31%	0.07%
TOTAL DEBT	47.50%		2.25%
Common Equity	52.50%	9.06%	4.76%
TOTAL EQUITY	52.50%		4.76%
TOTAL CAPITAL	100.00%		7.01%
MN Tax Rate =			28.74%
Normal Return =			7.01%
Rate Base Factor =	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)		8.92%
Tax Factor =	Rate Base Factor - ROI		1.92%
Monthly Carrying Charge Rate Calculation			
Annual Revenue Requirements Factor =	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)		8.92%
Monthly Revenue Requirements Factor =	{(1 + short term debt) to the 1/12 Power} -1		0.3523%
CCRC Tracker Rate ($/MWh)		$	3.133

Northern States Power Company
a Minnesota corporation
2019 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 $0.001682 per customer kWh was approved by the Commission on July 19, 2019 in Docket No. E002/M-19-258. This rate was implemented on October 1, 2019 and is designed to reduce the electric CIP Tracker balance to $0 by September 30, 2020. The current natural gas CIP Adjustment Factor of $0.019618 per therm was approved by the Commission on July 19, 2019 in Docket No. G002/M-19-259 and implemented on October 1, 2019. It was also designed to reduce the natural gas CIP Tracker to $0 by September 30, 2020.

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

- Recovery of $17,589,180 for our 2019 electric DSM financial incentives;
- Recovery of $1,790,002 for our 2019 natural gas DSM financial incentive;
- A change in the electric CIP Adjustment Factor from $0.001682 to $0.001928 per kWh effective the first billing cycle beginning in October 2020 through September 2021; and
- A change in the natural gas CIP Adjustment Factor from $0.019618 per therm to $0.019478 per therm effective the first billing cycle beginning in October 2020 through September 2021.

Proposed Electric CIP Adjustment Factor for Period October 2020 Through September 2021

Xcel Energy requests a new electric CIP Adjustment Factor of $0.001928 per customer kWh to be effective with the first billing cycle of October 2020 and to remain in effect through the September 2021 billing period. This proposed factor is calculated to reduce the electric CIP Tracker balance to $0 by the end of September 2021. It is based on the forecasted September 2021 unrecovered balance in the Company's electric CIP Tracker account. This forecasted balance is $50.592 million, based on the forecasted October 2020 beginning balance, October 2020 through September 2021 approved and projected expenditures, forecasted 2020 incentives and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2020)	$13,146,550
Approved expenditures (Oct 2020 - Sept 21)	$102,953,965
Forecasted 2020 incentive	$20,807,622
Less forecasted CCRC recovery (Oct 2020 - Sept 21)	$84,749,772
Forecasted Sept 2021 balance	$52,158,365

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, 2020 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment of $0.001682 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 2021 Electric CIP Tracker Balance	$52,158,365
(2) Forecasted Electric Sales (MWh)– Oct 2020 through Sept 2021[1]	27,050,677
(3) Recalculated Electric CIP Adjustment Rate = (1)/(2)	$1.928/MWh
	$0.001928/kWh

As shown in Table 20, this rate results in a forecasted September 30, 2021 Tracker balance of $19,245.

Proposed Natural Gas CIP Adjustment Factor for Period October 2020 Through September 2021

Xcel Energy requests a new natural gas CIP Adjustment Factor of $0.019478 per therm to be effective with the first billing cycle of October 2020 and remaining in effect through the September 2021 billing period. The proposed factor is based on the forecasted October 1, 2021 unrecovered balance in the Company's gas CIP Tracker account. This forecasted balance is $15.26 million, based on the forecasted October 2020 beginning balance, October 2020 through September 2021 approved and projected expenditures, forecasted 2020 incentive and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2020)	($1,279,028)
Approved expenditures (Oct 2019 - Sept 20)	$18,796,102
Forecasted 2019 incentive	$1,834,710
Less forecasted CCRC recovery (Oct 2019 - Sept 20)	$4,094,939
Forecasted Oct 2020 balance	$15,256,846

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, 2020 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment Factor of $0.022357 per therm up to the first cycle of the first full billing period following Commission approval of a revised factor.

Calculation of Revised Gas CIP Adjustment Rate

(1) Forecasted Oct 2021 Natural Gas CIP Tracker Balance	$15,256,846
(2) Forecasted Gas Sales[2] – October 2020 through September 20201	78,147,683
(3) Recalculated Gas CIP Adjustment Rate = (1)/(2)	$0.19523 dth

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

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

$0.019523/**therm**

Our above forecasted balance does not include carrying charges. To get as close as possible to a $0 balance by Sept 30, 2021, the calculated rate of $0.019523 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 2021 forecasted CIP Tracker balance approached zero ($0) without going negative. The resulting rate is **$0.019478 per therm**. As shown in Table 21, this rate results in a forecasted September 30, 2021 Tracker balance of $448.

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2020 Forecast

	EXPENSES	Jan Forecast	Feb Forecast	Mar Forecast	Apr Forecast	May Forecast	Jun Forecast	Jul Forecast	Aug Forecast	Sep Forecast	Oct Forecast	Nov Forecast	Dec Forecast	Annual
1.	Balance	14,097,193	11,152,285	7,811,577	5,022,334	3,510,465	4,132,722	4,649,904	292,535	(4,163,673)	13,146,550	10,486,002	6,258,815	1,912,349
2.	CIP Program Expenditures	8,424,922	6,697,570	8,234,528	8,151,379	10,883,376	11,810,362	8,599,208	8,244,043	10,274,012	8,167,674	6,253,101	7,213,790	102,953,965
3.	2019 Performance Incentive									17,589,180				17,589,180
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	22,522,115	17,849,855	16,046,105	13,173,713	14,393,841	15,943,084	13,249,112	8,536,578	23,699,518	21,314,224	16,739,103	13,472,605	122,455,494
	RECOVERY													
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	
6.	CCRC Cost Recovery (CCRC times Sales)	7,416,235	6,544,384	7,181,076	6,293,354	6,683,387	7,355,766	8,430,998	8,256,952	6,887,973	6,719,440	6,497,499	7,159,314	85,426,377
7.	CIP Adjustment Factor Rate ($/MWh)	1.682	1.682	1.682	1.682	1.682	1.682	1.682	1.682	1.682	1.928	1.928	1.928	
8.	CIP Adjustment Factor Recovery (Factor times Sales)	3,981,522	3,513,455	3,855,273	3,378,686	3,588,081	3,949,058	4,526,313	4,432,874	3,697,916	4,135,040	3,998,461	4,405,731	47,462,408
9.	Sub-Balance (Line 4 - 6 - 8)	11,124,358	7,792,016	5,009,757	3,501,674	4,122,373	4,638,260	291,802	(4,153,247)	13,113,629	10,459,744	6,243,142	1,907,560	
10.	Accum Deferred Tax (Line 9 * 28.742%)	3,197,363	2,239,581	1,439,904	1,006,451	1,184,852	1,333,129	83,870	(1,193,726)	3,769,119	3,006,340	1,794,404	548,271	
11.	Net Investment (Line 9 - 10)	7,926,995	5,552,435	3,569,853	2,495,223	2,937,521	3,305,131	207,932	(2,959,521)	9,344,510	7,453,404	4,448,738	1,359,289	
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	27,927	19,561	12,577	8,791	10,349	11,644	733	(10,426)	32,921	26,258	15,673	4,789	160,797
13.	End of Month Balance (Line 9 + 12)	11,152,285	7,811,577	5,022,334	3,510,465	4,132,722	4,649,904	292,535	(4,163,673)	13,146,550	10,486,002	6,258,815	1,912,349	

Table 21: 2020 Electric CIP Tracker Forecast, With Cost Recovery in 2020

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2021 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1.	Balance	1,912,349	(1,524,276)	(4,691,788)	(8,094,479)	(10,147,671)	(9,992,919)	(10,005,167)	(14,964,947)	(19,995,900)
2.	CIP Program Expenditures	8,424,922	6,697,570	8,234,528	8,151,379	10,883,376	11,810,362	8,599,208	8,244,043	10,274,012
3.	2020 Performance Incentive									20,807,622
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	10,337,271	5,173,293	3,542,740	56,900	735,705	1,817,443	(1,405,959)	(6,720,904)	11,085,734
	RECOVERY									
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133
6.	CCRC Cost Recovery (CCRC times Sales)	7,342,483	6,105,786	7,201,977	6,314,587	6,639,040	7,316,266	8,389,931	8,212,873	6,850,577
7.	CIP Adjustment Factor Rate ($/MWh)	1.928	1.928	1.928	1.928	1.928	1.928	1.928	1.928	1.928
8.	CIP Adjustment Factor Recovery (Factor times Sales)	4,518,451	3,757,407	4,431,986	3,885,900	4,085,563	4,502,317	5,163,035	5,054,076	4,215,740
9.	Sub-Balance (Line 4 - 6 - 8)	(1,523,663)	(4,689,900)	(8,091,222)	(10,143,587)	(9,988,897)	(10,001,141)	(14,958,925)	(19,987,853)	19,418
10.	Accum Deferred Tax (Line 9 * 28.742%)	(437,931)	(1,347,971)	(2,325,579)	(2,915,470)	(2,871,009)	(2,874,528)	(4,299,494)	(5,744,909)	5,581
11.	Net Investment (Line 9 - 10)	(1,085,732)	(3,341,929)	(5,765,643)	(7,228,117)	(7,117,889)	(7,126,613)	(10,659,430)	(14,242,944)	13,837
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	(613)	(1,888)	(3,258)	(4,084)	(4,022)	(4,027)	(6,023)	(8,047)	8
13.	End of Month Balance (Line 9 + 12)	(1,524,276)	(4,691,788)	(8,094,479)	(10,147,671)	(9,992,919)	(10,005,167)	(14,964,947)	(19,995,900)	19,425

Table 22: 2021 Electric CIP Tracker Forecast, With Cost Recovery in 2021

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2020

	EXPENSES	Jan Forecast	Feb Forecast	Mar Forecast	Apr Forecast	May Forecast	Jun Forecast	Jul Forecast	Aug Forecast	Sept Forecast	Oct Forecast	Nov Forecast	Dec Forecast	Total
1.	Balance	($3,730,035)	($5,282,923)	($6,949,284)	($7,920,692)	($7,654,998)	($6,755,366)	($5,836,041)	($4,702,208)	($3,998,004)	($1,279,028)	($355,531)	($1,148,086)	
2.	CIP Program Expenditures	1,889,001	1,256,802	1,435,068	1,601,312	1,671,796	1,458,948	1,630,508	1,220,489	1,530,613	2,071,417	1,313,189	1,716,958	18,796,102
3.	2019 Performance Incentive									1,790,002				1,790,002
4.	**Total Expenses** (Line 1 + 2 + 3)	**(1,841,034)**	**(4,026,121)**	**(5,514,215)**	**(6,319,379)**	**(5,983,201)**	**(5,296,418)**	**(4,205,533)**	**(3,481,719)**	**(677,389)**	**792,389**	**957,659**	**568,872**	
	RECOVERY													
5.	CCRC Rate ($/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	724,648	615,020	505,940	280,251	161,628	112,765	103,903	108,156	126,608	243,289	446,204	664,736	4,093,148
7.	Rate ($/Dth)	0.19618	0.19618	0.19618	0.19618	0.19618	0.19618	0.19618	0.19618	0.19618	0.19478	0.19478	0.19478	
8.	CIP Adjustment Factor Recovery	2,713,006	2,302,571	1,894,186	1,049,230	605,120	422,180	389,002	404,923	474,006	904,346	1,658,620	2,470,939	15,288,128
9.	**Total Recovery** (Line 6 + 8)	**3,437,654**	**2,917,591**	**2,400,126**	**1,329,481**	**766,748**	**534,944**	**492,905**	**513,079**	**600,614**	**1,147,635**	**2,104,824**	**3,135,674**	
10.	Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	Sub-Balance (Line 4-9)	(5,278,688)	(6,943,712)	(7,914,341)	(7,648,860)	(6,749,950)	(5,831,362)	(4,698,438)	(3,994,798)	(1,278,002)	(355,245)	(1,147,165)	(2,566,802)	
12.	Accum Deferred Tax (Line 11 * 28.742%)	(1,517,200)	(1,995,762)	(2,274,740)	(2,198,435)	(1,940,071)	(1,676,050)	(1,350,425)	(1,148,185)	(367,323)	(102,105)	(329,718)	(737,750)	(15,637,765)
13.	Net Investment (Line 11-12)	(3,761,487)	(4,947,951)	(5,639,601)	(5,450,425)	(4,809,879)	(4,155,312)	(3,348,013)	(2,846,613)	(910,679)	(253,141)	(817,447)	(1,829,052)	(38,769,600)
14.	Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(4,235)	(5,571)	(6,350)	(6,137)	(5,416)	(4,679)	(3,770)	(3,205)	(1,025)	(285)	(920)	(2,060)	(43,655)
15.	**End of Month Balance** (Line 11+14)	**(5,282,923)**	**(6,949,284)**	**(7,920,692)**	**(7,654,998)**	**(6,755,366)**	**(5,836,041)**	**(4,702,208)**	**(3,998,004)**	**(1,279,028)**	**(355,531)**	**(1,148,086)**	**(2,568,862)**	

Table 23: 2020 Gas CIP Tracker Forecast, With Cost Recovery in 2020

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

DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2021 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1.	Balance	($2,568,862)	($4,134,599)	($5,711,546)	($6,688,766)	($6,424,662)	($5,525,429)	($4,605,228)	($3,470,341)	($2,764,740)
2.	CIP Program Expenditures	1,889,001	1,256,802	1,435,068	1,601,312	1,671,796	1,458,948	1,630,508	1,220,489	1,530,613
3.	2019 Performance Incentive									1,834,710
4.	**Total Expenses** (Line 1 + 2 + 3)	**(679,860)**	**(2,877,798)**	**(4,276,477)**	**(5,087,453)**	**(4,752,866)**	**(4,066,481)**	**(2,974,720)**	**(2,249,852)**	**600,583**
	RECOVERY									
5.	CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524
6.	CCRC Cost Recovery	731,672	599,759	510,247	282,385	162,837	113,427	104,477	108,682	127,224
7.	Rate ($/Dth)	0.19478	0.19478	0.19478	0.19478	0.19478	0.19478	0.19478	0.19478	0.19478
8.	CIP Adjustment Factor Recovery	2,719,752	2,229,410	1,896,679	1,049,674	605,295	421,628	388,361	403,990	472,912
9.	**Total Recovery** (Line 6 + 8)	**3,451,424**	**2,829,169**	**2,406,926**	**1,332,058**	**768,133**	**535,055**	**492,839**	**512,672**	**600,136**
10.	Rate Refund	0	0	0	0	0	0	0	0	0
11.	Sub-Balance (Line 4-9)	(4,131,285)	(5,706,967)	(6,683,403)	(6,419,512)	(5,520,999)	(4,601,536)	(3,467,558)	(2,762,523)	447
12.	Accum Deferred Tax (Line 11 * 28.742%)	(1,187,414)	(1,640,296)	(1,920,944)	(1,845,096)	(1,586,846)	(1,322,573)	(996,646)	(794,004)	129
13.	Net Investment (Line 11-12)	(2,943,871)	(4,066,670)	(4,762,460)	(4,574,416)	(3,934,154)	(3,278,962)	(2,470,913)	(1,968,519)	319
14.	Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(3,315)	(4,579)	(5,363)	(5,151)	(4,430)	(3,692)	(2,782)	(2,217)	0
15.	**End of Month Balance** (Line 11+14)	**(4,134,599)**	**(5,711,546)**	**(6,688,766)**	**(6,424,662)**	**(5,525,429)**	**(4,605,228)**	**(3,470,341)**	**(2,764,740)**	**448**

Table 24: 2021 Gas CIP Tracker Forecast, With Cost Recovery in 2021

Northern States Power Company
a Minnesota corporation
2019 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 2019 CIP portfolio achieved electric energy savings of nearly 530 GWh which will provide net benefits of over $175 million to Xcel Energy electric customers. The Company also achieved gas savings of 584,761 Dth, which will provide Xcel Energy customers with net benefits of more than $25 million. As a result of these achievements, we request approval of a 2019 CIP electric financial incentive of $17,589,180 and a 2019 CIP natural gas financial incentive of $1,790,002.

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
2019 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 2019, the Company achieved electric energy savings of 528,899,458 kWh at the generator (123% of 1.5% goal) at a cost of $89,734,086 (94% of budget). As a result, we respectfully request approval of our CIP electric financial incentive in the amount of $17,589,180.

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)	28,767,281,504

Incentive Mechanism

Max Percent of Net Benefits Awarded	10.0%
Max Percent Expenditures Awarded	30.0%
Earnings Threshold	1.0%
Net Benefits Cap Achievement Level	1.7%
Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level	0.75%

Summary of 2018 Achievements

Actual Spending for Incentive[2]	$89,734,086
Actual Energy Savings (kWh)[3]	528,899,458
Net Benefits Achieved[4]	$175,891,796

[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 programs that failed the Utility Test.

2019 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) =

528,899,458 / 28,767,281,504

= 1.84%

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% =

10.0% - 0.75% x (1.84% less than 1.7%) = 10.0% - 0.75% x 0 / 0.1%

= 10.0%

Expenditures Award Cap =

Max Percent Expenditures Awarded x Actual Spend for Incentive =

30% x $89,734,086

= $26,920,226

Incentive Awarded =

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

$175,891,796 x 10.0% less than $26,920,226

= **$17,589,180**

2019 Electric Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a CIP financial incentive of $17,589,180.

Northern States Power Company
a Minnesota corporation
2019 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 2019, Xcel Energy achieved energy savings of 584,761 Dth (81% of goal) at a cost of $13,573,925 (79% of budget). As a result, we respectfully request approval of our financial incentive in the amount of $1,790,002.

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	10.0%
Max Percent Expenditures Awarded	30.0%
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 2019 Achievements

Actual Spending for Incentive	$13,594,188
Actual Energy Savings (Dth)	584,761
Net Benefits Achieved[6]	$25,211,491

2019 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) =

584,761 / 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 programs that failed the Utility Test.

= 0.81333%

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% =

10.0% - 0.75% x (0.81333% less than 1.2%) = 10.0% - 0.75% x 0.38667 / 0.1% =

= 7.0999%

Expenditures Award Cap =

Max Percent Expenditures Awarded x Actual Spend for Incentive =

30% x $13,594,188

= $4,178,856

Incentive Awarded =

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

$25,211,491 x 7.0999% less than $4,078,256

= **$1,790,002**

2019 Gas Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a financial incentive of $1,790,002.

Northern States Power Company
a Minnesota corporation
2019 CIP Status Report
Docket No. E,G002/CIP-16-115.08

Summary

The 2019 CIP Status Report compares the actual achievements accomplished by Xcel Energy in 2019 to the forecasts 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; and
- Assessments.

Xcel Energy's CIP program continues to encourage energy savings and build awareness of the benefits of energy efficiency. In 2019, the electric portfolio and gas portfolio successfully exceeded their savings goals. The Company achieved more than 528 GWh of electric savings, 120 MW of demand reduction, and 584,761 Dth of gas savings, while spending $92.82 million on its electric programs and $13.93 million on its gas programs.

Summary of Achievements

2019	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$97,811,305	$92,816,075	95%	$17,994,036	$13,929,520	77%
Generator kW	113,612	120,334	106%	n/a	n/a	n/a
kWh/Dth Saved	447,894,696	528,899,459	118%	759,563	584,761	77%
Participation	1,389,586	1,634,688	117%	630,538	563,964	89%

In compliance with Minn. R. 7690.0550, this 2019 CIP Status Report includes the cost-effectiveness of the overall Xcel Energy CIP Plan based on 2019 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 provides a variety of customer solutions used to encourage business 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 broader long-term energy planning to help customers analyze, track, and implement efficiency plans rather than ad-hoc efficiency projects;
- Demand management programs that help lower customers' electricity demand during peak periods in exchange for lower rates or energy bill discounts; and
- Business education, advertising, and promotional efforts that work to increase customer and trade awareness of energy use and conservation options, leading to future participation in programs.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$40,786,192	$38,308,518	94%	$5,138,323	$2,928,057	57%
Generator kW	43,059	54,411	126%	N/A	N/A	N/A
kWh/Dth Saved	250,313,119	266,823,363	107%	450,232	256,083	57%
Participation	88,203	111,730	127%	22,591	19,637	87%

In 2019, the Business Segment electric portfolio exceeded its energy savings and demand savings goals, and spending was aligned with achievements. The Business Segment's highest performing programs were Business New Construction, Commercial Efficiency, Lighting Efficiency and Process Efficiency. The Lighting Efficiency program contributed the most towards portfolio performance, realizing strong results through refining and promoting efficient LED measures. The other high performing programs are all holistic type offerings providing customers with the broader long-term planning they seek, providing greater influence over energy efficiency decisions.

The Business Segment gas portfolio did not achieve its savings and spend goals. Ongoing low natural gas prices can result in customer decisions to delay or deprioritize gas savings projects. Business New Construction, Heating Efficiency and Process Efficiency contributed the most towards the segment performance. Three programs achieved gas savings goals; Business New Construction, Custom Efficiency and Foodservice.

Business Direct Impact Programs

Business New Construction

The Business New Construction program offers free consulting services as well as 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) which is typically for smaller, less complicated projects. EEB projects utilize our existing custom and prescriptive rebates to develop a project-specific rebate offering for the customer.

The program is primarily marketed through the design community. Given the program's longevity, it has an established trade network of design professionals that regularly participate, and the Company's consultant regularly communicates with this target audience. Xcel Energy account managers and Business Solutions Center representatives also promote the program to customers.

Deviation from Goal or Budget

Given the ongoing construction boom, the Business New Construction program significantly exceeded its electric and gas savings goals. The percent of budget spending was slightly higher than achievement and the Company expects this trend to continue. As codes and certification requirements increase, the savings per project decrease; however, the costs to attract and manage these projects through the program will continue to increase.

Additionally, lighting and lighting control measures currently make up more than 50 percent of the program's achievement. As lighting energy savings projections are expected to decline in future years, energy savings from other end uses will be more difficult and costly to achieve.

Changes in 2019

None.

Commercial Efficiency

The Commercial Efficiency program offers large commercial customers customized resources to develop a holistic, sustainable energy management plan. The program 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

In 2019, the program did not reach its electric and gas goals primarily due to a reduced number of large projects compared to previous years. Program spending was in line with achievement. Looking forward, the Company expects expenditures to increase due to more customers participating in Phase 2 and Phase 3 of the program. The number of new customers per year will decline because the target market (commercial customers with the potential to save 1 GWh) is mostly saturated.

Changes in 2019

None.

Commercial Refrigeration Efficiency

The Commercial Refrigeration Efficiency program provides a walk-through energy assessment to identify efficiency improvement opportunities and uses a combination of direct installation, prescriptive, and custom improvement measures. Rebates are offered to lower the incremental capital cost associated with energy improvement opportunities.

The program uses a third-party implementer to perform on-site energy assessments and help customers identify and implement energy efficiency opportunities. The program is promoted through our energy efficiency specialists, third party implementer, trade and advertising.

Deviation from Goal or Budget

In 2019, the program did not achieve its electric and gas goals. Since the program launched in 2018, about 300 assessments have been completed. This should help fill the pipeline with opportunities for 2020. A case study was also developed to help encourage greater participation. Additional efforts have been made to engage the trade in helping promote the program.

Changes in 2019

None.

Cooling Efficiency

The Cooling Efficiency program offers prescriptive and custom rebates and study funding to business customers that purchase and install efficient cooling systems for space and process cooling. Rebates help offset the incremental first costs associated with energy efficient equipment purchases to reduce the payback period of a customer's capital investment.

This program is marketed to business customers of all sizes as well as trade partners through a variety of channels including advertising, customer direct email, bill messaging, and newsletters. The Company also hosts trainings offered to customers, trade partners and internal personnel to educate and encourage promotion of the program.

In 2019, the most notable promotion was the partnership with the Saver's Switch for Business program to promote demand management to customers who are not current participants.

Deviation from Goal or Budget

The Cooling Efficiency program did not meet its electric or gas savings goals in 2019. Program participation for both electric and gas measures reflect installing low-cost cooling equipment instead of large capital investment measures that are associated with higher saving measures. This was especially true for the gas portion of the program. This is a continuation of a trend that the program has been experiencing since the implementation of the new energy code in 2017. Program spending for both gas and electric was in line with program achievement.

Changes in 2019

The program filed both a modification and courtesy notification in December 2019. The program modification moved medium and low temperature (temp) permanent magnet synchronous motor (PMSM) and medium temp reach-in cases with doors and evaporative motor fan controller (EMFC)

for coolers and freezers from custom to prescriptive. The modification also updated incremental costs for the medium temp reach in case.

The courtesy notification for the program expanded the definition of what is acceptable documentation in place of the Air-Conditioning, Heating and Refrigeration Institute (AHRI) Certificate. Both the courtesy notification and modification aimed to make it easier for customers and trade partners to participate in the program.

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 program ideas.

The program is open to all commercial business customers, but primarily marketed to mid-size customers through direct contact with our account managers, Business Solutions Center, internet resources and trade partners. Promotional efforts continue to focus on market segments not served by our holistic programs as well as energy efficiency equipment and unique strategies that do not have corresponding end-use rebates. It is becoming more challenging to bring qualifying projects into the program.

Deviation from Goal or Budget

In 2019, the Custom Efficiency program exceeded its natural gas savings goal but fell short of the electric savings goal as several key projects shifted completion dates to 2020. The program underspent its forecasted gas budget and the electric spend aligned with savings achievement.

Changes in 2019

None.

Data Center Efficiency

The Data Center Efficiency program offers study, prescriptive and custom electric rebates to customers that implement energy-saving measures in data centers. This is a unique segment-focused program tailored to the specialized needs of data centers. The program is primarily marketed to enterprise and colocation data centers through the Company's account managers, Business Solutions Center and trade partners, as well as through new construction partners and professional organizations. Data centers of any size may participate in the program.

Deviation from Goal or Budget

The Data Center Efficiency program did not meet it savings goal and program spending aligned with program achievement. The program utilized targeted advertising campaigns to build awareness for current offerings. Various tactics were used to increase achievement and build pipeline, such as offering free walkthroughs to identify energy saving opportunities and meeting with targeted data center vendors to increase participation. However, given the nature of the highly tailored offering and unusually long sales cycles, achievement fell below our targets.

Changes in 2019

None.

Efficiency Controls
The Efficiency Controls program offers custom electric and gas rebates to businesses that install automated control systems resulting in energy savings. Rebates apply to new systems for HVAC or 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 commercial businesses of all sizes through our active trade partner relationships, account managers, and energy advisors.

Deviation from Goal or Budget
In 2019, the program fell short of its electric and gas goals, and program spending aligned with program achievement. Achieving significant energy savings continues to be challenging, especially during peak customer usage times.

Changes in 2019
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, and vacuum, hydraulic and pump systems.

The program is primarily marketed to large and mid-sized industrial customers through strong trade partner relationships, the Company's account management and energy efficiency specialist teams, and digital and event marketing.

Deviation from Goal or Budget
In 2019, the program did not meet its filed goal due to the cyclical nature of the technology's sales. Expenditures were controlled and aligned with performance. Training was provided to trade and customers in the industrial sector to increase program awareness and build future pipeline. Web content was simplified to remove barriers of completing applications. The highest customer participation was with compressed air measures, and this will continue to be a focus for the program. Additional participation in program measures occurred within the Process Efficiency program.

Future promotional efforts will include email campaigns to increase study participants, communicate with out-state customers, and have a presence in the Company's trade newsletter.

Changes in 2019
No changes.

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 the Company's account managers, energy efficiency specialists and trade

partners. The Company also offers a trade incentive to help stimulate greater awareness and increase trade participation.

Deviation from Goal or Budget
The Foodservice Equipment program exceeded gas and electric achievement goals primarily due to strong trade support. The Company offers trade an incentive to encourage them to support the program. Despite exceeding savings goals, the program remained under budget.

To retain a strong pipeline, future promotion efforts will include search engine optimization as well as a stronger presence in a local foodservice publication.

Changes in 2019
None.

Heating Efficiency
The Heating Efficiency program offers prescriptive and custom gas and electric rebates and study funding to business customers that improve heating system efficiency. The program encourages customers to optimize and/or replace their existing heating systems to energy efficient systems through the funding of audits, equipment repairs, and tune-ups on an ongoing basis from rebates.

The program is primarily marketed to customers through the Company's account managers and Energy Efficiency Specialists. The secondary marketing channel consists of a heating trade network that includes manufacturer representatives, contractors, and distributors. The relationships with the heating trade are critical to helping customers understand the importance of having efficient heating systems even when natural gas prices are low.

The program's promotional activities include direct mail, email, bill onserts, trade partner newsletters and trainings offered to customers, trade partners and internal personnel. The Company also does significant outreach through community energy organizations such as Minnesota Blue Flame Association, the primary gas association in Minnesota. Our engagement with Minnesota Blue Flame is used to assess engagement, strengthen and grow the program through leveraged trade outreach and gather their feedback.

Deviation from Goal or Budget
The program did not meet its filed goal or budget. Program spending was proportionate with the overall achievement. Program participation for both electric and gas measures is comprised of a high number of measures with lower savings and fewer participants for system replacement or upgrade measures. Ongoing and forecasted low natural gas prices impact customer decisions when considering capital investments towards heating system efficiency.

Changes in 2019
The program filed both a modification and courtesy notice in December 2019. The program modification moved high-volume, low-speed (HVLS) fans from 14 feet to < 26 feet from custom to prescriptive. The courtesy notification for the program expanded the definition of what is acceptable documentation in place of the Air-Conditioning, Heating and Refrigeration Institute (AHRI) Certificate. Both the modification and courtesy notification aimed to make it easier for customers and trade partners to participate in the program.

Lighting Efficiency

The Lighting Efficiency program offers prescriptive and custom rebates to motivate business customers to purchase and install energy efficient light fixtures. Lighting discounts are also available on LED lamps for businesses through participating distributors. In addition, study funding is available for customers looking to make energy efficient improvements but need to determine proper lighting levels within a facility.

The Company continues to observe declining LED equipment costs, which is driving greater affordability and adoption of LED technologies. Business customers 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.

Marketing efforts were focused on developing and maintaining relationships with trade partners as they play a large role in educating customers about energy efficient products and motivating them to leverage rebates. The program's highest performing measures were LED tubes, high bay fixtures and troffers.

Deviation from Goal or Budget

In 2019, the lighting program focused efforts on right-sizing rebates to align with declining LED market costs. Additionally, the rebates for fluorescent fixtures and lamps were eliminated due to market transformation. As a result, the program saw reduced energy savings and participation. Despite the drop in participation, Lighting Efficiency did exceed its participation, savings, and spending goals due to the strong performance in LED measures in the prescriptive program. The additional spending was in line with the increased achievement.

Changes in 2019

The Company added several new measures in 2019 for T5 linear tubes and direct linear ambient fixtures for retrofit. In addition, a new baseline was added to the high bay fixture category. Each of these measures filled a market niche and performed well.

Motor and Drive Efficiency

The Motor and Drive Efficiency program offers prescriptive and custom rebates to qualifying electric business customers that install efficient motors, constant speed motor controllers (CSMCs) and variable frequency drives (VFDs) and clean water pumps (CWPs).

The program is marketed through multi-channels including the Company's account managers, energy efficiency specialists and equally important the trade partner network. The CWPs product is marketed primarily through a group of registered distributors that sell qualifying pump equipment.

To increase program awareness and participation, the program leverages various activities such as training for customer and trade partners, utility bill onserts, email campaigns, e-newsletters, customer and trade partner case studies and social media outlets. The most noteworthy promotion in 2019 was the outreach to CWP distributors to build a registered distributor network. Having a robust distributor network gives customers options to purchase pumps from a variety of pump manufacturers.

Deviation from Goal or Budget

The program fell short of its electric savings goal in 2019. Program participation and savings goals increased with the filing of CWPs, but the product launch was delayed. Program spending was in-line with program achievement.

Changes in 2019
The program filed both a modification request and courtesy notice in December 2019. The program modification moved CWPs from custom to prescriptive to take advantage of the U.S. Department of Energy's (DOE) conservation efficiency standard for pumps before the manufacturing deadline. The courtesy notice expanded the DOE's definition of what is considered a CWP by including glycol in pumps and pumping systems. Both filings were aimed at making it easier for customers and trade partners to participate in the program as well as the trade partners that promote energy efficient equipment to customers.

Multi-Family Building Efficiency
The Multi-Family Building Efficiency (MFBE) program is a holistic approach in reaching the multi-family housing market segment to achieve deep, whole-building energy savings. The program is delivered in partnership with CenterPoint Energy and offers a whole-building energy use baseline, free energy audit, direct installation of low-cost energy saving measures and the potential for incentives with the implementation of a cost-effective energy efficiency bundle. Unlike other CIP programs, MFBE is focused on the entire multi-family building, including resident spaces and common areas.

The program is marketed through a variety of venues, which include Minnesota Multi Housing Association events and advertising, direct mail, email and social media. Additional interest in the program is driven through various stakeholder groups, communities and outreach from the Minneapolis Clean Energy Partnership.

Deviation from Goal or Budget
The program met or exceeded participation goals but did not reach the filed gas and electric savings goals due to fewer incentive opportunities than expected. This issue, which was addressed in our approved 2020 Extension Plan filing, found that many buildings were unable to achieve a cost-effective bundle to reach the minimum savings requirement.

Additionally, we continue to find many buildings decline participation in the direct install portion of the program, which impacts energy savings. These properties are often condominiums or cooperatives with owner occupants that struggle to gain full building consensus or properties that have already completed installations of the direct install measures offered.

As in previous years, the program operations did not require any limits on participation as it had sufficient capacity to include all properties requesting participation in the program. Building participation is highlighted in the table below.

2019 MFBE Building Participation

	Total Buildings	Total Units
Low-Income	105	4,201
Market Rate	250	7,687
Totals	355	11,888

Changes in 2019
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 the Company's account managers.

Deviation from Goal or Budget
In 2019, the program did not reach its electric and gas goals as several key projects shifted completion dates to 2020. Spending was in line with achievement.

Changes in 2019
None.

Recommissioning
The Recommissioning program offers study funding as well as electric and natural gas implementation rebates to commercial customers that optimize their existing equipment to run more efficiently. Recommissioning consists of two main steps: study and implementation. The Company offers rebates to offset the cost of Recommissioning studies, as well as rebates for the implementation of Recommissioning measures. Through a study provider chosen by the customer, 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 Recommissioning program also includes a benchmarking service that provides a free data aggregation and data upload tool to the Company's electric and natural gas customers interested in tracking whole building data. Data is uploaded automatically to the U.S. Environmental Protection Agency's (EPA) online tool, the ENERGY STAR Portfolio Manager.
The program is primarily marketed through the Company's account managers, Business Solutions Center, and study providers.

Deviation from Goal or Budget
In 2019, the program met its electric savings target. Electric spending remained under budget and in-line with program achievement. The program reached its gas target while spending less than the budgeted total. The unusually high achievement output can be credited to two studies for a combo-fuel customer with deep natural gas savings opportunities.

Changes in 2019
None.

Self-Direct Efficiency
The Self-Direct Efficiency program is targeted toward 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 prefer to use their in-house experience and resources, while others may choose an energy service company (ESCO) or other energy partner to assist them with their efforts. Regardless, customers who implement and commission qualifying projects can receive rebates based upon the amount of energy savings achieved.

Deviation from Goal or Budget
In 2019, the Self-Direct program had one project that exceeded the electric savings target, but had no gas savings contributions. The program incurred typical project management costs during the year. The Company continues to work with vendors and recognizes that most customers gravitate to holistic, full-service programs. The Company offers this product to eligible customers interested in self-managing their energy efficiency projects.

Changes in 2019
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 the Company's account managers, energy efficiency specialists and advertising.

Deviation from Goal or Budget
In 2019, the program exceeded its electric and gas targets while operating under budget. This success can be attributed to the strong pipeline that has been built through the large volume of studies conducted in current and recent program years, as well as ongoing follow-ups with customers who have completed audits. Participants are offered a one-year bonus rebate period to implement measures identified in their audit, which is a strategy that has continuously proved successful.

Changes in 2019
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 Midcontinent Independent System Operator (MISO). 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 teams.

Deviation from Goal or Budget

In the first half of 2019, the program experienced small gains of controllable load. As the year progressed, the Company saw a significant increase in participation, although not a full recovery from the losses experienced due to the testing period that occurred from the summer 2014 through the winter of 2017. The program finished the year under budget, with a decrease in program participation but an increase in controllable load due to program participant load growth.

Changes in 2019

The decrease in program participation but increase in controllable load was mainly due to the smaller program participants leaving the program while larger program participants increasing their controllable load. The decrease in program participation was due primarily to the MISO emergency winter event that was experienced on January 30, 2019 as well as the new annual MISO real power summer test event that was approved by FERC in early 2019.

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

The program fell short of its goals in 2019 due to a challenging recruiting environment for new participants. With fewer switches than anticipated installed in the field, the program costs were also below expectations. The Company anticipates increased volumes in 2020 with changes to advertising and stronger involvement from its Business Solutions Center in the recruiting process.

Changes in 2019

None.

Business Indirect Impact Programs

Business Education

The Business Education program creates awareness of energy conservation by providing business customers with information and resources to reduce their energy use. 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 achieve long-term energy savings.

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

Deviation from Goal or Budget

In 2019, the Company exceeded the electric and gas participation targets for this program while staying within the approved budgets. Continued long-term partnerships with community-based organizations contributed to increased participation without additional expenditures. Community partners continued to offer additional outreach opportunities as a result of longstanding relationships. To continuously improve education efforts, the program explored ways to incorporate digital, interactive components and target high impact events.

Changes in 2019

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, to ensure that hazardous materials, such as mercury, do not enter the environment. The program offers free compact fluorescent light (CFL) bulb recycling at participating local hardware stores and partnering county waste facilities. In addition, the Company offers coupons to help reduce the recycling fees for fluorescent tubes and HID bulbs at participating hardware stores. The coupons are available at participating hardware stores and on the Company website.

The Small Business Lamp Recycling Program is primarily marketed through Xcel Energy's Home Lighting program promotions, participating hardware stores, and on the Company website. An online search feature allows customers to search by zip code to find the nearest recycling locations.

Deviation from Goal or Budget

In 2019, the program did not meet its participation goal, but remained under budget. Participation dropped in 2019 due to the phasing out of CFL bulbs in businesses.

Changes in 2019

None.

Residential Segment

The Residential Segment provides cost-effective, direct and indirect impact energy efficiency and demand response programs that target customers' homes. Prescriptive rebates, in-home services and consumer education make up the portfolio across a variety of programs. They are designed to inform and influence customer knowledge and purchasing decisions related to energy use and conservation.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$29,342,036	$25,517,339	87%	$8,414,426	$7.379.210	88%
Generator kW	58,087	53,705	92%	N/A	N/A	N/A
kWh/Mcf Saved	139,177,225	189,767,933	136%	289,795	320,359	111%
Participation	1,256,694	1,497,975	119%	605,339	562,568	93%

In 2019, the Residential Segment's electric portfolio exceeded its participation, energy savings and demand savings goals. Electric spending was below energy and demand savings achievements. Respectively, Home Lighting, Energy Feedback and Residential Heating System Rebate programs were the leading electric energy savings performers. The Home Lighting program demonstrated continued strong customer response to promotions and event outreach. The Residential Cooling, Refrigerator Recycling and Home Energy Squad programs also contributed significant electric savings. Saver's Switch, Home Lighting and Residential Cooling brought in the most demand savings among the programs in this segment.

The Residential Segment's gas portfolio exceeded its filed savings goals while participation and spending were below filed goals. Although gas spending was under filed budget, gas savings were proportionally higher indicating individual projects in 2019 had strong gas savings. Two thirds of Gas programs exceeded filed savings goals. Having far surpassed their savings goals, the Energy Feedback, Energy Efficient Showerheads and Insulation Rebate programs spent significantly less than their percent of achieved Gas savings. Energy Efficient Showerheads, Energy Feedback, Efficient New Home Construction, Heating System Rebate, Insulation Rebate, School Education Kits and Water Heater Rebate programs all surpassed their filed Gas savings goals. Respectively, Heating System Rebate, Energy Feedback and Efficient New Home Construction programs were the lead contributors toward the segment's total Gas achievements. Energy Efficient Showerheads 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 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 builders to help them learn and employ better building practices.

Deviation from Goal or Budget

In 2019, the program performed well, exceeding both the gas and electric customer participation goals, primarily due to a continued strong construction market. Electric and gas savings figures also exceeded filed goals, which is largely attributable to improving construction practices among program builders, and electric savings due to increased saturation of high efficiency lighting. The program remained within its gas budget and slightly overspent in electric budget.

Changes in 2019

In 2019, the program sponsored training for builders, bankers, and appraisers to properly assign value to efficient homes when compared to less efficient homes.

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 2019, the program fell slightly short of its filed savings and participation goals. Program spending was under the filed budget. Each year, there are slight variations in demand for the showerhead kits from year-to-year and there does not appear to be a specific reason for this year's shortfall.

Changes in 2019

None.

Energy Feedback

The Energy Feedback program is a behavioral energy conservation program that provides home energy reporting, online portal and savings recommendations to customers. This is an opt-out program that uses a participant and control group to statistically calculate how much energy was saved by the participants.

To grow energy savings, the program is encouraging increased customer engagement in the My Energy portal. This would allow more customers to be exposed to low- and no-cost energy savings opportunities as well as recommendations for advanced energy savings measures.

Deviation from Goal or Budget
In 2019, the program achieved its electric and gas savings goals while being under budget. Internal labor costs remained lower than expected as the program matured and needed fewer internal resources.

Changes in 2019
The Company selected a new vendor to deliver Home Energy Reports and Online Portal starting in 2020.

Heating System Rebate
The Heating System Rebate program offers prescriptive electric and natural gas rebates to customers that install new high-efficiency furnaces and 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, and 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 primarily marketed to homeowners via various forms of mass media messaging including TV, radio and digital advertising. It is also marketed through an extensive trade ally network that serves as in-home spokespeople for the program while selling new equipment. This network is supported by a dedicated Channel Manager who trains and informs trade on the program. The Heating System Rebate program is also cross-marketed with the Insulation Rebate and Water Heating Rebate programs.

Deviation from Goal or Budget
In 2019, the program exceeded its natural gas and electric savings goals. Spending was commensurate with the achieved energy savings. We believe the performance was driven by system bundle sales techniques utilized by trade partners and a healthy economy.

Changes in 2019
In July 2019, the U.S. Department of Energy enacted a Final Rule requiring that ECMs become the baseline technology for non-weatherized, natural gas forced air furnaces. The Company, along with other electric utilities and the Department agreed that ECM projects would continue to receive rebates through 2020.

Home Energy Squad
Home Energy Squad is a direct install program for electric and natural gas customers searching for ways to improve the energy efficiency and comfort of their home as well as lower their utility bill. The program is a co-branded partnership with CenterPoint Energy and implemented by a contracted third party. The primary marketing tactics include mass media advertising, event marketing, bill onserts, and email marketing initiated by both utilities.

Deviation from Goal or Budget
In 2019, the program exceeded its electric savings goal, but did not achieve its gas savings goal. Electric spending exceeded the filed budget, but the program achieved more electric savings per dollar spent than projected in the filed goals. Gas spending was lower than the filed budget, but similarly the program achieved more gas savings per dollar than projected. Continued customer favorability toward the installation of LED bulbs through the program led to a high level of average

electric savings per home. The program also continued its trend of significantly higher net gen kW savings than expected due to programmable thermostats' actual average setback temperature being higher than estimated in the technical assumptions.

Changes in 2019
None.

Home Lighting
The Home Lighting program offers customers discounted prices on ENERGY STAR-certified LEDs at participating retailers, via upstream incentives to retailers and manufacturers. LEDs are an easy, low-cost way for customers to save energy and reduce their monthly electric bills. The Company is 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 publication, bill onserts, and point-of-purchase displays. In 2019, the Company continued to feature our discounted bulbs periodically on retailer end-caps, which increases visibility of the program. The Company promotes the product through bulb giveaways and local events in the community such as fairs, Earth Day celebrations, and sporting events including partnering with the Minnesota Twins and Minnesota Wild. In-store retailer demos continue to be a source for consumer education and outreach where program field representatives work with consumers to provide education on bulb color, lumens and wattage equivalencies, helping customers find the right bulb for the right task and promoting ENERGY STAR products.

Deviation from Goal or Budget
In 2019, the program exceeded electric goals while remaining under budget. The budget savings were attributed to reduced spending in advertising, promotions and consulting. We offered deep discounts on A-line multi-packs in select stores throughout the year, which was well-received by customers.

Changes in 2019
None.

Insulation Rebate
The Insulation Rebate program offers prescriptive electric and natural gas rebates to residential customers to improve their home's air-sealing and attic and wall insulation. Customers must have products installed by an insulation contractor that has Building Performance Institute certification, or a utility approved training course, in order to qualify for the rebate.

The program is marketed primarily to homeowners via various forms of mass media messaging including TV, radio and digital advertising. It is also marketed through an extensive trade ally network that serves as in-home spokespeople for the program while selling insulation products. This network is supported by a dedicated Channel Manager who trains and informs on the program. This program is also cross-marketed with the Water Heating Rebate program. To increase awareness and maintain costs, the program leverages various electronic channels, cross-marketing with other Xcel Energy residential programs, and social media outlets.

Deviation from Goal or Budget
The Insulation Rebate program exceeded its electric savings target but did not meet its did not gas savings target in 2019. Program spending was in line with achievement. The Company identified potential barriers to participation and created an additional path for certification for trade partners that should increase gas participation going forward.

Changes in 2019
None

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. In addition, air conditioners and dehumidifiers are picked up and recycled for free with no rebate. A third-party implementer administers the product, including customer scheduling, pickup, recycling, and rebating. This product is primarily marketed through email, bill onserts, direct mail, print, and digital and social media channels.

Deviation from Goal or Budget
The program did not meet its participation or electric savings targets due to lower-than-expected per-unit savings associated with higher market saturation of higher efficiency appliances. Program spending was under budget primarily due to efficient use of the marketing budget. To boost participation, the Company offered a bonus rebate in the spring and fall, and utilized low-cost marketing channels such as email and direct mail.

Changes in 2019
The Company introduced Window Air Conditioning and Dehumidifier units as new measures in 2019. These changes will improve the customer experience, provide additional services and value for customers, and will provide additional opportunities for cost-beneficial electric savings.

Residential Cooling
The Residential Cooling program offers prescriptive rebates to electric customers in single-family homes that purchase new high efficiency 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 gives flexibility to customers by offering incentives for air source or ground source heat pumps. Marketed is done through a variety of channels, including advertising, cross-promotions with other programs, bill onserts, 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 2019, due to a strong retrofit market and successful promotions through our network of qualified trade partners, the program had record-high participation. As a result, the program significantly exceeded its filed savings and spending goals.

Changes in 2019

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 ensure installation of the provided measures and help determine installation 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 targets while meeting its participation target in 2019. The program ended the year below its filed electric and gas budgets. Strong installation rates of LED bulbs continued, and improved installation instructions and incentives encouraged more customers to install their water conservation measures.

Changes in 2019

None.

Thermostat Optimization

The Thermostat Optimization program is designed to provide residential customers year-round savings through the use of smart thermostat technology. The program incentivizes residential customers to purchase and install smart thermostats that have earned the ENERGY STAR® Connected Thermostat certification, resulting in year-round electric and natural gas savings.

Deviation from Goal or Budget

The program fell significantly short of its filed participation and savings goals and, as a result, remained under its filed budgets. Customer demand for the smart thermostats fell short of the Company's expectations. The Company continues to review incentive levels, marketing, and delivery methods to increase future participation in this program.

Changes in 2019

The program was launched in April 2019.

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 primarily marketed 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 2019, the program exceeded its filed savings goal. The program underspent its filed budget and fell short of participation targets. The proportion of customers purchasing tankless water heaters,

which yield greater savings, has significantly increased in the past few years, which contributes higher savings for the program.

Changes in 2019
None

Whole Home Efficiency
Whole Home Efficiency is a comprehensive "whole home" retrofit program available to Xcel Energy residential combination natural gas and electric customers living in single-family homes or multi-unit complexes with no more than four units. This program is designed to offer higher 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. While rebates for mechanical devices in Whole Home Efficiency move in tandem with their prescriptive analogs, building envelope rebates have historically had more freedom to differentiate from the prescriptive insulation program.

Deviation from Goal or Budget
The program did not reach its participation goals in 2019 and consequently fell short of savings goals. Gas savings were proportional to spend, indicating the Whole Home Efficiency projects that were completed had gas savings in line with measure level estimates. Electric spending was proportionately high relative to electric savings. Low participation is primarily attributed to lack differentiation from the prescriptive Insulation Rebate program, causing insulation trades to guide customers toward the simpler and more immediate prescriptive program. The Company is evaluating the design of Whole Home Efficiency to clearly differentiate it from the prescriptive program to increase participation.

Changes in 2019
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 times of peak demand. Both offerings were primarily promoted through online and TV advertising, 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 2019 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
Saver's Switch exceeded its targets for the year by a substantial amount as the Company replaced a larger than projected number of outdated switches in the field. With the increased volume, Saver's Switch also exceeded its 2019 budget. The company anticipates continuing the trend of robust volumes of switch upgrades.

The AC Rewards offering fell short of expectations despite a robust marketing effort. The Company is working to simplify and streamline the enrollment process to generate more participation.

Changes in 2019
None.

Residential Indirect Impact Programs

Consumer Education

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

Deviation from Goal or Budget

In 2019, the Company exceeded the electric and gas participation targets for this program while staying within the approved budgets. In addition to the tactics outlined in the Plan, several factors helped drive program participation without increasing spending including outreach from community-based organizations through continued long-term partnerships with the Company and increased tracking and reporting from those partnerships. To continuously improve education efforts, the program explored ways to increase awareness and participation. Minor changes were made this past year to evolve the event experience by incorporating digital, interactive components and targeting high impact events.

Changes in 2019

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 CIP programs, the Home Energy Audit program is cross-promoted with other programs. This marketing strategy helps minimize promotional and advertising costs.

Deviation from Goal or Budget

The program fell slightly short of its gas and electric participation goals and remained under its gas and electric budgets.

Changes in 2019

None.

Residential Lamp Recycling

The Residential Lamp Recycling program encourages electric customers in Minnesota to recycle their spent fluorescent bulbs instead of discarding them, to ensure that hazardous materials, such as mercury, do not enter the environment. The program's main offerings include: free compact fluorescent light bulb (CFL) recycling at participating local hardware stores and partnering county waste facilities. In addition, the Company offers coupons to help reduce the recycling fees for fluorescent tubes and HID bulbs at participating hardware stores. The coupons are available at participating hardware stores and on the Xcel Energy website.

The Residential Lamp Recycling Program is primarily marketed through Xcel Energy's Home Lighting program promotions, participating hardware stores, and on the Xcel Energy website. An online search feature allows customers to search by zip code to find the nearest recycling locations.

Deviation from Goal or Budget
The program did not meet its participation goal, but was under budget. Participation dropped in 2019 from 2018 due to the phasing out of CFL bulbs in homes.

Changes in 2019
None.

Low-Income Segment

The Low-Income Segment helps income-qualified customers to minimize the impact that utility bills have on their households. The Home Energy Savings (HESP) program offers an in-home walk-through and energy usage analysis to identify areas for energy savings and energy efficient upgrades for the home. Multi-Family Energy Savings (MESP) provides electric home energy efficiency measures in addition to educating tenants about energy conservation. Low Income Home Energy Squad (LIHES) performs a quick assessment of each participant's home prior to installing energy-saving measures during one visit.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$2,490,344	$2,486,988	100%	$1,901,318	$1,548,353	81%
Generator kW	374	340	91%	n/a	n/a	n/a
kWh/Mcf Saved	3,259,191	2,387,776	73%	14,696	8,319	57%
Participation	5,783	4,345	75%	2,054	785	38%

The segment met its minimum electric and gas spend requirements while electric and gas participation and savings achievements were below target. MESP and HESP spent a high percent of their budgets to help boost the programs' participation. HESP's electric and gas energy savings achievements significantly exceeded their respective spends; both fuels exceeded energy savings goals while underspending filed budgets. Whenever possible this segment cross-promoted its programs to economize promotional spends while building awareness of the offerings.

Overall segment spending was kept to a manageable level as CenterPoint Energy continues to divide Home Energy Squad low-income program outreach and marketing costs for shared customers. Across the three programs within this segment, a broad marketing mix is implemented including mass media advertising, bill inserts, email marketing, and sponsored events. 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 home energy assessments and education services to income-qualifying customers. The program is designed to provide customers with free energy-saving measures and information to help reduce their energy usage and ultimately make their energy bills more manageable. HESP is marketed through various channels that include the Company's partner vendors and advertising campaigns. The program is also marketed through community events and collaboration, and support from Xcel Energy's call centers.

Deviation from Goal or Budget

Electric and gas savings both exceeded goals. Participation was under goal and spending within the approved budgets. The higher savings can be attributed to a change made to moving from deemed savings per measure to actual baseline and upgrade values. The lower participation and spending can be attributed to the difficulty in engaging participants in HESP through the RENEWs pilot, causing lower program participation and spending than anticipated for this pilot. We continue to investigate potential new measures that will provide additional benefits to participants in the program.

Changes in 2019

A modification request was filed for HESP in late December 2018 to propose changes in the water heater measure to align with new savings standards starting in 2019.

Low-Income Home Energy Squad

Low-Income Home Energy Squad is a direct install program for income-eligible customers who are searching for ways to improve the energy efficiency and comfort of their home while also lowering their utility bill. The program is a co-branded partnership with CenterPoint Energy and is administered by a contracted third party. While in the home, technicians work closely with customers to help them identify measures that will help optimize energy efficiency. Before, during and after installation of measures, the implementers work toward educating customers about each measure's efficiency benefits. The primary marketing tactics include email marketing, event marketing, bill onserts and cross-promotion with other Xcel Energy Low-Income programs.

Deviation from Goal or Budget

The program continued to struggle to reach participation targets. This target market has been a challenge to reach per the program implementer. Electric participation was higher than 2018, but gas participation was lower. The program did not reach its electric and gas savings targets and spending was well below the filed budgets.

Changes in 2019

None.

Multi-Family Energy Savings

The Multi-Family Energy Savings program (MESP) offers free energy-saving education and services to qualifying multi-family buildings. MESP provides electric services to income-qualifying buildings and is designed to reach renters and support low-income housing through efficiency upgrades in resident units. MESP is primarily marketed through our vendor partner and targeted to building owners or property managers, with additional support from Xcel Energy.

Deviation from Goal or Budget

In 2019, the program exceeded the filed budget, although savings and participation came in under goal. This can be attributed to more participants needing less lower cost measures, such as LEDs, and more costly measures, like refrigerators or wall air conditioners. This was the result of properties having previously completed the lower-cost measure upgrades through other program offerings or during general maintenance. Additionally, while the program was able to reach large buildings with a high number of resident units, these properties are often master-metered, resulting in fewer reported participants.

As with past years, interest in the program remains strong, with most property management organizations including other income-qualifying buildings in their portfolio in the program. We continue to manage participant expectations as a result ensuring funds are fairly distributed across the region. No promotional activity has been necessary to engage participants in the program, although it will likely be necessary in the future, which will increase the cost of acquisition and reduce the need to manage participation.

We continue to investigate new measure opportunities that align with this program and its intent to support residents in reducing their energy usage.

Changes in 2019
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 2019.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Advertising and Promotion	$3,300,000	$4,207,904	128%	$808,360	$1,094,927	135%
Application Development and Maintenance	$1,242,743	$955,300	77%	$455,912	$245,444	54%
CIP Training	$148,974	$163,824	110%	$54,847	$48,922	89%
Regulatory Affairs	$473,159	$547,133	116%	$153,533	$146,364	95%
Total	**$5,164,876**	**$5,874,161**	**114%**	**$1,472,652**	**$1,535,657**	**104%**

Advertising and Promotion

The Advertising and Promotion budget allows Xcel Energy to implement a variety of advertising and promotional strategies to create awareness of energy conservation offerings among residential and business customers.

In 2019, strategies included multimedia advertising, promotion of programs, segment campaigns, and a variety of promotional events and sponsorships designed to enhance customer and trade partner education and outreach to increase engagement with our residential and business programs. Community partnerships unlocked outreach opportunities a result of mutually beneficial, longstanding relationships. Digital and interactive components were incorporated into the event experience last year with the goal of educating customers and targeting high-impact events with larger audiences. These strategies enabled the Company to reach large customer audiences, build awareness, inform and influence consumers, and promote specific program benefits with appropriate seasonal messaging.

Deviation from Goal or Budget

As energy savings goals continue to become more challenging to reach, the Company increased promotional and awareness efforts to drive greater energy savings. As a result, the program exceeded its budget in 2019.

Changes in 2019

None.

Application, Development, and Maintenance

The Application, Development, and Maintenance (ADM) program provides funds for software purchases, enhancements and upgrades that support the Company's CIP portfolio. This includes in-house and external resources needed to configure and maintain the software. The ADM budget was created to allow for simplified expense control and tracking. As an indirect program in the Planning Segment, this program is an internal-only budget and not marketed to customers.

Deviation from Goal or Budget

In 2019, the Company remained under budget as a result of using internal labor to perform many longer-term planning initiatives as well as reviewing the number of software licenses to ensure ADM dollars are judiciously spent. Investments in software purchases are also done with prudence to remain within budget.

Changes in 2019

None.

CIP Training

The CIP Training budget is used to advance the energy efficiency education of the Company's marketing, engineering, regulatory, operations and sales personnel. The budget provides funding for educational trainings, seminars and conferences focused on energy efficient electric and natural gas equipment, industry best practices, new advances in technology and changes in the energy efficiency industry. This budget helps ensure that the Company's staff are informed on the latest advances in demand side management and provide better service to our customers. As an indirect program in the Planning Segment, this program is an internal-only budget and not marketed to customers.

Deviation from Goal or Budget

In 2019, the Company exceeded its electric training budget and underspent the gas training budget. The portfolio exceeded the electric budget due to having more employees supporting electric programs than gas programs. Gas budget savings were achieved by encouraging local, regional and internal trainings instead of traveling to more distant locations.

The CIP Training budget will continue to be an important part of the Company's demand side management efforts as we seek to continuously grow and enhance our portfolio with new technologies and practices.

Changes in 2019

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, 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 2019, Regulatory Affairs over spent on the electric budget due to an increased focus on electric efficiency programs and underspent on the gas budget.

Changes in 2019
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 2019.

Summary of Achievements

Research, Evaluations & Pilots Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Market Research	$953,478	$688,574	72%	$262,471	$65,707	25%
Product Development	$1,764,124	$1,653,610	94%	$216,187	$69,981	32%
Energy Star Retail Products Platform	$719,223	$612,366	85%	$4,325	-$748	-17%
Energy Information Systems Pilot	$326,580	$377,416	116%	$117,575	$23,359	26%
Total	**$3,763,405**	**$3,331,966**	**89%**	**$600,558**	**$158,299**	**26%**

Market Research

DSM Market Research conducts surveys and studies to understand customer needs that relate to DSM conservation efforts. In 2019, the Company conducted the following general research projects:

- Business and residential customer segmentation data via 3rd party data/segmentation firms;
- Small/midsize business end use study;
- E Source Consultative Services and research; and,
- Residential and Business Brand Image and Media Effectiveness tracking.

Market Research funds are also used to procure third-party services for comprehensive, process, and impact evaluations on individual programs. In 2019, the Company conducted research on the following programs:

- Efficient New Home Construction;
- Residential Cooling; and
- Business and Residential Saver's Switch.

Deviation from Goal or Budget

In 2019, the Market Research program spending was under budget for electric and significantly under budget for natural gas. The total number of evaluations, which is a key driver of spending for Market Research, was lower than past years and concentrated on electric-only products, leading to the significant difference in the share of spent electric and gas budget. Additionally, the purchase of segmentation data was delayed while investigating the best options to meet requirements.

Changes in 2019

The filed evaluation plan anticipated evaluating Residential Heating instead of Residential Cooling. However, given the emerging interest in heat pumps as an alternative to central air conditioning and based on the amount of time since the prior evaluation, the Company modified its evaluation plans in mid-2019.

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 the Company to identify and promote promising new energy-saving technologies for customers. The group also develops improvements to existing products.

In 2019, the Product Development group developed the following products, pilots or measures:

Business DSM

- The Peak Partner Rewards program; and
- Clean Water Pumps.

Residential DSM

- EV Charging Perks, which was not approved by the Department; and
- New measures for ENERGY STAR® Retail Products Platform pilot.

Deviation from Goal or Budget

In 2019, Product Development remained under its electric and natural gas budgets due to lower than anticipated costs for research, consulting services, and association dues.

Changes in 2019

None.

Energy Information Systems Pilot

The Energy Information Systems (EIS) pilot offers consulting resources to help large customers:

- Design and implement web-based systems to visualize and analyze real-time energy data across the customer's facility;
- Identify and implement energy-saving measures, including low-cost recommissioning measures, and low- or no-cost behavioral and operational measures;
- Measure pre- and post- implementation conditions to verify savings; and
- Repeat and refine data analysis for the continuous improvement of energy performance.

For new enrollees, the pilot invests heavily in incentives and support for the installation of analytical systems, and in the consultancy provided for the customer during a data-gathering period.

Deviation from Goal or Budget

In 2019, the pilot did not achieve its target while expenses were slightly exceeded its annual budget. Several customers enrolled in the program had staff turnover which delayed many of the energy-saving measures identified into the next calendar year. Additionally, two new customers were brought into the pilot and implemented in 2019, which added cost without much additional savings.

Among the enrollees who have a completed system, the pilot has identified a robust pipeline of opportunities. Much of the pipeline is for operational improvements that would likely not have been discovered without the pilot.

Changes in 2019
None.

ENERGY STAR® Retail Products Platform Pilot
The ENERGY STAR® Retail Products Platform Pilot program is intended to test a national, mid-stream incentive approach to driving transformation of the appliance and consumer electronics market. The pilot is part of an effort coordinated by the U.S. Environmental Protection Agency (EPA) to evaluate whether incentivizing retailers for efficient product sales can drive increased market penetration of ENERGY STAR® products. With EPA coordination, the pilot first launched in 2016 and included participating utilities and energy efficiency program implementers from California, the Pacific Northwest, New York, Vermont, Wisconsin, Hawaii and New Jersey.

Deviation from Goal or Budget
The program did not reach its participation and targeted savings goals in 2019. This was due to decreased sales of the highest efficiency clothes washers and refrigerators which produce higher savings than other products in the program. Program spending was also under budget due to decreased participation.

Changes in 2019
The Company filed a modification in 2019 to remove three measures from the program and adjust incentive levels to help improve cost-effectiveness.

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	$14,215,113	110%	n/a	n/a	n/a
EnerChange	$418,500	$409,780	98%	$46,500	$45,682	98%
Energy Smart	$402,750	$396,665	98%	$18,500	$17,927	97%
Trillion Btu	$174,600	$119,673	69%	$19,400	$10,182	52%
Energy Intelligence	$328,840	$175,598	53%	$36,760	$17,287	47%
Total	**$14,289,470**	**$15,316,828**	**107%**	**$121,160**	**$91,077**	**75%**

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 2019
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 a better understanding of their energy use, identification of immediate savings opportunities, and implementation support.

Deviation from Goal or Budget
In 2019, the Energy Intelligence program costs for both electric and gas were well-under budget. The decision was made to discontinue the program at the end of 2019, lessening the need for recruitment efforts, which resulted in lower costs than budgeted.

Changes in 2019
The program was discontinued at the end of 2019. In this final year of the program, the participation eligibility threshold was raised 400 kW to 1,000 kW. This change was initiated to provide valuable data on the mid-sized industrial market which can be used to inform future programs aimed at this segment.

Energy Smart

Energy Smart is an indirect impact 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

In 2019, the program slightly underspent its gas and electric budgets. Costs for internal labor and employee expenses were lower than anticipated.

Changes in 2019

None.

One-Stop Efficiency Shop®

One-Stop is a full-service lighting and rooftop unit (RTU) rebate program designed to save energy in the hard-to-serve small business sector. Designed and implemented by the Center for Energy and Environment (CEE), One-Stop targets small businesses with a 400 kW demand or less. This sector requires a more focused approach because small businesses are difficult to serve with traditional rebate programs due to limitations on financial resources, time, and knowledge of energy efficient products.

One-Stop is structured to address these specific needs by offering qualified businesses:

- a free audit with actionable cost savings recommendations;
- substantial incentives combined with the option of convenient and attractive financing;
- a simple, one-stop service that keeps customer time requirements to a minimum;
- access to quality contractors; and
- start-to-finish oversight of the entire retrofit project and completion of all program paperwork.

One-Stop's technical experts offer program participants unbiased recommendations tailored to meet their specific needs. The combination of program services brings education, financial resources, and minimal time commitment directly to the customer.

Deviation from Goal or Budget

In 2019, One-Stop exceeded its energy savings, demand savings, and participation goals. CEE worked closely with Xcel Energy to track the program metrics.

Changes in 2019

Customer incentive levels were adjusted to differentiate between indoor and outdoor lighting applications, which improved the alignment between market signals and net system benefits.

Trillion BTU

Trillion BTU is an indirect program aimed at increasing participation in Xcel Energy's existing commercial and industrial energy efficiency programs. The program leverages funding awarded to the St. Paul Port Authority (SPPA) through 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 remained under its electric and gas budgets as SPPA administrative costs were lower than projected.

Changes in 2019

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	$1,980,274	100%	$345,600	$288,866	84%

Deviation from Goal or Budget
Assessments from the DER and PUC were slightly above the filed electric budget and approximately 84% of the filed gas budget.

Changes in 2019
None.

ELECTRIC CIP TOTAL — 2019 ELECTRIC — GOAL

2019 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	$60,128,771	$60,128,771	$60,128,771	$60,128,771
T & D	N/A	$22,056,963	$22,056,963	$22,056,963	$22,056,963
Marginal Energy	N/A	$123,630,765	$123,630,765	$123,630,765	$123,630,765
Environmental Externality	N/A	N/A	N/A	N/A	$42,575,942
Subtotal	N/A	$205,816,498	$205,816,498	$205,816,498	$248,392,440
Participant Benefits					
Bill Reduction - Electric	$330,525,802	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$37,932,102	N/A	N/A	$37,932,102	$37,932,102
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$40,187,335	N/A	N/A	$18,728,651	$18,728,651
Subtotal	$408,645,239	N/A	N/A	$56,660,753	$56,660,753
Total Benefits	$408,645,239	$205,816,498	$205,816,498	$262,477,251	$305,053,193
Costs					
Utility Project Costs					
Customer Services	N/A	$3,540,395	$3,540,395	$3,540,395	$3,540,395
Project Administration	N/A	$28,909,279	$28,909,279	$28,909,279	$28,909,279
Advertising & Promotion	N/A	$8,137,127	$8,137,127	$8,137,127	$8,137,127
Measurement & Verification	N/A	$1,415,425	$1,415,425	$1,415,425	$1,415,425
Rebates	N/A	$37,932,102	$37,932,102	$37,932,102	$37,932,102
Other	N/A	$1,611,527	$1,611,527	$1,611,527	$1,611,527
Subtotal	N/A	$81,545,855	$81,545,855	$81,545,855	$81,545,855
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$330,525,802	N/A	N/A
Subtotal	N/A	N/A	$330,525,802	N/A	N/A
Participant Costs					
Incremental Capital Costs	$102,440,279	N/A	N/A	$82,637,898	$82,637,898
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$102,440,279	N/A	N/A	$82,637,898	$82,637,898
Total Costs	$102,440,279	$81,545,855	$412,071,657	$164,183,753	$164,183,753
Net Benefit (Cost)	$306,204,960	$124,270,644	($206,255,158)	$98,293,498	$140,869,440
Benefit/Cost Ratio	3.99	2.52	0.50	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	12.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.69%
Gross Load Factor at Customer	E	15.98%
Transmission Loss Factor (Energy)	F	7.269%
Transmission Loss Factor (Demand)	G	8.297%
Societal Net Benefit (Cost)	H	$531.69

Program Summary per Participant		
Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	267 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	288 kWh

Program Summary All Participants		
Total Participants	J	1,389,586
Total Budget	K	**$81,545,855**
Gross kW Saved at Customer	(J x I)	264,945 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**103,112 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	370,824,752 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**399,894,696 kWh**
Societal Net Benefits	(J x I x H)	**$140,869,440**

Utility Program Cost per kWh Lifetime	**$0.0163**
Utility Program Cost per kW at Gen	**$791**

ELECTRIC CIP TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$63,079,207	$63,079,207	$63,079,207	$63,079,207
T & D	N/A	$26,940,615	$26,940,615	$26,940,615	$26,940,615
Marginal Energy	N/A	$135,097,210	$135,097,210	$135,097,210	$135,097,210
Environmental Externality	N/A	N/A	N/A	N/A	$46,168,668
Subtotal	N/A	$225,117,033	$225,117,033	$225,117,033	$271,285,700
Participant Benefits					
Bill Reduction - Electric	$369,310,877	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$37,316,851	N/A	N/A	$37,316,851	$37,316,851
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$20,740,959	N/A	N/A	$20,740,959	$20,740,959
Subtotal	$427,368,687	N/A	N/A	$58,057,810	$58,057,810
Total Benefits	$427,368,687	$225,117,033	$225,117,033	$283,174,842	$329,343,510
Costs					
Utility Project Costs					
Customer Services	N/A	$3,276,538	$3,276,538	$3,276,538	$3,276,538
Project Administration	N/A	$26,468,864	$26,468,864	$26,468,864	$26,468,864
Advertising & Promotion	N/A	$5,848,520	$5,848,520	$5,848,520	$5,848,520
Measurement & Verification	N/A	$2,064,253	$2,064,253	$2,064,253	$2,064,253
Rebates	N/A	$37,316,851	$37,316,851	$37,316,851	$37,316,851
Other	N/A	$543,948	$543,948	$543,948	$543,948
Subtotal	N/A	$75,518,973	$75,518,973	$75,518,973	$75,518,973
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$369,310,877	N/A	N/A
Subtotal	N/A	N/A	$369,310,877	N/A	N/A
Participant Costs					
Incremental Capital Costs	$110,665,968	N/A	N/A	$110,665,968	$110,665,968
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$110,665,968	N/A	N/A	$110,665,968	$110,665,968
Total Costs	$110,665,968	$75,518,973	$444,829,849	$186,184,941	$186,184,941
Net Benefit (Cost)	$316,702,718	$149,598,060	($219,712,817)	$96,989,901	$143,158,569
Benefit/Cost Ratio	3.86	2.98	0.51	1.52	1.77

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.24%
Gross Load Factor at Customer	E	16.28%
Transmission Loss Factor (Energy)	F	7.218%
Transmission Loss Factor (Demand)	G	8.269%
Societal Net Benefit (Cost)	H	$475.39

Program Summary per Participant		
Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	265 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	286 kWh

Program Summary All Participants		
Total Participants	J	1,618,423
Total Budget	K	**$75,518,973**
Gross kW Saved at Customer	(J x I)	301,140 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**109,119 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	429,415,722 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**462,822,301 kWh**
Societal Net Benefits	(J x I x H)	**$143,158,569**

Utility Program Cost per kWh Lifetime	**$0.0138**
Utility Program Cost per kW at Gen	**$692**

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 =			$10,327,415
Incentive Costs =			$7,199,862
16) Total Utility Project Costs =			$17,527,276
17) Direct Participant Costs ($/Part.) =			$45
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) =			10.8
21) Avg. Dth/Part. Saved =			1.20
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 =			630,538
24) Total Annual Dth Saved =			759,563
25) Incentive/Participant =			$11.42

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$28	
Cost per Participant per Dth =		$60.70	
Lifetime Energy Reduction (Dth)		8,224,445	
Societal Cost per Dth		$3.95	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($27,173,607)	0.59
Utility Cost Test	$22,027,105	2.30
Societal Test	$37,886,848	2.17
Participant Test	$60,407,183	3.09

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 =			$7,207,992
Incentive Costs =			$6,341,586
16) Total Utility Project Costs =			$13,549,577
17) Direct Participant Costs ($/Part.) =			$47
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) =			13.2
21) Avg. Dth/Part. Saved =			1.04
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 =			563,964
24) Total Annual Dth Saved =			584,761
25) Incentive/Participant =			$11.24

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$24	
Cost per Participant per Dth =		$68.74	
Lifetime Energy Reduction (Dth)		6,331,718	
Societal Cost per Dth		$5.36	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($21,284,731)	0.64
Utility Cost Test	$24,257,528	2.79
Societal Test	$28,855,725	1.85
Participant Test	$32,388,973	2.21

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 =			$7,236,183
Incentive Costs =			$7,199,862
16) Total Utility Project Costs =			$14,436,044
17) Direct Participant Costs ($/Part.) =			$127
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$7
Escalation Rate =			1.73%
20) Project Life (Years) =			10.8
21) Avg. Dth/Part. Saved =			3.36
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 =			225,826
24) Total Annual Dth Saved =			759,563
25) Incentive/Participant =			$31.88

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$64	
Cost per Participant per Dth =		$56.63	
Lifetime Energy Reduction (Dth)		8,224,445	
Societal Cost per Dth		$3.61	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($24,379,388)	0.62
Utility Cost Test	$24,821,324	2.75
Societal Test	$40,681,067	2.37
Participant Test	$60,407,183	3.09

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 =			$4,502,559
Incentive Costs =			$6,341,436
16) Total Utility Project Costs =			$10,843,994
17) Direct Participant Costs ($/Part.) =			$149
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$5
Escalation Rate =			1.73%
20) Project Life (Years) =			13.2
21) Avg. Dth/Part. Saved =			3.28
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 =			178,378
24) Total Annual Dth Saved =			584,761
25) Incentive/Participant =			$35.55

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$61	
Cost per Participant per Dth =		$64.12	
Lifetime Energy Reduction (Dth)		6,331,718	
Societal Cost per Dth		$4.94	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($18,579,148)	0.67
Utility Cost Test	$26,963,111	3.49
Societal Test	$31,561,158	2.01
Participant Test	$32,388,823	2.21

ELECTRIC CIP CONSERVATION TOTAL — 2019 ELECTRIC — GOAL

2019 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	$36,208,363	$36,208,363	$36,208,363	$36,208,363
T & D	N/A	$22,056,963	$22,056,963	$22,056,963	$22,056,963
Marginal Energy	N/A	$123,545,933	$123,545,933	$123,545,933	$123,545,933
Environmental Externality	N/A	N/A	N/A	N/A	$42,556,851
Subtotal	N/A	$181,811,258	$181,811,258	$181,811,258	$224,368,109
Participant Benefits					
Bill Reduction - Electric	$330,328,495	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$35,644,602	N/A	N/A	$35,644,602	$35,644,602
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$40,187,335	N/A	N/A	$18,728,651	$18,728,651
Subtotal	$406,160,432	N/A	N/A	$54,373,253	$54,373,253
Total Benefits	$406,160,432	$181,811,258	$181,811,258	$236,184,511	$278,741,362
Costs					
Utility Project Costs					
Customer Services	N/A	$3,540,395	$3,540,395	$3,540,395	$3,540,395
Project Administration	N/A	$15,049,035	$15,049,035	$15,049,035	$15,049,035
Advertising & Promotion	N/A	$3,499,253	$3,499,253	$3,499,253	$3,499,253
Measurement & Verification	N/A	$1,065,425	$1,065,425	$1,065,425	$1,065,425
Rebates	N/A	$35,644,602	$35,644,602	$35,644,602	$35,644,602
Other	N/A	$963,528	$963,528	$963,528	$963,528
Subtotal	N/A	$59,762,237	$59,762,237	$59,762,237	$59,762,237
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$330,328,495	N/A	N/A
Subtotal	N/A	N/A	$330,328,495	N/A	N/A
Participant Costs					
Incremental Capital Costs	$102,102,779	N/A	N/A	$82,300,398	$82,300,398
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$102,102,779	N/A	N/A	$82,300,398	$82,300,398
Total Costs	$102,102,779	$59,762,237	$390,090,732	$142,062,636	$142,062,636
Net Benefit (Cost)	$304,057,653	$122,049,021	($208,279,474)	$94,121,875	$136,678,726
Benefit/Cost Ratio	3.98	3.04	0.47	1.66	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	12.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.45%
Gross Load Factor at Customer	E	27.53%
Transmission Loss Factor (Energy)	F	7.270%
Transmission Loss Factor (Demand)	G	8.245%
Societal Net Benefit (Cost)	H	$889.33

Program Summary per Participant		
Gross kW Saved at Customer	I	0.30 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)	716 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	773 kWh

Program Summary All Participants		
Total Participants	J	517,229
Total Budget	K	**$59,762,237**
Gross kW Saved at Customer	(J x I)	153,688 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**61,045 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	370,594,129 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**399,646,458 kWh**
Societal Net Benefits	(J x I x H)	**$136,678,726**

Utility Program Cost per kWh Lifetime	**$0.0119**
Utility Program Cost per kW at Gen	**$979**

ELECTRIC CIP CONSERVATION TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$44,195,318	$44,195,318	$44,195,318	$44,195,318
T & D	N/A	$26,940,615	$26,940,615	$26,940,615	$26,940,615
Marginal Energy	N/A	$134,960,118	$134,960,118	$134,960,118	$134,960,118
Environmental Externality	N/A	N/A	N/A	N/A	$46,137,918
Subtotal	N/A	$206,096,050	$206,096,050	$206,096,050	$252,233,969
Participant Benefits					
Bill Reduction - Electric	$368,998,797	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$37,096,438	N/A	N/A	$37,096,438	$37,096,438
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$20,740,959	N/A	N/A	$20,740,959	$20,740,959
Subtotal	$426,836,194	N/A	N/A	$57,837,397	$57,837,397
Total Benefits	$426,836,194	$206,096,050	$206,096,050	$263,933,447	$310,071,366
Costs					
Utility Project Costs					
Customer Services	N/A	$3,276,538	$3,276,538	$3,276,538	$3,276,538
Project Administration	N/A	$13,082,246	$13,082,246	$13,082,246	$13,082,246
Advertising & Promotion	N/A	$1,147,844	$1,147,844	$1,147,844	$1,147,844
Measurement & Verification	N/A	$1,491,935	$1,491,935	$1,491,935	$1,491,935
Rebates	N/A	$37,096,438	$37,096,438	$37,096,438	$37,096,438
Other	N/A	$543,392	$543,392	$543,392	$543,392
Subtotal	N/A	$56,638,392	$56,638,392	$56,638,392	$56,638,392
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$368,998,797	N/A	N/A
Subtotal	N/A	N/A	$368,998,797	N/A	N/A
Participant Costs					
Incremental Capital Costs	$110,647,558	N/A	N/A	$110,647,558	$110,647,558
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$110,647,558	N/A	N/A	$110,647,558	$110,647,558
Total Costs	$110,647,558	$56,638,392	$425,637,189	$167,285,950	$167,285,950
Net Benefit (Cost)	$316,188,635	$149,457,658	($219,541,139)	$96,647,497	$142,785,415
Benefit/Cost Ratio	3.86	3.64	0.48	1.58	1.85

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.89%
Gross Load Factor at Customer	E	24.00%
Transmission Loss Factor (Energy)	F	7.218%
Transmission Loss Factor (Demand)	G	8.274%
Societal Net Benefit (Cost)	H	$699.65

Program Summary per Participant		
Gross kW Saved at Customer	I	0.37 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.14 kW
Gross Annual kWh Saved at Customer	(B x E x I)	784 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	845 kWh

Program Summary All Participants		
Total Participants	J	547,032
Total Budget	K	**$56,638,392**
Gross kW Saved at Customer	(J x I)	204,080 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**75,403 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	428,994,445 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**462,370,077 kWh**
Societal Net Benefits	(J x I x H)	**$142,785,415**

Utility Program Cost per kWh Lifetime	**$0.0104**
Utility Program Cost per kW at Gen	**$751**

ELECTRIC CIP LOAD MANAGEMENT TOTAL — 2019 ELECTRIC — GOAL

2019 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	$23,920,408	$23,920,408	$23,920,408	$23,920,408
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$84,832	$84,832	$84,832	$84,832
Environmental Externality	N/A	N/A	N/A	N/A	$19,091
Subtotal	N/A	$24,005,240	$24,005,240	$24,005,240	$24,024,331
Participant Benefits					
Bill Reduction - Electric	$197,307	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,287,500	N/A	N/A	$2,287,500	$2,287,500
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$2,484,807	N/A	N/A	$2,287,500	$2,287,500
Total Benefits	$2,484,807	$24,005,240	$24,005,240	$26,292,740	$26,311,831
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$8,216,723	$8,216,723	$8,216,723	$8,216,723
Advertising & Promotion	N/A	$765,508	$765,508	$765,508	$765,508
Measurement & Verification	N/A	$350,000	$350,000	$350,000	$350,000
Rebates	N/A	$2,287,500	$2,287,500	$2,287,500	$2,287,500
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$11,619,731	$11,619,731	$11,619,731	$11,619,731
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$197,307	N/A	N/A
Subtotal	N/A	N/A	$197,307	N/A	N/A
Participant Costs					
Incremental Capital Costs	$337,500	N/A	N/A	$337,500	$337,500
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$337,500	N/A	N/A	$337,500	$337,500
Total Costs	$337,500	$11,619,731	$11,817,038	$11,957,231	$11,957,231
Net Benefit (Cost)	$2,147,307	$12,385,509	$12,188,202	$14,335,509	$14,354,600
Benefit/Cost Ratio	7.36	2.07	2.03	2.20	2.20

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	7.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	34.65%
Gross Load Factor at Customer	E	0.02%
Transmission Loss Factor (Energy)	F	7.096%
Transmission Loss Factor (Demand)	G	8.368%
Societal Net Benefit (Cost)	H	$129.02

Program Summary per Participant		
Gross kW Saved at Customer	I	3.09 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.17 kW
Gross Annual kWh Saved at Customer	(B x E x I)	6 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	7 kWh

Program Summary All Participants		
Total Participants	J	36,003
Total Budget	K	**$11,619,731**
Gross kW Saved at Customer	(J x I)	111,257 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**42,067 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	230,623 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**248,237 kWh**
Societal Net Benefits	(J x I x H)	**$14,354,600**
Utility Program Cost per kWh Lifetime		**$6.1957**
Utility Program Cost per kW at Gen		**$276**

ELECTRIC CIP LOAD MANAGEMENT TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$18,883,890	$18,883,890	$18,883,890	$18,883,890
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$137,092	$137,092	$137,092	$137,092
Environmental Externality	N/A	N/A	N/A	N/A	$30,749
Subtotal	N/A	$19,020,982	$19,020,982	$19,020,982	$19,051,731
Participant Benefits					
Bill Reduction - Electric	$312,080	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$213,013	N/A	N/A	$213,013	$213,013
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$525,093	N/A	N/A	$213,013	$213,013
Total Benefits	$525,093	$19,020,982	$19,020,982	$19,233,995	$19,264,744
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$7,522,967	$7,522,967	$7,522,967	$7,522,967
Advertising & Promotion	N/A	$864,089	$864,089	$864,089	$864,089
Measurement & Verification	N/A	$83,308	$83,308	$83,308	$83,308
Rebates	N/A	$213,013	$213,013	$213,013	$213,013
Other	N/A	$316	$316	$316	$316
Subtotal	N/A	$8,683,693	$8,683,693	$8,683,693	$8,683,693
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$312,080	N/A	N/A
Subtotal	N/A	N/A	$312,080	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,410	N/A	N/A	$18,410	$18,410
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$18,410	N/A	N/A	$18,410	$18,410
Total Costs	$18,410	$8,683,693	$8,995,773	$8,702,103	$8,702,103
Net Benefit (Cost)	$506,683	$10,337,289	$10,025,209	$10,531,892	$10,562,641
Benefit/Cost Ratio	28.52	2.19	2.11	2.21	2.21

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	6.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	31.87%
Gross Load Factor at Customer	E	0.05%
Transmission Loss Factor (Energy)	F	6.843%
Transmission Loss Factor (Demand)	G	8.258%
Societal Net Benefit (Cost)	H	$108.83

Program Summary per Participant		
Gross kW Saved at Customer	I	3.47 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.20 kW
Gross Annual kWh Saved at Customer	(B x E x I)	15 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	16 kWh

Program Summary All Participants		
Total Participants	J	27,982
Total Budget	K	**$8,683,693**
Gross kW Saved at Customer	(J x I)	97,059 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**33,715 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	421,277 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**452,224 kWh**
Societal Net Benefits	(J x I x H)	**$10,562,641**
Utility Program Cost per kWh Lifetime		**$3.0003**
Utility Program Cost per kW at Gen		**$258**

BUSINESS SEGMENT TOTAL — 2019 ELECTRIC — GOAL

2019 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$29,276,220	$29,276,220	$29,276,220	$29,276,220
T & D	N/A	$15,433,217	$15,433,217	$15,433,217	$15,433,217
Marginal Energy	N/A	$96,768,803	$96,768,803	$96,768,803	$96,768,803
Environmental Externality	N/A	N/A	N/A	N/A	$33,282,965
Subtotal	N/A	$141,478,241	$141,478,241	$141,478,241	$174,761,206
Participant Benefits					
Bill Reduction - Electric	$240,479,573	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$23,567,657	N/A	N/A	$23,567,657	$23,567,657
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$36,498,341	N/A	N/A	$19,670,765	$19,670,765
Subtotal	$300,545,571	N/A	N/A	$43,238,422	$43,238,422
Total Benefits	$300,545,571	$141,478,241	$141,478,241	$184,716,662	$217,999,627
Costs					
Utility Project Costs					
Customer Services	N/A	$2,635,900	$2,635,900	$2,635,900	$2,635,900
Project Administration	N/A	$11,862,156	$11,862,156	$11,862,156	$11,862,156
Advertising & Promotion	N/A	$927,919	$927,919	$927,919	$927,919
Measurement & Verification	N/A	$849,093	$849,093	$849,093	$849,093
Rebates	N/A	$23,567,657	$23,567,657	$23,567,657	$23,567,657
Other	N/A	$943,468	$943,468	$943,468	$943,468
Subtotal	N/A	$40,786,192	$40,786,192	$40,786,192	$40,786,192
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$240,479,573	N/A	N/A
Subtotal	N/A	N/A	$240,479,573	N/A	N/A
Participant Costs					
Incremental Capital Costs	$79,663,588	N/A	N/A	$61,659,637	$61,659,637
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$79,663,588	N/A	N/A	$61,659,637	$61,659,637
Total Costs	$79,663,588	$40,786,192	$281,265,765	$102,445,830	$102,445,830
Net Benefit (Cost)	$220,881,983	$100,692,048	($139,787,525)	$82,270,832	$115,553,797
Benefit/Cost Ratio	3.77	3.47	0.50	1.80	2.13

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	51.90%
Gross Load Factor at Customer	E	34.60%
Transmission Loss Factor (Energy)	F	6.615%
Transmission Loss Factor (Demand)	G	7.059%
Societal Net Benefit (Cost)	H	$1,498.52

Program Summary per Participant		
Gross kW Saved at Customer	I	0.87 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.49 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,650 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,838 kWh

Program Summary All Participants		
Total Participants	J	88,203
Total Budget	K	**$40,786,192**
Gross kW Saved at Customer	(J x I)	77,112 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**43,059 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	233,755,131 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**250,313,119 kWh**
Societal Net Benefits	(J x I x H)	**$115,553,797**
Utility Program Cost per kWh Lifetime		**$0.0100**
Utility Program Cost per kW at Gen		**$947**

BUSINESS SEGMENT TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$34,645,282	$34,645,282	$34,645,282	$34,645,282
T & D	N/A	$18,541,398	$18,541,398	$18,541,398	$18,541,398
Marginal Energy	N/A	$101,079,061	$101,079,061	$101,079,061	$101,079,061
Environmental Externality	N/A	N/A	N/A	N/A	$34,371,508
Subtotal	N/A	$154,265,741	$154,265,741	$154,265,741	$188,637,250
Participant Benefits					
Bill Reduction - Electric	$253,952,684	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$23,452,809	N/A	N/A	$23,452,809	$23,452,809
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$22,221,963	N/A	N/A	$22,221,963	$22,221,963
Subtotal	$299,627,456	N/A	N/A	$45,674,772	$45,674,772
Total Benefits	$299,627,456	$154,265,741	$154,265,741	$199,940,513	$234,312,021
Costs					
Utility Project Costs					
Customer Services	N/A	$1,681,682	$1,681,682	$1,681,682	$1,681,682
Project Administration	N/A	$11,970,899	$11,970,899	$11,970,899	$11,970,899
Advertising & Promotion	N/A	$272,047	$272,047	$272,047	$272,047
Measurement & Verification	N/A	$423,899	$423,899	$423,899	$423,899
Rebates	N/A	$23,452,809	$23,452,809	$23,452,809	$23,452,809
Other	N/A	$507,182	$507,182	$507,182	$507,182
Subtotal	N/A	$38,308,518	$38,308,518	$38,308,518	$38,308,518
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$253,952,684	N/A	N/A
Subtotal	N/A	N/A	$253,952,684	N/A	N/A
Participant Costs					
Incremental Capital Costs	$90,154,756	N/A	N/A	$90,154,756	$90,154,756
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$90,154,756	N/A	N/A	$90,154,756	$90,154,756
Total Costs	$90,154,756	$38,308,518	$292,261,202	$128,463,274	$128,463,274
Net Benefit (Cost)	$209,472,700	$115,957,223	($137,995,461)	$71,477,239	$105,848,747
Benefit/Cost Ratio	3.32	4.03	0.53	1.56	1.82

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	58.90%
Gross Load Factor at Customer	E	33.12%
Transmission Loss Factor (Energy)	F	6.617%
Transmission Loss Factor (Demand)	G	7.049%
Societal Net Benefit (Cost)	H	$1,232.68

Program Summary per Participant		
Gross kW Saved at Customer	I	0.88 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.56 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,550 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,730 kWh

Program Summary All Participants		
Total Participants	J	97,730
Total Budget	K	**$38,308,518**
Gross kW Saved at Customer	(J x I)	85,869 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**54,411 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	249,167,803 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**266,823,363 kWh**
Societal Net Benefits	(J x I x H)	**$105,848,747**
Utility Program Cost per kWh Lifetime		**$0.0089**
Utility Program Cost per kW at Gen		**$704**

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 =			$2,613,471
Incentive Costs =			$2,524,852
16) Total Utility Project Costs =			$5,138,323
17) Direct Participant Costs ($/Part.) =			$637
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$30
Escalation Rate =			1.73%
20) Project Life (Years) =			8.5
21) Avg. Dth/Part. Saved =			19.93
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 =			22,591
24) Total Annual Dth Saved =			450,232
25) Incentive/Participant =			$111.76

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$227	
Cost per Participant per Dth =		$43.39	
Lifetime Energy Reduction (Dth)		3,818,134	
Societal Cost per Dth		$3.02	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($10,006,708)	0.65
Utility Cost Test	$13,403,863	3.61
Societal Test	$21,281,375	2.84
Participant Test	$25,558,943	2.75

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 =			$1,600,304
Incentive Costs =			$1,327,753
16) Total Utility Project Costs =			$2,928,057
17) Direct Participant Costs ($/Part.) =			$16,978
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$190
Escalation Rate =			1.73%
20) Project Life (Years) =			12.2
21) Avg. Dth/Part. Saved =			402.01
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 =			637
24) Total Annual Dth Saved =			256,083
25) Incentive/Participant =			$2,084.38

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$4,597	
Cost per Participant per Dth =		$53.67	
Lifetime Energy Reduction (Dth)		2,171,678	
Societal Cost per Dth		$5.76	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($5,029,407)	0.76
Utility Cost Test	$13,421,619	5.58
Societal Test	$12,621,105	2.01
Participant Test	$9,913,030	1.91

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 =			$2,576,059
Incentive Costs =			$2,524,852
16) Total Utility Project Costs =			$5,100,911
17) Direct Participant Costs ($/Part.) =			$4,008
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$189
Escalation Rate =			1.73%
20) Project Life (Years) =			8.5
21) Avg. Dth/Part. Saved =			125.37
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 =			3,591
24) Total Annual Dth Saved =			450,232
25) Incentive/Participant =			$703.07

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,420	
Cost per Participant per Dth =		$43.30	
Lifetime Energy Reduction (Dth)		3,818,134	
Societal Cost per Dth		$3.01	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($9,969,296)	0.65
Utility Cost Test	$13,441,275	3.64
Societal Test	$21,318,787	2.85
Participant Test	$25,558,943	2.75

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 =			$1,576,084
Incentive Costs =			$1,327,753
16) Total Utility Project Costs =			$2,903,837
17) Direct Participant Costs ($/Part.) =			$16,978
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$190
Escalation Rate =			1.73%
20) Project Life (Years) =			12.2
21) Avg. Dth/Part. Saved =			402.01
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 =			637
24) Total Annual Dth Saved =			256,083
25) Incentive/Participant =			$2,084.38

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$4,559	
Cost per Participant per Dth =		$53.57	
Lifetime Energy Reduction (Dth)		2,171,678	
Societal Cost per Dth		$5.75	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($5,005,187)	0.77
Utility Cost Test	$13,445,839	5.63
Societal Test	$12,645,325	2.01
Participant Test	$9,913,030	1.91

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL — 2019 ELECTRIC — GOAL

2019 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	$25,313,248	$25,313,248	$25,313,248	$25,313,248
T & D	N/A	$15,433,217	$15,433,217	$15,433,217	$15,433,217
Marginal Energy	N/A	$96,719,055	$96,719,055	$96,719,055	$96,719,055
Environmental Externality	N/A	N/A	N/A	N/A	$33,271,852
Subtotal	N/A	$137,465,521	$137,465,521	$137,465,521	$170,737,374
Participant Benefits					
Bill Reduction - Electric	$240,368,971	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$23,567,657	N/A	N/A	$23,567,657	$23,567,657
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$36,498,341	N/A	N/A	$19,670,765	$19,670,765
Subtotal	$300,434,970	N/A	N/A	$43,238,422	$43,238,422
Total Benefits	$300,434,970	$137,465,521	$137,465,521	$180,703,943	$213,975,795
Costs					
Utility Project Costs					
Customer Services	N/A	$2,635,900	$2,635,900	$2,635,900	$2,635,900
Project Administration	N/A	$9,181,996	$9,181,996	$9,181,996	$9,181,996
Advertising & Promotion	N/A	$499,239	$499,239	$499,239	$499,239
Measurement & Verification	N/A	$699,093	$699,093	$699,093	$699,093
Rebates	N/A	$23,567,657	$23,567,657	$23,567,657	$23,567,657
Other	N/A	$943,468	$943,468	$943,468	$943,468
Subtotal	N/A	$37,527,353	$37,527,353	$37,527,353	$37,527,353
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$240,368,971	N/A	N/A
Subtotal	N/A	N/A	$240,368,971	N/A	N/A
Participant Costs					
Incremental Capital Costs	$79,663,588	N/A	N/A	$61,659,637	$61,659,637
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$79,663,588	N/A	N/A	$61,659,637	$61,659,637
Total Costs	$79,663,588	$37,527,353	$277,896,324	$99,186,990	$99,186,990
Net Benefit (Cost)	$220,771,382	$99,938,169	($140,430,803)	$81,516,953	$114,788,805
Benefit/Cost Ratio	3.77	3.66	0.49	1.82	2.16

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	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	64.32%
Gross Load Factor at Customer	E	53.29%
Transmission Loss Factor (Energy)	F	6.615%
Transmission Loss Factor (Demand)	G	7.090%
Societal Net Benefit (Cost)	H	$2,293.88

Program Summary per Participant		
Gross kW Saved at Customer	I	3.78 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.62 kW
Gross Annual kWh Saved at Customer	(B x E x I)	17,662 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	18,913 kWh

Program Summary All Participants		
Total Participants	J	13,225
Total Budget	K	**$37,527,353**
Gross kW Saved at Customer	(J x I)	50,041 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**34,644 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	233,587,159 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**250,133,276 kWh**
Societal Net Benefits	(J x I x H)	**$114,788,805**

Utility Program Cost per kWh Lifetime	**$0.0092**
Utility Program Cost per kW at Gen	**$1,083**

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$30,382,422	$30,382,422	$30,382,422	$30,382,422
T & D	N/A	$18,541,398	$18,541,398	$18,541,398	$18,541,398
Marginal Energy	N/A	$100,976,336	$100,976,336	$100,976,336	$100,976,336
Environmental Externality	N/A	N/A	N/A	N/A	$34,348,619
Subtotal	N/A	$149,900,157	$149,900,157	$149,900,157	$184,248,776
Participant Benefits					
Bill Reduction - Electric	$253,727,653	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$23,456,831	N/A	N/A	$23,456,831	$23,456,831
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$22,221,963	N/A	N/A	$22,221,963	$22,221,963
Subtotal	$299,406,447	N/A	N/A	$45,678,794	$45,678,794
Total Benefits	$299,406,447	$149,900,157	$149,900,157	$195,578,950	$229,927,569
Costs					
Utility Project Costs					
Customer Services	N/A	$1,681,682	$1,681,682	$1,681,682	$1,681,682
Project Administration	N/A	$9,489,214	$9,489,214	$9,489,214	$9,489,214
Advertising & Promotion	N/A	$30,337	$30,337	$30,337	$30,337
Measurement & Verification	N/A	$402,380	$402,380	$402,380	$402,380
Rebates	N/A	$23,456,831	$23,456,831	$23,456,831	$23,456,831
Other	N/A	$507,182	$507,182	$507,182	$507,182
Subtotal	N/A	$35,567,627	$35,567,627	$35,567,627	$35,567,627
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$253,727,653	N/A	N/A
Subtotal	N/A	N/A	$253,727,653	N/A	N/A
Participant Costs					
Incremental Capital Costs	$90,154,756	N/A	N/A	$90,154,756	$90,154,756
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$90,154,756	N/A	N/A	$90,154,756	$90,154,756
Total Costs	$90,154,756	$35,567,627	$289,295,280	$125,722,382	$125,722,382
Net Benefit (Cost)	$209,251,692	$114,332,530	($139,395,123)	$69,856,568	$104,205,187
Benefit/Cost Ratio	3.32	4.21	0.52	1.56	1.83

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

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	16.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	69.60%
Gross Load Factor at Customer	E	50.50%
Transmission Loss Factor (Energy)	F	6.617%
Transmission Loss Factor (Demand)	G	7.075%
Societal Net Benefit (Cost)	H	$1,852.66

Program Summary per Participant

Gross kW Saved at Customer	I	8.97 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.72 kW
Gross Annual kWh Saved at Customer	(B x E x I)	39,669 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	42,480 kWh

Program Summary All Participants

Total Participants	J	6,272
Total Budget	K	**$35,567,627**
Gross kW Saved at Customer	(J x I)	56,246 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**42,127 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	248,802,558 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**266,432,308 kWh**
Societal Net Benefits	(J x I x H)	**$104,205,187**

Utility Program Cost per kWh Lifetime	**$0.0083**
Utility Program Cost per kW at Gen	**$844**

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

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

Input Data	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
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
Administrative & Operating Costs =			$2,576,059
Incentive Costs =			$2,524,852
16) Total Utility Project Costs =			$5,100,911
17) Direct Participant Costs ($/Part.) =			$4,008
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$189
Escalation Rate =			1.73%
20) Project Life (Years) =			8.5
21) Avg. Dth/Part. Saved =			125.37
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 =			3,591
24) Total Annual Dth Saved =			450,232
25) Incentive/Participant =			$703.07

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,420	
Cost per Participant per Dth =		$43.30	
Lifetime Energy Reduction (Dth)		3,818,134	
Societal Cost per Dth		$3.01	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($9,969,296)	0.65
Utility Cost Test	$13,441,275	3.64
Societal Test	$21,318,787	2.85
Participant Test	$25,558,943	2.75

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 =			$1,576,084
Incentive Costs =			$1,327,753
16) Total Utility Project Costs =			$2,903,837
17) Direct Participant Costs ($/Part.) =			$16,978
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$190
Escalation Rate =			1.73%
20) Project Life (Years) =			12.2
21) Avg. Dth/Part. Saved =			402.01
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 =			637
24) Total Annual Dth Saved =			256,083
25) Incentive/Participant =			$2,084.38

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$4,559	
Cost per Participant per Dth =		$53.57	
Lifetime Energy Reduction (Dth)		2,171,678	
Societal Cost per Dth		$5.75	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($5,005,187)	0.77
Utility Cost Test	$13,445,839	5.63
Societal Test	$12,645,325	2.01
Participant Test	$9,913,030	1.91

BUSINESS NEW CONSTRUCTION — 2019 — ELECTRIC — GOAL

2019 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	$3,600,878	$3,600,878	$3,600,878	$3,600,878
T & D	N/A	$2,197,980	$2,197,980	$2,197,980	$2,197,980
Marginal Energy	N/A	$10,295,560	$10,295,560	$10,295,560	$10,295,560
Environmental Externality	N/A	N/A	N/A	N/A	$3,490,556
Subtotal	N/A	$16,094,418	$16,094,418	$16,094,418	$19,584,975
Participant Benefits					
Bill Reduction - Electric	$26,387,992	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,722,945	N/A	N/A	$2,722,945	$2,722,945
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$29,110,937	N/A	N/A	$2,722,945	$2,722,945
Total Benefits	$29,110,937	$16,094,418	$16,094,418	$18,817,363	$22,307,920
Costs					
Utility Project Costs					
Customer Services	N/A	$750,000	$750,000	$750,000	$750,000
Project Administration	N/A	$568,979	$568,979	$568,979	$568,979
Advertising & Promotion	N/A	$94,000	$94,000	$94,000	$94,000
Measurement & Verification	N/A	$286,000	$286,000	$286,000	$286,000
Rebates	N/A	$2,722,945	$2,722,945	$2,722,945	$2,722,945
Other	N/A	$250,000	$250,000	$250,000	$250,000
Subtotal	N/A	$4,671,924	$4,671,924	$4,671,924	$4,671,924
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$26,387,992	N/A	N/A
Subtotal	N/A	N/A	$26,387,992	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,489,292	N/A	N/A	$4,262,772	$4,262,772
Incremental O&M Costs	$51,204	N/A	N/A	$21,358	$21,358
Subtotal	$8,540,496	N/A	N/A	$4,284,129	$4,284,129
Total Costs	$8,540,496	$4,671,924	$31,059,916	$8,956,053	$8,956,053
Net Benefit (Cost)	$20,570,442	$11,422,494	($14,965,498)	$9,861,310	$13,351,866
Benefit/Cost Ratio	3.41	3.44	0.52	2.10	2.49

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	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	72.94%
Gross Load Factor at Customer	E	44.57%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,426.53

Program Summary per Participant		
Gross kW Saved at Customer	I	45.10 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	35.37 kW
Gross Annual kWh Saved at Customer	(B x E x I)	176,094 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	188,537 kWh

Program Summary All Participants		
Total Participants	J	122
Total Budget	K	**$4,671,924**
Gross kW Saved at Customer	(J x I)	5,502 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**4,316 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	21,483,430 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**23,001,531 kWh**
Societal Net Benefits	(J x I x H)	**$13,351,866**
Utility Program Cost per kWh Lifetime		**$0.0102**
Utility Program Cost per kW at Gen		**$1,083**

BUSINESS NEW CONSTRUCTION — 2019 — ELECTRIC — ACTUAL

2019 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	$6,299,530	$6,299,530	$6,299,530	$6,299,530
T & D	N/A	$3,845,240	$3,845,240	$3,845,240	$3,845,240
Marginal Energy	N/A	$14,723,833	$14,723,833	$14,723,833	$14,723,833
Environmental Externality	N/A	N/A	N/A	N/A	$4,991,896
Subtotal	N/A	$24,868,603	$24,868,603	$24,868,603	$29,860,499
Participant Benefits					
Bill Reduction - Electric	$37,737,859	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,635,042	N/A	N/A	$4,635,042	$4,635,042
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$42,372,900	N/A	N/A	$4,635,042	$4,635,042
Total Benefits	$42,372,900	$24,868,603	$24,868,603	$29,503,644	$34,495,541
Costs					
Utility Project Costs					
Customer Services	N/A	$1,325,921	$1,325,921	$1,325,921	$1,325,921
Project Administration	N/A	$699,445	$699,445	$699,445	$699,445
Advertising & Promotion	N/A	$10,767	$10,767	$10,767	$10,767
Measurement & Verification	N/A	$325,571	$325,571	$325,571	$325,571
Rebates	N/A	$4,635,042	$4,635,042	$4,635,042	$4,635,042
Other	N/A	$355,971	$355,971	$355,971	$355,971
Subtotal	N/A	$7,352,715	$7,352,715	$7,352,715	$7,352,715
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$37,737,859	N/A	N/A
Subtotal	N/A	N/A	$37,737,859	N/A	N/A
Participant Costs					
Incremental Capital Costs	$16,456,795	N/A	N/A	$16,456,795	$16,456,795
Incremental O&M Costs	$258,320	N/A	N/A	$258,320	$258,320
Subtotal	$16,715,115	N/A	N/A	$16,715,115	$16,715,115
Total Costs	$16,715,115	$7,352,715	$45,090,574	$24,067,830	$24,067,830
Net Benefit (Cost)	$25,657,786	$17,515,887	($20,221,971)	$5,435,814	$10,427,710
Benefit/Cost Ratio	2.54	3.38	0.55	1.23	1.43

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.87%
Gross Load Factor at Customer	E	39.89%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,186.13

Program Summary per Participant		
Gross kW Saved at Customer	I	49.95 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	42.90 kW
Gross Annual kWh Saved at Customer	(B x E x I)	174,567 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	186,902 kWh

Program Summary All Participants		
Total Participants	J	176
Total Budget	K	**$7,352,715**
Gross kW Saved at Customer	(J x I)	8,791 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**7,550 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	30,723,771 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**32,894,830 kWh**
Societal Net Benefits	(J x I x H)	**$10,427,710**
Utility Program Cost per kWh Lifetime		**$0.0112**
Utility Program Cost per kW at Gen		**$974**

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 =			$239,064
Incentive Costs =			$145,441
16) Total Utility Project Costs =			$384,505
17) Direct Participant Costs ($/Part.) =			$38,363
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 =			934.41
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 =			25
24) Total Annual Dth Saved =			23,360
25) Incentive/Participant =			$5,817.64

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$15,380	
Cost per Participant per Dth =		$57.52	
Lifetime Energy Reduction (Dth)		467,207	
Societal Cost per Dth		$1.56	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($928,546)	0.69
Utility Cost Test	$1,687,580	5.39
Societal Test	$2,534,309	4.48
Participant Test	$3,075,950	4.21

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 =			$323,798
Incentive Costs =			$317,034
16) Total Utility Project Costs =			$640,832
17) Direct Participant Costs ($/Part.) =			$137,979
18) Participant Non-Energy Costs (Annual $/Part.) =			$22
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 =			1,880.42
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 =			32
24) Total Annual Dth Saved =			60,173
25) Incentive/Participant =			$9,907.30

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$20,026	
Cost per Participant per Dth =		$84.04	
Lifetime Energy Reduction (Dth)		1,203,466	
Societal Cost per Dth		$3.94	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,042,212)	0.72
Utility Cost Test	$4,696,596	8.33
Societal Test	$3,658,887	1.77
Participant Test	$2,632,610	1.60

COMMERCIAL EFFICIENCY — 2019 — ELECTRIC — GOAL

2019 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	$2,883,585	$2,883,585	$2,883,585	$2,883,585
T & D	N/A	$1,758,073	$1,758,073	$1,758,073	$1,758,073
Marginal Energy	N/A	$11,639,935	$11,639,935	$11,639,935	$11,639,935
Environmental Externality	N/A	N/A	N/A	N/A	$3,913,553
Subtotal	N/A	$16,281,593	$16,281,593	$16,281,593	$20,195,146
Participant Benefits					
Bill Reduction - Electric	$28,906,603	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,892,511	N/A	N/A	$2,892,511	$2,892,511
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$938,102	N/A	N/A	$515,259	$515,259
Subtotal	$32,737,216	N/A	N/A	$3,407,770	$3,407,770
Total Benefits	$32,737,216	$16,281,593	$16,281,593	$19,689,363	$23,602,917
Costs					
Utility Project Costs					
Customer Services	N/A	$75,000	$75,000	$75,000	$75,000
Project Administration	N/A	$679,221	$679,221	$679,221	$679,221
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	$2,892,511	$2,892,511	$2,892,511	$2,892,511
Other	N/A	$7,500	$7,500	$7,500	$7,500
Subtotal	N/A	$3,709,232	$3,709,232	$3,709,232	$3,709,232
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$28,906,603	N/A	N/A
Subtotal	N/A	N/A	$28,906,603	N/A	N/A
Participant Costs					
Incremental Capital Costs	$10,369,388	N/A	N/A	$5,959,145	$5,959,145
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$10,369,388	N/A	N/A	$5,959,145	$5,959,145
Total Costs	$10,369,388	$3,709,232	$32,615,835	$9,668,377	$9,668,377
Net Benefit (Cost)	$22,367,828	$12,572,361	($16,334,242)	$10,020,986	$13,934,539
Benefit/Cost Ratio	3.16	4.39	0.50	2.04	2.44

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	80.06%
Gross Load Factor at Customer	E	67.65%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,154.53

Program Summary per Participant		
Gross kW Saved at Customer	I	24.27 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	20.89 kW
Gross Annual kWh Saved at Customer	(B x E x I)	143,842 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	154,007 kWh

Program Summary All Participants		
Total Participants	J	182
Total Budget	K	**$3,709,232**
Gross kW Saved at Customer	(J x I)	4,417 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,803 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	26,179,272 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**28,029,199 kWh**
Societal Net Benefits	(J x I x H)	**$13,934,539**
Utility Program Cost per kWh Lifetime		**$0.0076**
Utility Program Cost per kW at Gen		**$975**

COMMERCIAL EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$2,185,762	$2,185,762	$2,185,762	$2,185,762
T & D	N/A	$1,332,726	$1,332,726	$1,332,726	$1,332,726
Marginal Energy	N/A	$9,078,856	$9,078,856	$9,078,856	$9,078,856
Environmental Externality	N/A	N/A	N/A	N/A	$3,052,782
Subtotal	N/A	$12,597,344	$12,597,344	$12,597,344	$15,650,125
Participant Benefits					
Bill Reduction - Electric	$22,708,317	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,737,858	N/A	N/A	$1,737,858	$1,737,858
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$24,446,174	N/A	N/A	$1,737,858	$1,737,858
Total Benefits	$24,446,174	$12,597,344	$12,597,344	$14,335,201	$17,387,983
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$770,944	$770,944	$770,944	$770,944
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$3,630	$3,630	$3,630	$3,630
Rebates	N/A	$1,737,858	$1,737,858	$1,737,858	$1,737,858
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,512,432	$2,512,432	$2,512,432	$2,512,432
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$22,708,317	N/A	N/A
Subtotal	N/A	N/A	$22,708,317	N/A	N/A
Participant Costs					
Incremental Capital Costs	$7,029,628	N/A	N/A	$7,029,628	$7,029,628
Incremental O&M Costs	$26,829	N/A	N/A	$26,829	$26,829
Subtotal	$7,056,457	N/A	N/A	$7,056,457	$7,056,457
Total Costs	$7,056,457	$2,512,432	$25,220,749	$9,568,889	$9,568,889
Net Benefit (Cost)	$17,389,717	$10,084,912	($12,623,405)	$4,766,312	$7,819,094
Benefit/Cost Ratio	3.46	5.01	0.50	1.50	1.82

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	65.30%
Gross Load Factor at Customer	E	56.88%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,905.27

Program Summary per Participant		
Gross kW Saved at Customer	I	48.28 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	33.90 kW
Gross Annual kWh Saved at Customer	(B x E x I)	240,579 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	257,579 kWh

Program Summary All Participants		
Total Participants	J	85
Total Budget	K	**$2,512,432**
Gross kW Saved at Customer	(J x I)	4,104 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,882 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	20,449,178 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**21,894,195 kWh**
Societal Net Benefits	(J x I x H)	**$7,819,094**

Utility Program Cost per kWh Lifetime	**$0.0066**
Utility Program Cost per kW at Gen	**$872**

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 =			$282,179
Incentive Costs =			$230,703
16) Total Utility Project Costs =			$512,882
17) Direct Participant Costs ($/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 =			$5,015.28

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$11,150	
Cost per Participant per Dth =		$49.55	
Lifetime Energy Reduction (Dth)		612,933	
Societal Cost per Dth		$1.67	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,275,404)	0.69
Utility Cost Test	$2,391,330	5.66
Societal Test	$6,564,007	7.40
Participant Test	$7,073,698	5.63

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 =			$114,455
Incentive Costs =			$36,201
16) Total Utility Project Costs =			$150,656
17) Direct Participant Costs ($/Part.) =			$38,507
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$387
Escalation Rate =			1.73%
20) Project Life (Years) =			15.0
21) Avg. Dth/Part. Saved =			2,343.21
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
24) Total Annual Dth Saved =			16,403
25) Incentive/Participant =			$5,171.56

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$21,522	
Cost per Participant per Dth =		$25.62	
Lifetime Energy Reduction (Dth)		244,104	
Societal Cost per Dth		$1.57	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($456,702)	0.72
Utility Cost Test	$1,014,983	7.74
Societal Test	$1,303,567	4.39
Participant Test	$1,264,692	5.69

COMMERCIAL REFRIGERATION — 2019 ELECTRIC — GOAL

2019 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	$133,559	$133,559	$133,559	$133,559
T & D	N/A	$81,306	$81,306	$81,306	$81,306
Marginal Energy	N/A	$611,042	$611,042	$611,042	$611,042
Environmental Externality	N/A	N/A	N/A	N/A	$228,996
Subtotal	N/A	$825,907	$825,907	$825,907	$1,054,904
Participant Benefits					
Bill Reduction - Electric	$1,498,689	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$141,165	N/A	N/A	$141,165	$141,165
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$126,995	N/A	N/A	$6,597	$6,597
Subtotal	$1,766,850	N/A	N/A	$147,763	$147,763
Total Benefits	$1,766,850	$825,907	$825,907	$973,670	$1,202,666
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$209,780	$209,780	$209,780	$209,780
Advertising & Promotion	N/A	$9,969	$9,969	$9,969	$9,969
Measurement & Verification	N/A	$1,821	$1,821	$1,821	$1,821
Rebates	N/A	$141,165	$141,165	$141,165	$141,165
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$362,735	$362,735	$362,735	$362,735
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,498,689	N/A	N/A
Subtotal	N/A	N/A	$1,498,689	N/A	N/A
Participant Costs					
Incremental Capital Costs	$505,497	N/A	N/A	$505,497	$505,497
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$505,497	N/A	N/A	$505,497	$505,497
Total Costs	$505,497	$362,735	$1,861,424	$868,232	$868,232
Net Benefit (Cost)	$1,261,353	$463,172	($1,035,517)	$105,438	$334,434
Benefit/Cost Ratio	3.50	2.28	0.44	1.12	1.39

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.59%
Gross Load Factor at Customer	E	17.36%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$251.39

Program Summary per Participant		
Gross kW Saved at Customer	I	3.88 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.69 kW
Gross Annual kWh Saved at Customer	(B x E x I)	5,897 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	6,314 kWh

Program Summary All Participants		
Total Participants	J	343
Total Budget	K	**$362,735**
Gross kW Saved at Customer	(J x I)	1,330 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**237 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,022,621 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,165,547 kWh**
Societal Net Benefits	(J x I x H)	**$334,434**
Utility Program Cost per kWh Lifetime		**$0.0141**
Utility Program Cost per kW at Gen		**$1,529**

COMMERCIAL REFRIGERATION — 2019 — ELECTRIC — ACTUAL

2019 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	$207,942	$207,942	$207,942	$207,942
T & D	N/A	$126,913	$126,913	$126,913	$126,913
Marginal Energy	N/A	$258,345	$258,345	$258,345	$258,345
Environmental Externality	N/A	N/A	N/A	N/A	$91,452
Subtotal	N/A	$593,200	$593,200	$593,200	$684,652
Participant Benefits					
Bill Reduction - Electric	$539,626	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$59,627	N/A	N/A	$59,627	$59,627
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,175	N/A	N/A	$2,175	$2,175
Subtotal	$601,429	N/A	N/A	$61,802	$61,802
Total Benefits	$601,429	$593,200	$593,200	$655,002	$746,454
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$199,641	$199,641	$199,641	$199,641
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$59,627	$59,627	$59,627	$59,627
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$259,269	$259,269	$259,269	$259,269
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$539,626	N/A	N/A
Subtotal	N/A	N/A	$539,626	N/A	N/A
Participant Costs					
Incremental Capital Costs	$365,088	N/A	N/A	$365,088	$365,088
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$365,088	N/A	N/A	$365,088	$365,088
Total Costs	$365,088	$259,269	$798,895	$624,357	$624,357
Net Benefit (Cost)	$236,341	$333,931	($205,695)	$30,646	$122,097
Benefit/Cost Ratio	1.65	2.29	0.74	1.05	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	11.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.19%
Gross Load Factor at Customer	E	80.69%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,029.38

Program Summary per Participant		
Gross kW Saved at Customer	I	0.62 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.51 kW
Gross Annual kWh Saved at Customer	(B x E x I)	4,367 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	4,675 kWh

Program Summary All Participants		
Total Participants	J	192
Total Budget	K	**$259,269**
Gross kW Saved at Customer	(J x I)	119 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**97 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	838,413 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**897,658 kWh**
Societal Net Benefits	(J x I x H)	**$122,097**
Utility Program Cost per kWh Lifetime		**$0.0248**
Utility Program Cost per kW at Gen		**$2,668**

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

GOAL

Company: **Xcel Energy**
Project: **Commercial Refrigeration**

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 =			$21,810
Incentive Costs =			$9,812
16) Total Utility Project Costs =			$31,621
17) Direct Participant Costs ($/Part.) =			$619
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$49
Escalation Rate =			1.73%
20) Project Life (Years) =			11.5
21) Avg. Dth/Part. Saved =			28.87
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 =			1,472
25) Incentive/Participant =			$192.38

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$620	
Cost per Participant per Dth =		$42.92	
Lifetime Energy Reduction (Dth)		16,941	
Societal Cost per Dth		$3.15	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($53,690)	0.61
Utility Cost Test	$52,432	2.66
Societal Test	$82,254	2.54
Participant Test	$134,734	5.27

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

ACTUAL

Company: **Xcel Energy**
Project: **Commercial Refrigeration**

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 =			$3,884
Incentive Costs =			$0
16) Total Utility Project Costs =			$3,884
17) Direct Participant Costs ($/Part.) =			$18
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$19
Escalation Rate =			1.73%
20) Project Life (Years) =			8.0
21) Avg. Dth/Part. Saved =			3.02
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 =			30
24) Total Annual Dth Saved =			91
25) Incentive/Participant =			$0.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$129	
Cost per Participant per Dth =		$48.73	
Lifetime Energy Reduction (Dth)		1,044	
Societal Cost per Dth		$4.23	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($4,872)	0.44
Utility Cost Test	($124)	0.97
Societal Test	$4,069	1.92
Participant Test	$7,978	15.91

COOLING EFFICIENCY — 2019 — ELECTRIC — GOAL

2019 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	$1,900,830	$1,900,830	$1,900,830	$1,900,830
T & D	N/A	$1,159,883	$1,159,883	$1,159,883	$1,159,883
Marginal Energy	N/A	$2,862,893	$2,862,893	$2,862,893	$2,862,893
Environmental Externality	N/A	N/A	N/A	N/A	$931,457
Subtotal	N/A	$5,923,606	$5,923,606	$5,923,606	$6,855,063
Participant Benefits					
Bill Reduction - Electric	$7,102,498	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,940,471	N/A	N/A	$1,940,471	$1,940,471
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$35,532	N/A	N/A	$8,742	$8,742
Subtotal	$9,078,501	N/A	N/A	$1,949,213	$1,949,213
Total Benefits	$9,078,501	$5,923,606	$5,923,606	$7,872,819	$8,804,276
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$457,668	$457,668	$457,668	$457,668
Advertising & Promotion	N/A	$63,260	$63,260	$63,260	$63,260
Measurement & Verification	N/A	$18,000	$18,000	$18,000	$18,000
Rebates	N/A	$1,940,471	$1,940,471	$1,940,471	$1,940,471
Other	N/A	$197,000	$197,000	$197,000	$197,000
Subtotal	N/A	$2,676,399	$2,676,399	$2,676,399	$2,676,399
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,102,498	N/A	N/A
Subtotal	N/A	N/A	$7,102,498	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,505,535	N/A	N/A	$4,121,741	$4,121,741
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,505,535	N/A	N/A	$4,121,741	$4,121,741
Total Costs	$4,505,535	$2,676,399	$9,778,897	$6,798,140	$6,798,140
Net Benefit (Cost)	$4,572,966	$3,247,207	($3,855,291)	$1,074,679	$2,006,136
Benefit/Cost Ratio	2.01	2.21	0.61	1.16	1.30

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	18.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.44%
Gross Load Factor at Customer	E	24.67%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$719.72

Program Summary per Participant		
Gross kW Saved at Customer	I	1.54 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.30 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,336 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,572 kWh

Program Summary All Participants		
Total Participants	J	1,806
Total Budget	K	**$2,676,399**
Gross kW Saved at Customer	(J x I)	2,787 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,351 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,024,804 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,450,540 kWh**
Societal Net Benefits	(J x I x H)	**$2,006,136**
Utility Program Cost per kWh Lifetime		**$0.0225**
Utility Program Cost per kW at Gen		**$1,138**

COOLING EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$2,062,809	$2,062,809	$2,062,809	$2,062,809
T & D	N/A	$1,258,102	$1,258,102	$1,258,102	$1,258,102
Marginal Energy	N/A	$1,785,390	$1,785,390	$1,785,390	$1,785,390
Environmental Externality	N/A	N/A	N/A	N/A	$578,750
Subtotal	N/A	$5,106,301	$5,106,301	$5,106,301	$5,685,052
Participant Benefits					
Bill Reduction - Electric	$4,368,179	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,678,190	N/A	N/A	$1,678,190	$1,678,190
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$77,431	N/A	N/A	$77,431	$77,431
Subtotal	$6,123,800	N/A	N/A	$1,755,621	$1,755,621
Total Benefits	$6,123,800	$5,106,301	$5,106,301	$6,861,922	$7,440,672
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$392,405	$392,405	$392,405	$392,405
Advertising & Promotion	N/A	$6,372	$6,372	$6,372	$6,372
Measurement & Verification	N/A	$10,500	$10,500	$10,500	$10,500
Rebates	N/A	$1,678,190	$1,678,190	$1,678,190	$1,678,190
Other	N/A	$50,990	$50,990	$50,990	$50,990
Subtotal	N/A	$2,138,457	$2,138,457	$2,138,457	$2,138,457
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,368,179	N/A	N/A
Subtotal	N/A	N/A	$4,368,179	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,241,480	N/A	N/A	$4,241,480	$4,241,480
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,241,480	N/A	N/A	$4,241,480	$4,241,480
Total Costs	$4,241,480	$2,138,457	$6,506,636	$6,379,936	$6,379,936
Net Benefit (Cost)	$1,882,320	$2,967,845	($1,400,334)	$481,986	$1,060,736
Benefit/Cost Ratio	1.44	2.39	0.78	1.08	1.17

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	16.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	88.77%
Gross Load Factor at Customer	E	16.23%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$378.86

Program Summary per Participant		
Gross kW Saved at Customer	I	4.20 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	5,969 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	6,391 kWh

Program Summary All Participants		
Total Participants	J	667
Total Budget	K	**$2,138,457**
Gross kW Saved at Customer	(J x I)	2,800 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,672 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,981,364 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,262,702 kWh**
Societal Net Benefits	(J x I x H)	**$1,060,736**

Utility Program Cost per kWh Lifetime	**$0.0298**
Utility Program Cost per kW at Gen	**$800**

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 =			$11,193.00

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		$1.14	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($159,932)	0.73
Utility Cost Test	$375,530	8.73
Societal Test	$502,535	5.93
Participant Test	$636,864	6.53

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 =			$5,477
Incentive Costs =			$6,026
16) Total Utility Project Costs =			$11,503
17) Direct Participant Costs ($/Part.) =			$10,379
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 =			469.70
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 =			2
24) Total Annual Dth Saved =			939
25) Incentive/Participant =			$3,013.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$5,752	
Cost per Participant per Dth =		$34.34	
Lifetime Energy Reduction (Dth)		14,091	
Societal Cost per Dth		$1.86	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($29,031)	0.70
Utility Cost Test	$55,255	5.80
Societal Test	$68,905	3.63
Participant Test	$69,554	4.35

CUSTOM EFFICIENCY — 2019 ELECTRIC — GOAL

2019 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	$619,671	$619,671	$619,671	$619,671
T & D	N/A	$377,985	$377,985	$377,985	$377,985
Marginal Energy	N/A	$2,106,677	$2,106,677	$2,106,677	$2,106,677
Environmental Externality	N/A	N/A	N/A	N/A	$709,922
Subtotal	N/A	$3,104,333	$3,104,333	$3,104,333	$3,814,255
Participant Benefits					
Bill Reduction - Electric	$5,295,401	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	$2,448,749	$2,448,749
Subtotal	$11,979,145	N/A	N/A	$2,790,320	$2,790,320
Total Benefits	$11,979,145	$3,104,333	$3,104,333	$5,894,652	$6,604,575
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$988,068	$988,068	$988,068	$988,068
Advertising & Promotion	N/A	$36,796	$36,796	$36,796	$36,796
Measurement & Verification	N/A	$16,491	$16,491	$16,491	$16,491
Rebates	N/A	$341,571	$341,571	$341,571	$341,571
Other	N/A	$2,464	$2,464	$2,464	$2,464
Subtotal	N/A	$1,385,389	$1,385,389	$1,385,389	$1,385,389
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,295,401	N/A	N/A
Subtotal	N/A	N/A	$5,295,401	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,386,935	N/A	N/A	$558,917	$558,917
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,386,935	N/A	N/A	$558,917	$558,917
Total Costs	$1,386,935	$1,385,389	$6,680,790	$1,944,306	$1,944,306
Net Benefit (Cost)	$10,592,210	$1,718,943	($3,576,457)	$3,950,346	$4,660,269
Benefit/Cost Ratio	8.64	2.24	0.46	3.03	3.40

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	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	$4,733.77

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	**$1,385,389**
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)	**$4,660,269**
Utility Program Cost per kWh Lifetime		**$0.0152**
Utility Program Cost per kW at Gen		**$1,770**

CUSTOM EFFICIENCY — 2019 ELECTRIC — ACTUAL

2019 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	$520,906	$520,906	$520,906	$520,906
T & D	N/A	$317,913	$317,913	$317,913	$317,913
Marginal Energy	N/A	$1,396,723	$1,396,723	$1,396,723	$1,396,723
Environmental Externality	N/A	N/A	N/A	N/A	$506,183
Subtotal	N/A	$2,235,542	$2,235,542	$2,235,542	$2,741,725
Participant Benefits					
Bill Reduction - Electric	$3,766,686	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$268,595	N/A	N/A	$268,595	$268,595
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,461,328	N/A	N/A	$2,461,328	$2,461,328
Subtotal	$6,496,610	N/A	N/A	$2,729,924	$2,729,924
Total Benefits	$6,496,610	$2,235,542	$2,235,542	$4,965,466	$5,471,649
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$541,975	$541,975	$541,975	$541,975
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$1,506	$1,506	$1,506	$1,506
Rebates	N/A	$268,595	$268,595	$268,595	$268,595
Other	N/A	$4,670	$4,670	$4,670	$4,670
Subtotal	N/A	$816,746	$816,746	$816,746	$816,746
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,766,686	N/A	N/A
Subtotal	N/A	N/A	$3,766,686	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,199,088	N/A	N/A	$1,199,088	$1,199,088
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,199,088	N/A	N/A	$1,199,088	$1,199,088
Total Costs	$1,199,088	$816,746	$4,583,432	$2,015,834	$2,015,834
Net Benefit (Cost)	$5,297,522	$1,418,796	($2,347,890)	$2,949,632	$3,455,815
Benefit/Cost Ratio	5.42	2.74	0.49	2.46	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	18.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	74.97%
Gross Load Factor at Customer	E	47.10%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$4,385.21

Program Summary per Participant		
Gross kW Saved at Customer	I	43.78 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	35.29 kW
Gross Annual kWh Saved at Customer	(B x E x I)	180,634 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	193,399 kWh

Program Summary All Participants		
Total Participants	J	18
Total Budget	K	**$816,746**
Gross kW Saved at Customer	(J x I)	788 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**635 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,251,418 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,481,176 kWh**
Societal Net Benefits	(J x I x H)	**$3,455,815**
Utility Program Cost per kWh Lifetime		**$0.0126**
Utility Program Cost per kW at Gen		**$1,286**

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 =			$122,199
Incentive Costs =			$103,360
16) Total Utility Project Costs =			$225,559
17) Direct Participant Costs ($/Part.) =			$64,744
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$2,613
Escalation Rate =			1.73%
20) Project Life (Years) =			19.5
21) Avg. Dth/Part. Saved =			810.05
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 =			21
24) Total Annual Dth Saved =			17,011
25) Incentive/Participant =			$4,921.90

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$10,741	
Cost per Participant per Dth =		$93.18	
Lifetime Energy Reduction (Dth)		331,141	
Societal Cost per Dth		$2.95	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($613,852)	0.71
Utility Cost Test	$1,253,330	6.56
Societal Test	$2,321,249	3.38
Participant Test	$2,482,452	2.83

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 =			$43,257
Incentive Costs =			$54,942
16) Total Utility Project Costs =			$98,199
17) Direct Participant Costs ($/Part.) =			$51,239
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$2,031
Escalation Rate =			1.73%
20) Project Life (Years) =			19.5
21) Avg. Dth/Part. Saved =			3,038.41
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 =			7
24) Total Annual Dth Saved =			21,269
25) Incentive/Participant =			$7,848.83

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$14,028	
Cost per Participant per Dth =		$21.48	
Lifetime Energy Reduction (Dth)		414,024	
Societal Cost per Dth		$0.97	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($547,051)	0.78
Utility Cost Test	$1,787,481	19.20
Societal Test	$2,726,604	7.78
Participant Test	$2,189,500	7.10

DATA CENTER EFFICIENCY — 2019 — ELECTRIC — GOAL

2019 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	$571,274	$571,274	$571,274	$571,274
T & D	N/A	$347,366	$347,366	$347,366	$347,366
Marginal Energy	N/A	$2,743,755	$2,743,755	$2,743,755	$2,743,755
Environmental Externality	N/A	N/A	N/A	N/A	$1,027,358
Subtotal	N/A	$3,662,396	$3,662,396	$3,662,396	$4,689,754
Participant Benefits					
Bill Reduction - Electric	$6,447,835	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$665,624	N/A	N/A	$665,624	$665,624
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$313,260	N/A	N/A	$314,449	$314,449
Subtotal	$7,426,719	N/A	N/A	$980,073	$980,073
Total Benefits	$7,426,719	$3,662,396	$3,662,396	$4,642,469	$5,669,827
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$526,163	$526,163	$526,163	$526,163
Advertising & Promotion	N/A	$27,603	$27,603	$27,603	$27,603
Measurement & Verification	N/A	$66,220	$66,220	$66,220	$66,220
Rebates	N/A	$665,624	$665,624	$665,624	$665,624
Other	N/A	$71,800	$71,800	$71,800	$71,800
Subtotal	N/A	$1,357,410	$1,357,410	$1,357,410	$1,357,410
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,447,835	N/A	N/A
Subtotal	N/A	N/A	$6,447,835	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,104,432	N/A	N/A	$2,104,432	$2,104,432
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,104,432	N/A	N/A	$2,104,432	$2,104,432
Total Costs	$2,104,432	$1,357,410	$7,805,245	$3,461,842	$3,461,842
Net Benefit (Cost)	$5,322,287	$2,304,986	($4,142,850)	$1,180,627	$2,207,985
Benefit/Cost Ratio	3.53	2.70	0.47	1.34	1.64

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	11.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.46%
Gross Load Factor at Customer	E	88.91%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,939.23

Program Summary per Participant		
Gross kW Saved at Customer	I	14.23 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	12.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	110,854 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	118,688 kWh

Program Summary All Participants		
Total Participants	J	80
Total Budget	K	**$1,357,410**
Gross kW Saved at Customer	(J x I)	1,139 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**961 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,868,355 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,495,027 kWh**
Societal Net Benefits	(J x I x H)	**$2,207,985**
Utility Program Cost per kWh Lifetime		**$0.0124**
Utility Program Cost per kW at Gen		**$1,413**

DATA CENTER EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$32,998	$32,998	$32,998	$32,998
T & D	N/A	$37,135	$37,135	$37,135	$37,135
Marginal Energy	N/A	$205,264	$205,264	$205,264	$205,264
Environmental Externality	N/A	N/A	N/A	N/A	$78,793
Subtotal	N/A	$275,396	$275,396	$275,396	$354,190
Participant Benefits					
Bill Reduction - Electric	$3,708,324	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$390,444	N/A	N/A	$390,444	$390,444
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$372,887	N/A	N/A	$372,887	$372,887
Subtotal	$4,471,655	N/A	N/A	$763,331	$763,331
Total Benefits	$4,471,655	$275,396	$275,396	$1,038,728	$1,117,521
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$80,888	$80,888	$80,888	$80,888
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$390,444	$390,444	$390,444	$390,444
Other	N/A	$421	$421	$421	$421
Subtotal	N/A	$471,754	$471,754	$471,754	$471,754
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,708,324	N/A	N/A
Subtotal	N/A	N/A	$3,708,324	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,174,232	N/A	N/A	$2,174,232	$2,174,232
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,174,232	N/A	N/A	$2,174,232	$2,174,232
Total Costs	$2,174,232	$471,754	$4,180,078	$2,645,986	$2,645,986
Net Benefit (Cost)	$2,297,423	($196,357)	($3,904,681)	($1,607,258)	($1,528,465)
Benefit/Cost Ratio	2.06	0.58	0.07	0.39	0.42

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	11.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	39.60%
Gross Load Factor at Customer	E	97.25%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	($2,520.70)

Program Summary per Participant		
Gross kW Saved at Customer	I	17.32 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	7.38 kW
Gross Annual kWh Saved at Customer	(B x E x I)	147,597 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	158,027 kWh

Program Summary All Participants		
Total Participants	J	35
Total Budget	K	**$471,754**
Gross kW Saved at Customer	(J x I)	606 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**258 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,165,903 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,530,945 kWh**
Societal Net Benefits	(J x I x H)	**($1,528,465)**
Utility Program Cost per kWh Lifetime		**$0.0075**
Utility Program Cost per kW at Gen		**$1,827**

EFFICIENCY CONTROLS — 2019 ELECTRIC — GOAL

2019 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	$194,232	$194,232	$194,232	$194,232
T & D	N/A	$118,298	$118,298	$118,298	$118,298
Marginal Energy	N/A	$2,992,147	$2,992,147	$2,992,147	$2,992,147
Environmental Externality	N/A	N/A	N/A	N/A	$1,186,181
Subtotal	N/A	$3,304,677	$3,304,677	$3,304,677	$4,490,858
Participant Benefits					
Bill Reduction - Electric	$6,850,276	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$796,294	N/A	N/A	$796,294	$796,294
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$774,189	N/A	N/A	$295,726	$295,726
Subtotal	$8,420,760	N/A	N/A	$1,092,020	$1,092,020
Total Benefits	$8,420,760	$3,304,677	$3,304,677	$4,396,698	$5,582,879
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$352,119	$352,119	$352,119	$352,119
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	$796,294	$796,294	$796,294	$796,294
Other	N/A	$20,000	$20,000	$20,000	$20,000
Subtotal	N/A	$1,232,065	$1,232,065	$1,232,065	$1,232,065
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,850,276	N/A	N/A
Subtotal	N/A	N/A	$6,850,276	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,056,863	N/A	N/A	$1,174,777	$1,174,777
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,056,863	N/A	N/A	$1,174,777	$1,174,777
Total Costs	$3,056,863	$1,232,065	$8,082,341	$2,406,842	$2,406,842
Net Benefit (Cost)	$5,363,897	$2,072,612	($4,777,664)	$1,989,855	$3,176,037
Benefit/Cost Ratio	2.75	2.68	0.41	1.83	2.32

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	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	$2,563.16

Program Summary per Participant		
Gross kW Saved at Customer	I	17.70 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	122,161 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	130,794 kWh

Program Summary All Participants		
Total Participants	J	70
Total Budget	K	**$1,232,065**
Gross kW Saved at Customer	(J x I)	1,239 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**280 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,551,289 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,155,555 kWh**
Societal Net Benefits	(J x I x H)	**$3,176,037**
Utility Program Cost per kWh Lifetime		**$0.0090**
Utility Program Cost per kW at Gen		**$4,393**

EFFICIENCY CONTROLS — 2019 ELECTRIC — ACTUAL

2019 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	$56,938	$56,938	$56,938	$56,938
T & D	N/A	$34,679	$34,679	$34,679	$34,679
Marginal Energy	N/A	$1,535,907	$1,535,907	$1,535,907	$1,535,907
Environmental Externality	N/A	N/A	N/A	N/A	$608,781
Subtotal	N/A	$1,627,524	$1,627,524	$1,627,524	$2,236,305
Participant Benefits					
Bill Reduction - Electric	$3,532,291	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$309,024	N/A	N/A	$309,024	$309,024
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$352,538	N/A	N/A	$352,538	$352,538
Subtotal	$4,193,853	N/A	N/A	$661,561	$661,561
Total Benefits	$4,193,853	$1,627,524	$1,627,524	$2,289,086	$2,897,867
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$211,400	$211,400	$211,400	$211,400
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$309,024	$309,024	$309,024	$309,024
Other	N/A	$13,029	$13,029	$13,029	$13,029
Subtotal	N/A	$533,452	$533,452	$533,452	$533,452
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,532,291	N/A	N/A
Subtotal	N/A	N/A	$3,532,291	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,385,099	N/A	N/A	$1,385,099	$1,385,099
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,385,099	N/A	N/A	$1,385,099	$1,385,099
Total Costs	$1,385,099	$533,452	$4,065,744	$1,918,551	$1,918,551
Net Benefit (Cost)	$2,808,754	$1,094,072	($2,438,220)	$370,534	$979,315
Benefit/Cost Ratio	3.03	3.05	0.40	1.19	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	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	13.49%
Gross Load Factor at Customer	E	88.78%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,727.19

Program Summary per Participant		
Gross kW Saved at Customer	I	21.81 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.16 kW
Gross Annual kWh Saved at Customer	(B x E x I)	169,593 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	181,577 kWh

Program Summary All Participants		
Total Participants	J	26
Total Budget	K	**$533,452**
Gross kW Saved at Customer	(J x I)	567 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**82 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,409,405 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,720,990 kWh**
Societal Net Benefits	(J x I x H)	**$979,315**
Utility Program Cost per kWh Lifetime		**$0.0075**
Utility Program Cost per kW at Gen		**$6,488**

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 =			$49,300
Incentive Costs =			$134,729
16) Total Utility Project Costs =			$184,029
17) Direct Participant Costs ($/Part.) =			$59,037
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$1,567
Escalation Rate =			1.73%
20) Project Life (Years) =			15.0
21) Avg. Dth/Part. Saved =			944.80
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 =			17
24) Total Annual Dth Saved =			16,062
25) Incentive/Participant =			$7,925.24

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$10,825	
Cost per Participant per Dth =		$73.94	
Lifetime Energy Reduction (Dth)		240,924	
Societal Cost per Dth		$2.80	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($483,715)	0.70
Utility Cost Test	$957,383	6.20
Societal Test	$1,330,871	2.97
Participant Test	$1,442,957	2.44

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 =			$5,115
Incentive Costs =			$40,998
16) Total Utility Project Costs =			$46,113
17) Direct Participant Costs ($/Part.) =			$103,270
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$2,582
Escalation Rate =			1.73%
20) Project Life (Years) =			15.0
21) Avg. Dth/Part. Saved =			1,140.78
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			5
24) Total Annual Dth Saved =			5,704
25) Incentive/Participant =			$8,199.61

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$9,223	
Cost per Participant per Dth =		$98.61	
Lifetime Energy Reduction (Dth)		85,559	
Societal Cost per Dth		$6.09	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($152,539)	0.73
Utility Cost Test	$359,233	8.79
Societal Test	$181,748	1.35
Participant Test	$161,952	1.31

FLUID SYSTEMS OPTIMIZATION — 2019 — ELECTRIC — GOAL

2019 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	$1,424,067	$1,424,067	$1,424,067	$1,424,067
T & D	N/A	$868,746	$868,746	$868,746	$868,746
Marginal Energy	N/A	$5,041,633	$5,041,633	$5,041,633	$5,041,633
Environmental Externality	N/A	N/A	N/A	N/A	$1,896,396
Subtotal	N/A	$7,334,446	$7,334,446	$7,334,446	$9,230,842
Participant Benefits					
Bill Reduction - Electric	$12,950,723	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,155,973	N/A	N/A	$1,155,973	$1,155,973
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$30,736	N/A	N/A	$30,736	$30,736
Subtotal	$14,137,432	N/A	N/A	$1,186,709	$1,186,709
Total Benefits	$14,137,432	$7,334,446	$7,334,446	$8,521,155	$10,417,551
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$411,552	$411,552	$411,552	$411,552
Advertising & Promotion	N/A	$20,000	$20,000	$20,000	$20,000
Measurement & Verification	N/A	$31,243	$31,243	$31,243	$31,243
Rebates	N/A	$1,155,973	$1,155,973	$1,155,973	$1,155,973
Other	N/A	$26,000	$26,000	$26,000	$26,000
Subtotal	N/A	$1,644,768	$1,644,768	$1,644,768	$1,644,768
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$12,950,723	N/A	N/A
Subtotal	N/A	N/A	$12,950,723	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,314,169	N/A	N/A	$3,314,169	$3,314,169
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,314,169	N/A	N/A	$3,314,169	$3,314,169
Total Costs	$3,314,169	$1,644,768	$14,595,491	$4,958,937	$4,958,937
Net Benefit (Cost)	$10,823,263	$5,689,678	($7,261,045)	$3,562,218	$5,458,614
Benefit/Cost Ratio	4.27	4.46	0.50	1.72	2.10

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	17.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.91%
Gross Load Factor at Customer	E	66.17%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,399.41

Program Summary per Participant		
Gross kW Saved at Customer	I	6.56 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.57 kW
Gross Annual kWh Saved at Customer	(B x E x I)	38,050 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	40,738 kWh

Program Summary All Participants		
Total Participants	J	347
Total Budget	K	**$1,644,768**
Gross kW Saved at Customer	(J x I)	2,275 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,930 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	13,186,040 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**14,117,816 kWh**
Societal Net Benefits	(J x I x H)	**$5,458,614**

Utility Program Cost per kWh Lifetime	**$0.0068**
Utility Program Cost per kW at Gen	**$852**

FLUID SYSTEMS OPTIMIZATION — 2019 — ELECTRIC — ACTUAL

2019 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	$837,851	$837,851	$837,851	$837,851
T & D	N/A	$510,991	$510,991	$510,991	$510,991
Marginal Energy	N/A	$2,738,889	$2,738,889	$2,738,889	$2,738,889
Environmental Externality	N/A	N/A	N/A	N/A	$1,027,353
Subtotal	N/A	$4,087,732	$4,087,732	$4,087,732	$5,115,085
Participant Benefits					
Bill Reduction - Electric	$7,205,437	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$754,790	N/A	N/A	$754,790	$754,790
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$9,220	N/A	N/A	$9,220	$9,220
Subtotal	$7,969,446	N/A	N/A	$764,010	$764,010
Total Benefits	$7,969,446	$4,087,732	$4,087,732	$4,851,741	$5,879,095
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$305,124	$305,124	$305,124	$305,124
Advertising & Promotion	N/A	$1,911	$1,911	$1,911	$1,911
Measurement & Verification	N/A	$11,661	$11,661	$11,661	$11,661
Rebates	N/A	$754,790	$754,790	$754,790	$754,790
Other	N/A	$19,266	$19,266	$19,266	$19,266
Subtotal	N/A	$1,092,752	$1,092,752	$1,092,752	$1,092,752
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,205,437	N/A	N/A
Subtotal	N/A	N/A	$7,205,437	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,199,545	N/A	N/A	$2,199,545	$2,199,545
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,199,545	N/A	N/A	$2,199,545	$2,199,545
Total Costs	$2,199,545	$1,092,752	$8,298,189	$3,292,297	$3,292,297
Net Benefit (Cost)	$5,769,901	$2,994,980	($4,210,457)	$1,559,444	$2,586,797
Benefit/Cost Ratio	3.62	3.74	0.49	1.47	1.79

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	15.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.50%
Gross Load Factor at Customer	E	63.18%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,798.88

Program Summary per Participant		
Gross kW Saved at Customer	I	11.32 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	9.68 kW
Gross Annual kWh Saved at Customer	(B x E x I)	62,662 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	67,090 kWh

Program Summary All Participants		
Total Participants	J	127
Total Budget	K	**$1,092,752**
Gross kW Saved at Customer	(J x I)	1,438 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,229 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,958,107 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,520,457 kWh**
Societal Net Benefits	(J x I x H)	**$2,586,797**
Utility Program Cost per kWh Lifetime		**$0.0082**
Utility Program Cost per kW at Gen		**$889**

FOODSERVICE EQUIPMENT — 2019 ELECTRIC — GOAL

2019 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	$53,323	$53,323	$53,323	$53,323
T & D	N/A	$32,507	$32,507	$32,507	$32,507
Marginal Energy	N/A	$178,027	$178,027	$178,027	$178,027
Environmental Externality	N/A	N/A	N/A	N/A	$67,790
Subtotal	N/A	$263,857	$263,857	$263,857	$331,647
Participant Benefits					
Bill Reduction - Electric	$451,144	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$28,781	N/A	N/A	$28,781	$28,781
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$291,447	N/A	N/A	$17,925	$17,925
Subtotal	$771,372	N/A	N/A	$46,706	$46,706
Total Benefits	$771,372	$263,857	$263,857	$310,562	$378,352
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$12,087	$12,087	$12,087	$12,087
Advertising & Promotion	N/A	$7,885	$7,885	$7,885	$7,885
Measurement & Verification	N/A	$5,000	$5,000	$5,000	$5,000
Rebates	N/A	$28,781	$28,781	$28,781	$28,781
Other	N/A	$1,000	$1,000	$1,000	$1,000
Subtotal	N/A	$54,753	$54,753	$54,753	$54,753
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$451,144	N/A	N/A
Subtotal	N/A	N/A	$451,144	N/A	N/A
Participant Costs					
Incremental Capital Costs	$218,783	N/A	N/A	$114,970	$114,970
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$218,783	N/A	N/A	$114,970	$114,970
Total Costs	$218,783	$54,753	$505,897	$169,723	$169,723
Net Benefit (Cost)	$552,589	$209,104	($242,041)	$140,839	$208,629
Benefit/Cost Ratio	3.53	4.82	0.52	1.83	2.23

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	62.19%
Gross Load Factor at Customer	E	49.09%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,916.90

Program Summary per Participant		
Gross kW Saved at Customer	I	1.49 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.00 kW
Gross Annual kWh Saved at Customer	(B x E x I)	6,412 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	6,865 kWh

Program Summary All Participants		
Total Participants	J	73
Total Budget	K	**$54,753**
Gross kW Saved at Customer	(J x I)	109 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**73 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	468,058 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**501,133 kWh**
Societal Net Benefits	(J x I x H)	**$208,629**
Utility Program Cost per kWh Lifetime		**$0.0066**
Utility Program Cost per kW at Gen		**$752**

FOODSERVICE EQUIPMENT — 2019 ELECTRIC — ACTUAL

2019 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	$58,271	$58,271	$58,271	$58,271
T & D	N/A	$35,547	$35,547	$35,547	$35,547
Marginal Energy	N/A	$192,161	$192,161	$192,161	$192,161
Environmental Externality	N/A	N/A	N/A	N/A	$73,429
Subtotal	N/A	$285,979	$285,979	$285,979	$359,408
Participant Benefits					
Bill Reduction - Electric	$495,895	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$24,175	N/A	N/A	$24,175	$24,175
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$19,116	N/A	N/A	$19,116	$19,116
Subtotal	$539,186	N/A	N/A	$43,291	$43,291
Total Benefits	$539,186	$285,979	$285,979	$329,270	$402,698
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$12,982	$12,982	$12,982	$12,982
Advertising & Promotion	N/A	$350	$350	$350	$350
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$24,175	$24,175	$24,175	$24,175
Other	N/A	$1,339	$1,339	$1,339	$1,339
Subtotal	N/A	$38,846	$38,846	$38,846	$38,846
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$495,895	N/A	N/A
Subtotal	N/A	N/A	$495,895	N/A	N/A
Participant Costs					
Incremental Capital Costs	$78,327	N/A	N/A	$78,327	$78,327
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$78,327	N/A	N/A	$78,327	$78,327
Total Costs	$78,327	$38,846	$534,741	$117,172	$117,172
Net Benefit (Cost)	$460,859	$247,133	($248,762)	$212,097	$285,526
Benefit/Cost Ratio	6.88	7.36	0.53	2.81	3.44

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	18.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	56.11%
Gross Load Factor at Customer	E	44.41%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,319.65

Program Summary per Participant		
Gross kW Saved at Customer	I	3.85 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.32 kW
Gross Annual kWh Saved at Customer	(B x E x I)	14,965 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	16,022 kWh

Program Summary All Participants		
Total Participants	J	32
Total Budget	K	**$38,846**
Gross kW Saved at Customer	(J x I)	123 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**74 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	478,866 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**512,704 kWh**
Societal Net Benefits	(J x I x H)	**$285,526**
Utility Program Cost per kWh Lifetime		**$0.0042**
Utility Program Cost per kW at Gen		**$523**

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 =			$66,245
Incentive Costs =			$30,183
16) Total Utility Project Costs =			$96,428
17) Direct Participant Costs ($/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 =			$450.49

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,439	
Cost per Participant per Dth =		$46.88	
Lifetime Energy Reduction (Dth)		73,643	
Societal Cost per Dth		$3.24	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($190,644)	0.65
Utility Cost Test	$262,411	3.72
Societal Test	$272,930	2.14
Participant Test	$497,591	3.70

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 =			$27,153
Incentive Costs =			$58,700
16) Total Utility Project Costs =			$85,853
17) Direct Participant Costs ($/Part.) =			$10,642
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$21
Escalation Rate =			1.73%
20) Project Life (Years) =			11.9
21) Avg. Dth/Part. Saved =			350.33
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 =			14,714
25) Incentive/Participant =			$1,397.62

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2,044	
Cost per Participant per Dth =		$36.21	
Lifetime Energy Reduction (Dth)		180,832	
Societal Cost per Dth		$2.62	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($311,848)	0.73
Utility Cost Test	$774,893	10.03
Societal Test	$699,999	2.48
Participant Test	$706,735	2.58

HEATING EFFICIENCY — 2019 ELECTRIC — GOAL

2019 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	$22,480	$22,480	$22,480	$22,480
T & D	N/A	$13,699	$13,699	$13,699	$13,699
Marginal Energy	N/A	$55,376	$55,376	$55,376	$55,376
Environmental Externality	N/A	N/A	N/A	N/A	$21,035
Subtotal	N/A	$91,555	$91,555	$91,555	$112,590
Participant Benefits					
Bill Reduction - Electric	$230,317	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	$238,097	N/A	N/A	$7,780	$7,780
Total Benefits	$238,097	$91,555	$91,555	$99,335	$120,370
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	$230,317	N/A	N/A
Subtotal	N/A	N/A	$230,317	N/A	N/A
Participant Costs					
Incremental Capital Costs	$16,675	N/A	N/A	$15,593	$15,593
Incremental O&M Costs	$7,033	N/A	N/A	$0	$0
Subtotal	$23,708	N/A	N/A	$15,593	$15,593
Total Costs	$23,708	$7,830	$238,147	$23,423	$23,423
Net Benefit (Cost)	$214,389	$83,725	($146,592)	$75,912	$96,947
Benefit/Cost Ratio	10.04	11.69	0.38	4.24	5.14

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	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	$2,412.97

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)	**$96,947**
Utility Program Cost per kWh Lifetime		**$0.0031**
Utility Program Cost per kW at Gen		**$248**

HEATING EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$36,579	$36,579	$36,579	$36,579
T & D	N/A	$22,308	$22,308	$22,308	$22,308
Marginal Energy	N/A	$76,957	$76,957	$76,957	$76,957
Environmental Externality	N/A	N/A	N/A	N/A	$29,309
Subtotal	N/A	$135,844	$135,844	$135,844	$165,153
Participant Benefits					
Bill Reduction - Electric	$324,228	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$8,525	N/A	N/A	$8,525	$8,525
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$332,754	N/A	N/A	$8,525	$8,525
Total Benefits	$332,754	$135,844	$135,844	$144,369	$173,678
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$4,421	$4,421	$4,421	$4,421
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$8,525	$8,525	$8,525	$8,525
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$12,946	$12,946	$12,946	$12,946
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$324,228	N/A	N/A
Subtotal	N/A	N/A	$324,228	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,314	N/A	N/A	$18,314	$18,314
Incremental O&M Costs	$10,178	N/A	N/A	$10,178	$10,178
Subtotal	$28,492	N/A	N/A	$28,492	$28,492
Total Costs	$28,492	$12,946	$337,174	$41,438	$41,438
Net Benefit (Cost)	$304,261	$122,898	($201,331)	$102,931	$132,240
Benefit/Cost Ratio	11.68	10.49	0.40	3.48	4.19

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	94.92%
Gross Load Factor at Customer	E	47.43%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$2,910.02

Program Summary per Participant		
Gross kW Saved at Customer	I	0.69 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.72 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,861 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,123 kWh

Program Summary All Participants		
Total Participants	J	66
Total Budget	K	**$12,946**
Gross kW Saved at Customer	(J x I)	45 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**47 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	188,793 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**206,106 kWh**
Societal Net Benefits	(J x I x H)	**$132,240**
Utility Program Cost per kWh Lifetime		**$0.0035**
Utility Program Cost per kW at Gen		**$274**

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 =			$716,628
Incentive Costs =			$739,165
16) Total Utility Project Costs =			$1,455,793
17) Direct Participant Costs ($/Part.) =			$4,162
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$46
Escalation Rate =			1.73%
20) Project Life (Years) =			7.7
21) Avg. Dth/Part. Saved =			212.91
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 =			122,620
25) Incentive/Participant =			$1,283.41

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2,528	
Cost per Participant per Dth =		$31.42	
Lifetime Energy Reduction (Dth)		948,051	
Societal Cost per Dth		$3.54	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,657,826)	0.63
Utility Cost Test	$3,122,383	3.14
Societal Test	$3,428,143	2.02
Participant Test	$6,080,802	3.30

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 =			$317,946
Incentive Costs =			$477,181
16) Total Utility Project Costs =			$795,127
17) Direct Participant Costs ($/Part.) =			$8,553
18) Participant Non-Energy Costs (Annual $/Part.) =			$22
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$0
Escalation Rate =			1.73%
20) Project Life (Years) =			8.2
21) Avg. Dth/Part. Saved =			175.08
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			404
24) Total Annual Dth Saved =			70,731
25) Incentive/Participant =			$1,181.14

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,968	
Cost per Participant per Dth =		$60.22	
Lifetime Energy Reduction (Dth)		546,862	
Societal Cost per Dth		$7.07	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,529,767)	0.65
Utility Cost Test	$2,002,894	3.52
Societal Test	$10,522	1.00
Participant Test	$463,583	1.13

LIGHTING EFFICIENCY — 2019 — ELECTRIC — GOAL

2019 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	$5,177,471	$5,177,471	$5,177,471	$5,177,471
T & D	N/A	$3,155,838	$3,155,838	$3,155,838	$3,155,838
Marginal Energy	N/A	$21,882,254	$21,882,254	$21,882,254	$21,882,254
Environmental Externality	N/A	N/A	N/A	N/A	$7,532,725
Subtotal	N/A	$30,215,563	$30,215,563	$30,215,563	$37,748,288
Participant Benefits					
Bill Reduction - Electric	$53,714,900	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,459,335	N/A	N/A	$4,459,335	$4,459,335
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$5,951	$5,951
Subtotal	$58,174,235	N/A	N/A	$4,465,285	$4,465,285
Total Benefits	$58,174,235	$30,215,563	$30,215,563	$34,680,848	$42,213,573
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,966,570	$1,966,570	$1,966,570	$1,966,570
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	$4,459,335	$4,459,335	$4,459,335	$4,459,335
Other	N/A	$100,000	$100,000	$100,000	$100,000
Subtotal	N/A	$6,665,907	$6,665,907	$6,665,907	$6,665,907
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$53,714,900	N/A	N/A
Subtotal	N/A	N/A	$53,714,900	N/A	N/A
Participant Costs					
Incremental Capital Costs	$16,887,852	N/A	N/A	$16,887,852	$16,887,852
Incremental O&M Costs	$1,643,971	N/A	N/A	$0	$0
Subtotal	$18,531,823	N/A	N/A	$16,887,852	$16,887,852
Total Costs	$18,531,823	$6,665,907	$60,380,807	$23,553,759	$23,553,759
Net Benefit (Cost)	$39,642,412	$23,549,656	($30,165,244)	$11,127,090	$18,659,815
Benefit/Cost Ratio	3.14	4.53	0.50	1.47	1.79

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	15.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	70.41%
Gross Load Factor at Customer	E	61.61%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,868.69

Program Summary per Participant		
Gross kW Saved at Customer	I	6.15 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.66 kW
Gross Annual kWh Saved at Customer	(B x E x I)	33,197 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	35,542 kWh

Program Summary All Participants		
Total Participants	J	1,623
Total Budget	K	**$6,665,907**
Gross kW Saved at Customer	(J x I)	9,986 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**7,559 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	53,891,239 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**57,699,400 kWh**
Societal Net Benefits	(J x I x H)	**$18,659,815**
Utility Program Cost per kWh Lifetime		**$0.0073**
Utility Program Cost per kW at Gen		**$882**

LIGHTING EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$9,747,400	$9,747,400	$9,747,400	$9,747,400
T & D	N/A	$5,938,791	$5,938,791	$5,938,791	$5,938,791
Marginal Energy	N/A	$36,827,044	$36,827,044	$36,827,044	$36,827,044
Environmental Externality	N/A	N/A	N/A	N/A	$12,544,961
Subtotal	N/A	$52,513,235	$52,513,235	$52,513,235	$65,058,197
Participant Benefits					
Bill Reduction - Electric	$89,205,295	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$7,204,440	N/A	N/A	$7,204,440	$7,204,440
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$96,409,735	N/A	N/A	$7,204,440	$7,204,440
Total Benefits	$96,409,735	$52,513,235	$52,513,235	$59,717,675	$72,262,637
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,141,653	$2,141,653	$2,141,653	$2,141,653
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$21,588	$21,588	$21,588	$21,588
Rebates	N/A	$7,204,440	$7,204,440	$7,204,440	$7,204,440
Other	N/A	$31,047	$31,047	$31,047	$31,047
Subtotal	N/A	$9,398,727	$9,398,727	$9,398,727	$9,398,727
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$89,205,295	N/A	N/A
Subtotal	N/A	N/A	$89,205,295	N/A	N/A
Participant Costs					
Incremental Capital Costs	$26,495,379	N/A	N/A	$26,495,379	$26,495,379
Incremental O&M Costs	$2,571,907	N/A	N/A	$2,571,907	$2,571,907
Subtotal	$29,067,286	N/A	N/A	$29,067,286	$29,067,286
Total Costs	$29,067,286	$9,398,727	$98,604,022	$38,466,013	$38,466,013
Net Benefit (Cost)	$67,342,449	$43,114,508	($46,090,787)	$21,251,662	$33,796,624
Benefit/Cost Ratio	3.32	5.59	0.53	1.55	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	14.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	69.08%
Gross Load Factor at Customer	E	52.91%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,643.56

Program Summary per Participant		
Gross kW Saved at Customer	I	5.01 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.72 kW
Gross Annual kWh Saved at Customer	(B x E x I)	23,233 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	24,875 kWh

Program Summary All Participants		
Total Participants	J	4,102
Total Budget	K	**$9,398,727**
Gross kW Saved at Customer	(J x I)	20,563 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**15,273 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	95,301,046 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**102,035,381 kWh**
Societal Net Benefits	(J x I x H)	**$33,796,624**
Utility Program Cost per kWh Lifetime		**$0.0062**
Utility Program Cost per kW at Gen		**$615**

MOTOR EFFICIENCY — 2019 — ELECTRIC — GOAL

2019 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	$3,670,239	$3,670,239	$3,670,239	$3,670,239
T & D	N/A	$2,236,928	$2,236,928	$2,236,928	$2,236,928
Marginal Energy	N/A	$11,833,425	$11,833,425	$11,833,425	$11,833,425
Environmental Externality	N/A	N/A	N/A	N/A	$3,966,779
Subtotal	N/A	$17,740,592	$17,740,592	$17,740,592	$21,707,371
Participant Benefits					
Bill Reduction - Electric	$29,628,837	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,186,544	N/A	N/A	$2,186,544	$2,186,544
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	$31,893,777	N/A	N/A	$2,264,940	$2,264,940
Total Benefits	$31,893,777	$17,740,592	$17,740,592	$20,005,532	$23,972,311
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$669,900	$669,900	$669,900	$669,900
Advertising & Promotion	N/A	$35,500	$35,500	$35,500	$35,500
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$2,186,544	$2,186,544	$2,186,544	$2,186,544
Other	N/A	$75,632	$75,632	$75,632	$75,632
Subtotal	N/A	$2,987,576	$2,987,576	$2,987,576	$2,987,576
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$29,628,837	N/A	N/A
Subtotal	N/A	N/A	$29,628,837	N/A	N/A
Participant Costs					
Incremental Capital Costs	$7,097,751	N/A	N/A	$7,097,751	$7,097,751
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$7,097,751	N/A	N/A	$7,097,751	$7,097,751
Total Costs	$7,097,751	$2,987,576	$32,616,413	$10,085,327	$10,085,327
Net Benefit (Cost)	$24,796,026	$14,753,016	($14,875,821)	$9,920,205	$13,886,984
Benefit/Cost Ratio	4.49	5.94	0.54	1.98	2.38

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.82%
Gross Load Factor at Customer	E	51.56%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,243.35

Program Summary per Participant		
Gross kW Saved at Customer	I	6.41 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.30 kW
Gross Annual kWh Saved at Customer	(B x E x I)	28,971 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	31,018 kWh

Program Summary All Participants		
Total Participants	J	965
Total Budget	K	**$2,987,576**
Gross kW Saved at Customer	(J x I)	6,190 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,114 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	27,956,962 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**29,932,508 kWh**
Societal Net Benefits	(J x I x H)	**$13,886,984**

Utility Program Cost per kWh Lifetime	**$0.0061**
Utility Program Cost per kW at Gen	**$584**

MOTOR EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$1,881,743	$1,881,743	$1,881,743	$1,881,743
T & D	N/A	$1,146,122	$1,146,122	$1,146,122	$1,146,122
Marginal Energy	N/A	$6,037,815	$6,037,815	$6,037,815	$6,037,815
Environmental Externality	N/A	N/A	N/A	N/A	$2,015,875
Subtotal	N/A	$9,065,680	$9,065,680	$9,065,680	$11,081,555
Participant Benefits					
Bill Reduction - Electric	$14,796,245	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,527,269	N/A	N/A	$1,527,269	$1,527,269
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$16,323,513	N/A	N/A	$1,527,269	$1,527,269
Total Benefits	$16,323,513	$9,065,680	$9,065,680	$10,592,949	$12,608,824
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$494,985	$494,985	$494,985	$494,985
Advertising & Promotion	N/A	$10,368	$10,368	$10,368	$10,368
Measurement & Verification	N/A	$10,625	$10,625	$10,625	$10,625
Rebates	N/A	$1,527,269	$1,527,269	$1,527,269	$1,527,269
Other	N/A	$19,328	$19,328	$19,328	$19,328
Subtotal	N/A	$2,062,575	$2,062,575	$2,062,575	$2,062,575
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$14,796,245	N/A	N/A
Subtotal	N/A	N/A	$14,796,245	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,303,573	N/A	N/A	$5,303,573	$5,303,573
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,303,573	N/A	N/A	$5,303,573	$5,303,573
Total Costs	$5,303,573	$2,062,575	$16,858,819	$7,366,148	$7,366,148
Net Benefit (Cost)	$11,019,940	$7,003,106	($7,793,139)	$3,226,801	$5,242,676
Benefit/Cost Ratio	3.08	4.40	0.54	1.44	1.71

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	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	75.63%
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	$1,577.34

Program Summary per Participant		
Gross kW Saved at Customer	I	11.08 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	9.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	48,139 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	51,541 kWh

Program Summary All Participants		
Total Participants	J	300
Total Budget	K	**$2,062,575**
Gross kW Saved at Customer	(J x I)	3,324 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,703 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	14,441,816 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**15,462,330 kWh**
Societal Net Benefits	(J x I x H)	**$5,242,676**
Utility Program Cost per kWh Lifetime		**$0.0089**
Utility Program Cost per kW at Gen		**$763**

MULTI-FAMILY BUILDING EFFICIENCY — 2019 — ELECTRIC — GOAL

2019 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	$305,681	$305,681	$305,681	$305,681
T & D	N/A	$186,182	$186,182	$186,182	$186,182
Marginal Energy	N/A	$1,255,264	$1,255,264	$1,255,264	$1,255,264
Environmental Externality	N/A	N/A	N/A	N/A	$456,119
Subtotal	N/A	$1,747,128	$1,747,128	$1,747,128	$2,203,247
Participant Benefits					
Bill Reduction - Electric	$4,061,516	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$251,615	N/A	N/A	$251,615	$251,615
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$103,473	N/A	N/A	$103,473	$103,473
Subtotal	$4,416,605	N/A	N/A	$355,088	$355,088
Total Benefits	$4,416,605	$1,747,128	$1,747,128	$2,102,216	$2,558,335
Costs					
Utility Project Costs					
Customer Services	N/A	$920,000	$920,000	$920,000	$920,000
Project Administration	N/A	$259,000	$259,000	$259,000	$259,000
Advertising & Promotion	N/A	$10,000	$10,000	$10,000	$10,000
Measurement & Verification	N/A	$49,000	$49,000	$49,000	$49,000
Rebates	N/A	$251,615	$251,615	$251,615	$251,615
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,489,615	$1,489,615	$1,489,615	$1,489,615
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,061,516	N/A	N/A
Subtotal	N/A	N/A	$4,061,516	N/A	N/A
Participant Costs					
Incremental Capital Costs	$238,968	N/A	N/A	$83,508	$83,508
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$238,968	N/A	N/A	$83,508	$83,508
Total Costs	$238,968	$1,489,615	$5,551,131	$1,573,123	$1,573,123
Net Benefit (Cost)	$4,177,637	$257,513	($3,804,004)	$529,093	$985,212
Benefit/Cost Ratio	18.48	1.17	0.31	1.34	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	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	14.67%
Transmission Loss Factor (Energy)	F	7.515%
Transmission Loss Factor (Demand)	G	8.611%
Societal Net Benefit (Cost)	H	$362.93

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)	508 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	549 kWh

Program Summary All Participants		
Total Participants	J	6,865
Total Budget	K	**$1,489,615**
Gross kW Saved at Customer	(J x I)	2,715 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**494 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,487,691 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,771,090 kWh**
Societal Net Benefits	(J x I x H)	**$985,212**
Utility Program Cost per kWh Lifetime		**$0.0274**
Utility Program Cost per kW at Gen		**$3,014**

MULTI-FAMILY BUILDING EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$170,422	$170,422	$170,422	$170,422
T & D	N/A	$103,775	$103,775	$103,775	$103,775
Marginal Energy	N/A	$932,692	$932,692	$932,692	$932,692
Environmental Externality	N/A	N/A	N/A	N/A	$338,974
Subtotal	N/A	$1,206,889	$1,206,889	$1,206,889	$1,545,863
Participant Benefits					
Bill Reduction - Electric	$3,499,089	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$23,835	N/A	N/A	$23,835	$23,835
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$28,820	N/A	N/A	$28,820	$28,820
Subtotal	$3,551,744	N/A	N/A	$52,655	$52,655
Total Benefits	$3,551,744	$1,206,889	$1,206,889	$1,259,544	$1,598,518
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$898,761	$898,761	$898,761	$898,761
Advertising & Promotion	N/A	$570	$570	$570	$570
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$23,835	$23,835	$23,835	$23,835
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$923,166	$923,166	$923,166	$923,166
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,499,089	N/A	N/A
Subtotal	N/A	N/A	$3,499,089	N/A	N/A
Participant Costs					
Incremental Capital Costs	$366,741	N/A	N/A	$366,741	$366,741
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$366,741	N/A	N/A	$366,741	$366,741
Total Costs	$366,741	$923,166	$4,422,255	$1,289,907	$1,289,907
Net Benefit (Cost)	$3,185,003	$283,723	($3,215,366)	($30,363)	$308,611
Benefit/Cost Ratio	9.68	1.31	0.27	0.98	1.24

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.52%
Gross Load Factor at Customer	E	12.27%
Transmission Loss Factor (Energy)	F	8.120%
Transmission Loss Factor (Demand)	G	8.736%
Societal Net Benefit (Cost)	H	$132.24

Program Summary per Participant		
Gross kW Saved at Customer	I	10.66 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.23 kW
Gross Annual kWh Saved at Customer	(B x E x I)	11,457 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	12,469 kWh

Program Summary All Participants		
Total Participants	J	219
Total Budget	K	**$923,166**
Gross kW Saved at Customer	(J x I)	2,334 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**269 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,509,018 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,730,755 kWh**
Societal Net Benefits	(J x I x H)	**$308,611**
Utility Program Cost per kWh Lifetime		**$0.0232**
Utility Program Cost per kW at Gen		**$3,432**

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 =			$419,000
Incentive Costs =			$200,898
16) Total Utility Project Costs =			$619,898
17) Direct Participant Costs ($/Part.) =			$74
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$36
Escalation Rate =			1.73%
20) Project Life (Years) =			13.4
21) Avg. Dth/Part. Saved =			3.69
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			2,591
24) Total Annual Dth Saved =			9,558
25) Incentive/Participant =			$77.53

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$239	
Cost per Participant per Dth =		$84.82	
Lifetime Energy Reduction (Dth)		127,643	
Societal Cost per Dth		$4.26	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($779,071)	0.44
Utility Cost Test	($13,657)	0.98
Societal Test	$1,229,942	3.26
Participant Test	$1,946,117	11.20

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 =			$355,072
Incentive Costs =			$19,527
16) Total Utility Project Costs =			$374,599
17) Direct Participant Costs ($/Part.) =			$1,085
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$1,268
Escalation Rate =			1.73%
20) Project Life (Years) =			10.5
21) Avg. Dth/Part. Saved =			88.05
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 =			72
24) Total Annual Dth Saved =			6,340
25) Incentive/Participant =			$271.20

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$5,203	
Cost per Participant per Dth =		$71.41	
Lifetime Energy Reduction (Dth)		84,670	
Societal Cost per Dth		$5.12	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($462,071)	0.42
Utility Cost Test	($41,446)	0.89
Societal Test	$688,930	2.59
Participant Test	$1,047,160	14.41

PROCESS EFFICIENCY **2019 ELECTRIC** **GOAL**

2019 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	$3,934,121	$3,934,121	$3,934,121	$3,934,121
T & D	N/A	$2,398,449	$2,398,449	$2,398,449	$2,398,449
Marginal Energy	N/A	$18,941,771	$18,941,771	$18,941,771	$18,941,771
Environmental Externality	N/A	N/A	N/A	N/A	$6,410,919
Subtotal	N/A	$25,274,341	$25,274,341	$25,274,341	$31,685,260
Participant Benefits					
Bill Reduction - Electric	$47,221,399	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,456,249	N/A	N/A	$4,456,249	$4,456,249
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$28,338,075	N/A	N/A	$15,753,688	$15,753,688
Subtotal	$80,015,723	N/A	N/A	$20,209,937	$20,209,937
Total Benefits	$80,015,723	$25,274,341	$25,274,341	$45,484,278	$51,895,197
Costs					
Utility Project Costs					
Customer Services	N/A	$675,000	$675,000	$675,000	$675,000
Project Administration	N/A	$1,506,202	$1,506,202	$1,506,202	$1,506,202
Advertising & Promotion	N/A	$6,835	$6,835	$6,835	$6,835
Measurement & Verification	N/A	$87,000	$87,000	$87,000	$87,000
Rebates	N/A	$4,456,249	$4,456,249	$4,456,249	$4,456,249
Other	N/A	$33,000	$33,000	$33,000	$33,000
Subtotal	N/A	$6,764,286	$6,764,286	$6,764,286	$6,764,286
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$47,221,399	N/A	N/A
Subtotal	N/A	N/A	$47,221,399	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,076,083	N/A	N/A	$13,291,640	$13,291,640
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$18,076,083	N/A	N/A	$13,291,640	$13,291,640
Total Costs	$18,076,083	$6,764,286	$53,985,685	$20,055,926	$20,055,926
Net Benefit (Cost)	$61,939,640	$18,510,055	($28,711,344)	$25,428,352	$31,839,270
Benefit/Cost Ratio	4.43	3.74	0.47	2.27	2.59

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	17.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	55.61%
Gross Load Factor at Customer	E	56.34%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,645.50

Program Summary per Participant		
Gross kW Saved at Customer	I	36.70 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	21.94 kW
Gross Annual kWh Saved at Customer	(B x E x I)	181,099 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	193,896 kWh

Program Summary All Participants		
Total Participants	J	238
Total Budget	K	**$6,764,286**
Gross kW Saved at Customer	(J x I)	8,734 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,222 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	43,101,469 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**46,147,183 kWh**
Societal Net Benefits	(J x I x H)	**$31,839,270**
Utility Program Cost per kWh Lifetime		**$0.0085**
Utility Program Cost per kW at Gen		**$1,295**

PROCESS EFFICIENCY — 2019 ELECTRIC — ACTUAL

2019 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	$4,741,794	$4,741,794	$4,741,794	$4,741,794
T & D	N/A	$2,892,005	$2,892,005	$2,892,005	$2,892,005
Marginal Energy	N/A	$18,105,131	$18,105,131	$18,105,131	$18,105,131
Environmental Externality	N/A	N/A	N/A	N/A	$6,127,758
Subtotal	N/A	$25,738,930	$25,738,930	$25,738,930	$31,866,688
Participant Benefits					
Bill Reduction - Electric	$45,179,228	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,402,030	N/A	N/A	$3,402,030	$3,402,030
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$21,999,436	N/A	N/A	$21,999,436	$21,999,436
Subtotal	$70,580,694	N/A	N/A	$25,401,466	$25,401,466
Total Benefits	$70,580,694	$25,738,930	$25,738,930	$51,140,396	$57,268,154
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,073,694	$2,073,694	$2,073,694	$2,073,694
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$16,092	$16,092	$16,092	$16,092
Rebates	N/A	$3,402,030	$3,402,030	$3,402,030	$3,402,030
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$5,491,816	$5,491,816	$5,491,816	$5,491,816
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$45,179,228	N/A	N/A
Subtotal	N/A	N/A	$45,179,228	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,437,253	N/A	N/A	$18,437,253	$18,437,253
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$18,437,253	N/A	N/A	$18,437,253	$18,437,253
Total Costs	$18,437,253	$5,491,816	$50,671,044	$23,929,069	$23,929,069
Net Benefit (Cost)	$52,143,441	$20,247,114	($24,932,114)	$27,211,327	$33,339,085
Benefit/Cost Ratio	3.83	4.69	0.51	2.14	2.39

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.82%
Gross Load Factor at Customer	E	64.80%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$4,672.46

Program Summary per Participant		
Gross kW Saved at Customer	I	76.72 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	65.85 kW
Gross Annual kWh Saved at Customer	(B x E x I)	435,529 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	466,305 kWh

Program Summary All Participants		
Total Participants	J	93
Total Budget	K	**$5,491,816**
Gross kW Saved at Customer	(J x I)	7,135 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**6,124 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	40,504,177 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**43,366,356 kWh**
Societal Net Benefits	(J x I x H)	**$33,339,085**

Utility Program Cost per kWh Lifetime	**$0.0071**
Utility Program Cost per kW at Gen	**$897**

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 =			$458,152
Incentive Costs =			$630,171
16) Total Utility Project Costs =			$1,088,323
17) Direct Participant Costs ($/Part.) =			$81,097
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$2,199
Escalation Rate =			1.73%
20) Project Life (Years) =			3.9
21) Avg. Dth/Part. Saved =			2,402.13
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 =			75
24) Total Annual Dth Saved =			180,160
25) Incentive/Participant =			$8,402.28

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$14,511	
Cost per Participant per Dth =		$39.80	
Lifetime Energy Reduction (Dth)		703,932	
Societal Cost per Dth		$4.57	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,092,180)	0.65
Utility Cost Test	$2,735,059	3.51
Societal Test	$1,879,490	1.58
Participant Test	$453,644	1.07

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 =			$245,725
Incentive Costs =			$220,227
16) Total Utility Project Costs =			$465,952
17) Direct Participant Costs ($/Part.) =			$146,093
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$744
Escalation Rate =			1.73%
20) Project Life (Years) =			14.0
21) Avg. Dth/Part. Saved =			4,952.56
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
24) Total Annual Dth Saved =			34,668
25) Incentive/Participant =			$31,460.97

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$66,565	
Cost per Participant per Dth =		$42.94	
Lifetime Energy Reduction (Dth)		135,457	
Societal Cost per Dth		$9.36	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	$1,036,260	1.73
Utility Cost Test	$1,982,724	5.26
Societal Test	$2,335,104	2.84
Participant Test	$160,885	1.16

RECOMMISSIONING — 2019 ELECTRIC — GOAL

2019 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	$212,377	$212,377	$212,377	$212,377
T & D	N/A	$128,828	$128,828	$128,828	$128,828
Marginal Energy	N/A	$1,281,979	$1,281,979	$1,281,979	$1,281,979
Environmental Externality	N/A	N/A	N/A	N/A	$495,897
Subtotal	N/A	$1,623,183	$1,623,183	$1,623,183	$2,119,080
Participant Benefits					
Bill Reduction - Electric	$2,594,604	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$451,293	N/A	N/A	$451,293	$451,293
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$236,680	N/A	N/A	$125,768	$125,768
Subtotal	$3,282,577	N/A	N/A	$577,061	$577,061
Total Benefits	$3,282,577	$1,623,183	$1,623,183	$2,200,244	$2,696,141
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	$451,293	$451,293	$451,293	$451,293
Other	N/A	$50,000	$50,000	$50,000	$50,000
Subtotal	N/A	$808,898	$808,898	$808,898	$808,898
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,594,604	N/A	N/A
Subtotal	N/A	N/A	$2,594,604	N/A	N/A
Participant Costs					
Incremental Capital Costs	$901,948	N/A	N/A	$711,988	$711,988
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$901,948	N/A	N/A	$711,988	$711,988
Total Costs	$901,948	$808,898	$3,403,502	$1,520,886	$1,520,886
Net Benefit (Cost)	$2,380,629	$814,285	($1,780,319)	$679,358	$1,175,255
Benefit/Cost Ratio	3.64	2.01	0.48	1.45	1.77

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

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	6.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.08%
Gross Load Factor at Customer	E	69.12%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,149.88

Program Summary per Participant

Gross kW Saved at Customer	I	11.48 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.31 kW
Gross Annual kWh Saved at Customer	(B x E x I)	69,537 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	74,450 kWh

Program Summary All Participants

Total Participants	J	89
Total Budget	K	**$808,898**
Gross kW Saved at Customer	(J x I)	1,022 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**561 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,188,761 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,626,083 kWh**
Societal Net Benefits	(J x I x H)	**$1,175,255**
Utility Program Cost per kWh Lifetime		**$0.0178**
Utility Program Cost per kW at Gen		**$1,441**

RECOMMISSIONING **2019 ELECTRIC** **ACTUAL**

2019 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	$96,991	$96,991	$96,991	$96,991
T & D	N/A	$58,836	$58,836	$58,836	$58,836
Marginal Energy	N/A	$1,321,751	$1,321,751	$1,321,751	$1,321,751
Environmental Externality	N/A	N/A	N/A	N/A	$511,345
Subtotal	N/A	$1,477,578	$1,477,578	$1,477,578	$1,988,924
Participant Benefits					
Bill Reduction - Electric	$2,678,648	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$455,864	N/A	N/A	$455,864	$455,864
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$151,415	N/A	N/A	$151,415	$151,415
Subtotal	$3,285,927	N/A	N/A	$607,279	$607,279
Total Benefits	$3,285,927	$1,477,578	$1,477,578	$2,084,858	$2,596,203
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$278,055	$278,055	$278,055	$278,055
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$455,864	$455,864	$455,864	$455,864
Other	N/A	$11,121	$11,121	$11,121	$11,121
Subtotal	N/A	$745,041	$745,041	$745,041	$745,041
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,678,648	N/A	N/A
Subtotal	N/A	N/A	$2,678,648	N/A	N/A
Participant Costs					
Incremental Capital Costs	$759,627	N/A	N/A	$759,627	$759,627
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$759,627	N/A	N/A	$759,627	$759,627
Total Costs	$759,627	$745,041	$3,423,689	$1,504,667	$1,504,667
Net Benefit (Cost)	$2,526,301	$732,538	($1,946,110)	$580,190	$1,091,536
Benefit/Cost Ratio	4.33	1.98	0.43	1.39	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	7.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	25.01%
Gross Load Factor at Customer	E	75.82%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,152.85

Program Summary per Participant		
Gross kW Saved at Customer	I	32.65 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.78 kW
Gross Annual kWh Saved at Customer	(B x E x I)	216,840 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	232,163 kWh

Program Summary All Participants		
Total Participants	J	29
Total Budget	K	**$745,041**
Gross kW Saved at Customer	(J x I)	947 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**255 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,288,357 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,732,716 kWh**
Societal Net Benefits	(J x I x H)	**$1,091,536**
Utility Program Cost per kWh Lifetime		**$0.0159**
Utility Program Cost per kW at Gen		**$2,926**

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 =			$150,553
16) Total Utility Project Costs =			$203,129
17) Direct Participant Costs ($/Part.) =			$7,014
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$1,294
Escalation Rate =			1.73%
20) Project Life (Years) =			6.7
21) Avg. Dth/Part. Saved =			429.76
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 =			49
24) Total Annual Dth Saved =			21,058
25) Incentive/Participant =			$3,072.51

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$4,145	
Cost per Participant per Dth =		$25.97	
Lifetime Energy Reduction (Dth)		141,973	
Societal Cost per Dth		$2.28	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($400,635)	0.65
Utility Cost Test	$549,113	3.70
Societal Test	$1,017,474	4.14
Participant Test	$1,314,409	4.82

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 =			$28,371
Incentive Costs =			$77,112
16) Total Utility Project Costs =			$105,483
17) Direct Participant Costs ($/Part.) =			$14,138
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$0
Escalation Rate =			1.73%
20) Project Life (Years) =			7.0
21) Avg. Dth/Part. Saved =			2,250.92
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 =			9
24) Total Annual Dth Saved =			20,258
25) Incentive/Participant =			$8,568.03

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$11,720	
Cost per Participant per Dth =		$11.49	
Lifetime Energy Reduction (Dth)		136,579	
Societal Cost per Dth		$1.14	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($302,227)	0.71
Utility Cost Test	$643,851	7.10
Societal Test	$752,247	5.83
Participant Test	$895,950	8.04

SELF-DIRECT **2019 ELECTRIC** **GOAL**

2019 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	$27,505	$27,505	$27,505	$27,505
Advertising & Promotion	N/A	$442	$442	$442	$442
Measurement & Verification	N/A	$318	$318	$318	$318
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$47	$47	$47	$47
Subtotal	N/A	$28,312	$28,312	$28,312	$28,312
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	$28,312	$28,312	$28,312	$28,312
Net Benefit (Cost)	$0	($28,312)	($28,312)	($28,312)	($28,312)
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	0.00 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)	#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	**$28,312**
Gross kW Saved at Customer	(J x I)	0 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	#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	**N/A**

SELF-DIRECT **2019 ELECTRIC** **ACTUAL**

2019 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	$658,872	$658,872	$658,872	$658,872
Environmental Externality	N/A	N/A	N/A	N/A	$201,854
Subtotal	N/A	$658,872	$658,872	$658,872	$860,726
Participant Benefits					
Bill Reduction - Electric	$1,705,429	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$145,518	N/A	N/A	$145,518	$145,518
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,850,947	N/A	N/A	$145,518	$145,518
Total Benefits	$1,850,947	$658,872	$658,872	$804,390	$1,006,244
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$27,360	$27,360	$27,360	$27,360
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$145,518	$145,518	$145,518	$145,518
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$172,878	$172,878	$172,878	$172,878
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,705,429	N/A	N/A
Subtotal	N/A	N/A	$1,705,429	N/A	N/A
Participant Costs					
Incremental Capital Costs	$308,018	N/A	N/A	$308,018	$308,018
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$308,018	N/A	N/A	$308,018	$308,018
Total Costs	$308,018	$172,878	$1,878,307	$480,896	$480,896
Net Benefit (Cost)	$1,542,929	$485,994	($1,219,435)	$323,494	$525,348
Benefit/Cost Ratio	6.01	3.81	0.35	1.67	2.09

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	86.70%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,742.01

Program Summary per Participant		
Gross kW Saved at Customer	I	191.59 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)	1,455,180 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,558,009 kWh

Program Summary All Participants		
Total Participants	J	1
Total Budget	K	**$172,878**
Gross kW Saved at Customer	(J x I)	192 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**0 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,455,180 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,558,009 kWh**
Societal Net Benefits	(J x I x H)	**$525,348**

Utility Program Cost per kWh Lifetime	**$0.0065**
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: **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 =			$9,243
Incentive Costs =			$0
16) Total Utility Project Costs =			$9,243
17) Direct Participant Costs ($/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)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($9,243)	-
Utility Cost Test	($9,243)	-
Societal Test	($9,243)	-
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 =			$176
Incentive Costs =			$0
16) Total Utility Project Costs =			$176
17) Direct Participant Costs ($/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 =			1
24) Total Annual Dth Saved =			0
25) Incentive/Participant =			$0.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$176	
Cost per Participant per Dth =		#DIV/0!	
Lifetime Energy Reduction (Dth)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($176)	-
Utility Cost Test	($176)	-
Societal Test	($176)	-
Participant Test	$0	#DIV/0!

TURN KEY **2019 ELECTRIC** **GOAL**

2019 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	$609,461	$609,461	$609,461	$609,461
T & D	N/A	$371,149	$371,149	$371,149	$371,149
Marginal Energy	N/A	$2,997,316	$2,997,316	$2,997,316	$2,997,316
Environmental Externality	N/A	N/A	N/A	N/A	$936,169
Subtotal	N/A	$3,977,926	$3,977,926	$3,977,926	$4,914,095
Participant Benefits					
Bill Reduction - Electric	$7,026,235	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,069,506	N/A	N/A	$1,069,506	$1,069,506
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$591,490	N/A	N/A	$0	$0
Subtotal	$8,687,232	N/A	N/A	$1,069,506	$1,069,506
Total Benefits	$8,687,232	$3,977,926	$3,977,926	$5,047,432	$5,983,601
Costs					
Utility Project Costs					
Customer Services	N/A	$215,900	$215,900	$215,900	$215,900
Project Administration	N/A	$251,578	$251,578	$251,578	$251,578
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	$1,069,506	$1,069,506	$1,069,506	$1,069,506
Other	N/A	$109,000	$109,000	$109,000	$109,000
Subtotal	N/A	$1,680,254	$1,680,254	$1,680,254	$1,680,254
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,026,235	N/A	N/A
Subtotal	N/A	N/A	$7,026,235	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,493,416	N/A	N/A	$1,454,885	$1,454,885
Incremental O&M Costs	$0	N/A	N/A	$13,337	$13,337
Subtotal	$2,493,416	N/A	N/A	$1,468,222	$1,468,222
Total Costs	$2,493,416	$1,680,254	$8,706,489	$3,148,476	$3,148,476
Net Benefit (Cost)	$6,193,815	$2,297,672	($4,728,563)	$1,898,956	$2,835,125
Benefit/Cost Ratio	3.48	2.37	0.46	1.60	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	13.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	54.93%
Gross Load Factor at Customer	E	54.22%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,804.37

Program Summary per Participant		
Gross kW Saved at Customer	I	5.13 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	24,389 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	26,112 kWh

Program Summary All Participants		
Total Participants	J	306
Total Budget	K	**$1,680,254**
Gross kW Saved at Customer	(J x I)	1,571 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**928 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,462,940 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,990,299 kWh**
Societal Net Benefits	(J x I x H)	**$2,835,125**

Utility Program Cost per kWh Lifetime	**$0.0151**
Utility Program Cost per kW at Gen	**$1,810**

TURN KEY **2019 ELECTRIC** **ACTUAL**

2019 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	$1,444,485	$1,444,485	$1,444,485	$1,444,485
T & D	N/A	$880,315	$880,315	$880,315	$880,315
Marginal Energy	N/A	$5,100,706	$5,100,706	$5,100,706	$5,100,706
Environmental Externality	N/A	N/A	N/A	N/A	$1,569,123
Subtotal	N/A	$7,425,506	$7,425,506	$7,425,506	$8,994,630
Participant Benefits					
Bill Reduction - Electric	$12,276,877	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$831,605	N/A	N/A	$831,605	$831,605
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$13,108,482	N/A	N/A	$831,605	$831,605
Total Benefits	$13,108,482	$7,425,506	$7,425,506	$8,257,111	$9,826,235
Costs					
Utility Project Costs					
Customer Services	N/A	$355,762	$355,762	$355,762	$355,762
Project Administration	N/A	$355,482	$355,482	$355,482	$355,482
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$1,207	$1,207	$1,207	$1,207
Rebates	N/A	$831,605	$831,605	$831,605	$831,605
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,544,056	$1,544,056	$1,544,056	$1,544,056
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$12,276,877	N/A	N/A
Subtotal	N/A	N/A	$12,276,877	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,336,570	N/A	N/A	$3,336,570	$3,336,570
Incremental O&M Costs	$385,168	N/A	N/A	$385,168	$385,168
Subtotal	$3,721,738	N/A	N/A	$3,721,738	$3,721,738
Total Costs	$3,721,738	$1,544,056	$13,820,933	$5,265,793	$5,265,793
Net Benefit (Cost)	$9,386,745	$5,881,451	($6,395,427)	$2,991,318	$4,560,442
Benefit/Cost Ratio	3.52	4.81	0.54	1.57	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	77.50%
Gross Load Factor at Customer	E	52.29%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,923.92

Program Summary per Participant		
Gross kW Saved at Customer	I	22.79 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	18.99 kW
Gross Annual kWh Saved at Customer	(B x E x I)	104,401 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	111,779 kWh

Program Summary All Participants		
Total Participants	J	104
Total Budget	K	**$1,544,056**
Gross kW Saved at Customer	(J x I)	2,370 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,975 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	10,857,747 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**11,624,997 kWh**
Societal Net Benefits	(J x I x H)	**$4,560,442**
Utility Program Cost per kWh Lifetime		**$0.0081**
Utility Program Cost per kW at Gen		**$782**

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 =			$124,663
Incentive Costs =			$116,259
16) Total Utility Project Costs =			$240,922
17) Direct Participant Costs ($/Part.) =			$2,854
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) =			11.1
21) Avg. Dth/Part. Saved =			82.65
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			70
24) Total Annual Dth Saved =			5,785
25) Incentive/Participant =			$1,660.84

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$3,442	
Cost per Participant per Dth =		$76.17	
Lifetime Energy Reduction (Dth)		64,229	
Societal Cost per Dth		$4.04	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($324,559)	0.50
Utility Cost Test	$77,625	1.32
Societal Test	$164,827	1.64
Participant Test	$419,724	3.10

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 =			$105,656
Incentive Costs =			$19,806
16) Total Utility Project Costs =			$125,461
17) Direct Participant Costs ($/Part.) =			$5,463
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$143
Escalation Rate =			1.73%
20) Project Life (Years) =			12.6
21) Avg. Dth/Part. Saved =			252.31
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 =			19
24) Total Annual Dth Saved =			4,794
25) Incentive/Participant =			$1,042.41

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$6,603	
Cost per Participant per Dth =		$47.82	
Lifetime Energy Reduction (Dth)		53,220	
Societal Cost per Dth		$3.94	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($202,952)	0.59
Utility Cost Test	$169,676	2.35
Societal Test	$214,918	2.03
Participant Test	$312,431	4.01

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL — 2019 ELECTRIC — GOAL

2019 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	$3,962,971	$3,962,971	$3,962,971	$3,962,971
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$49,748	$49,748	$49,748	$49,748
Environmental Externality	N/A	N/A	N/A	N/A	$11,113
Subtotal	N/A	$4,012,719	$4,012,719	$4,012,719	$4,023,832
Participant Benefits					
Bill Reduction - Electric	$110,601	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$110,601	N/A	N/A	$0	$0
Total Benefits	$110,601	$4,012,719	$4,012,719	$4,012,719	$4,023,832
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,582,850	$2,582,850	$2,582,850	$2,582,850
Advertising & Promotion	N/A	$215,508	$215,508	$215,508	$215,508
Measurement & Verification	N/A	$150,000	$150,000	$150,000	$150,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,948,358	$2,948,358	$2,948,358	$2,948,358
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$110,601	N/A	N/A
Subtotal	N/A	N/A	$110,601	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	$2,948,358	$3,058,960	$2,948,358	$2,948,358
Net Benefit (Cost)	$110,601	$1,064,361	$953,759	$1,064,361	$1,075,474
Benefit/Cost Ratio	INF	1.36	1.31	1.36	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	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	$39.73

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	**$2,948,358**
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)	**$1,075,474**

Utility Program Cost per kWh Lifetime	**$2.9605**
Utility Program Cost per kW at Gen	**$350**

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL — 2019 — ELECTRIC — ACTUAL

2019 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	$4,262,860	$4,262,860	$4,262,860	$4,262,860
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$102,725	$102,725	$102,725	$102,725
Environmental Externality	N/A	N/A	N/A	N/A	$22,889
Subtotal	N/A	$4,365,585	$4,365,585	$4,365,585	$4,388,474
Participant Benefits					
Bill Reduction - Electric	$225,030	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	($4,022)	N/A	N/A	($4,022)	($4,022)
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$221,008	N/A	N/A	($4,022)	($4,022)
Total Benefits	$221,008	$4,365,585	$4,365,585	$4,361,563	$4,384,452
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,381,788	$2,381,788	$2,381,788	$2,381,788
Advertising & Promotion	N/A	$132,284	$132,284	$132,284	$132,284
Measurement & Verification	N/A	$21,519	$21,519	$21,519	$21,519
Rebates	N/A	($4,022)	($4,022)	($4,022)	($4,022)
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,531,568	$2,531,568	$2,531,568	$2,531,568
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$225,030	N/A	N/A
Subtotal	N/A	N/A	$225,030	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	$2,531,568	$2,756,599	$2,531,568	$2,531,568
Net Benefit (Cost)	$221,008	$1,834,016	$1,608,986	$1,829,994	$1,852,884
Benefit/Cost Ratio	INF	1.72	1.58	1.72	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	5.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	38.57%
Gross Load Factor at Customer	E	0.14%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$62.55

Program Summary per Participant

Gross kW Saved at Customer	I	54.35 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	22.54 kW
Gross Annual kWh Saved at Customer	(B x E x I)	670 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	718 kWh

Program Summary All Participants

Total Participants	J	545
Total Budget	K	**$2,531,568**
Gross kW Saved at Customer	(J x I)	29,623 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**12,284 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	365,245 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**391,055 kWh**
Societal Net Benefits	(J x I x H)	**$1,852,884**
Utility Program Cost per kWh Lifetime		**$1.2738**
Utility Program Cost per kW at Gen		**$206**

ELECTRIC RATE SAVINGS — 2019 ELECTRIC — GOAL

2019 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	$1,315,831	$1,315,831	$1,315,831	$1,315,831
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$44,273	$44,273	$44,273	$44,273
Environmental Externality	N/A	N/A	N/A	N/A	$9,860
Subtotal	N/A	$1,360,104	$1,360,104	$1,360,104	$1,369,964
Participant Benefits					
Bill Reduction - Electric	$96,708	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	$96,708	N/A	N/A	$0	$0
Total Benefits	$96,708	$1,360,104	$1,360,104	$1,360,104	$1,369,964
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$544,208	$544,208	$544,208	$544,208
Advertising & Promotion	N/A	$15,508	$15,508	$15,508	$15,508
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	$559,716	$559,716	$559,716	$559,716
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$96,708	N/A	N/A
Subtotal	N/A	N/A	$96,708	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	$559,716	$656,424	$559,716	$559,716
Net Benefit (Cost)	$96,708	$800,388	$703,680	$800,388	$810,248
Benefit/Cost Ratio	INF	2.43	2.07	2.43	2.45

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

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	47.46%
Gross Load Factor at Customer	E	0.20%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$90.03

Program Summary per Participant

Gross kW Saved at Customer	I	200.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	102.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,532 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,782 kWh

Program Summary All Participants

Total Participants	J	45
Total Budget	K	**$559,716**
Gross kW Saved at Customer	(J x I)	9,000 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**4,593 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	158,942 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**170,174 kWh**
Societal Net Benefits	(J x I x H)	**$810,248**
Utility Program Cost per kWh Lifetime		**$0.6578**
Utility Program Cost per kW at Gen		**$122**

ELECTRIC RATE SAVINGS — 2019 ELECTRIC — ACTUAL

2019 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	$2,994,574	$2,994,574	$2,994,574	$2,994,574
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$100,901	$100,901	$100,901	$100,901
Environmental Externality	N/A	N/A	N/A	N/A	$22,472
Subtotal	N/A	$3,095,475	$3,095,475	$3,095,475	$3,117,947
Participant Benefits					
Bill Reduction - Electric	$220,401	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	$220,401	N/A	N/A	$0	$0
Total Benefits	$220,401	$3,095,475	$3,095,475	$3,095,475	$3,117,947
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$549,572	$549,572	$549,572	$549,572
Advertising & Promotion	N/A	$4,000	$4,000	$4,000	$4,000
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	$553,572	$553,572	$553,572	$553,572
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$220,401	N/A	N/A
Subtotal	N/A	N/A	$220,401	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	$553,572	$773,973	$553,572	$553,572
Net Benefit (Cost)	$220,401	$2,541,903	$2,321,502	$2,541,903	$2,564,375
Benefit/Cost Ratio	INF	5.59	4.00	5.59	5.63

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	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	47.50%
Gross Load Factor at Customer	E	0.20%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$125.31

Program Summary per Participant		
Gross kW Saved at Customer	I	108.86 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	55.60 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,927 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,063 kWh

Program Summary All Participants		
Total Participants	J	188
Total Budget	K	**$553,572**
Gross kW Saved at Customer	(J x I)	20,465 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**10,453 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	362,236 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**387,833 kWh**
Societal Net Benefits	(J x I x H)	**$2,564,375**
Utility Program Cost per kWh Lifetime		**$0.2855**
Utility Program Cost per kW at Gen		**$53**

SAVER'S SWITCH FOR BUSINESS — 2019 ELECTRIC — GOAL

2019 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	$2,647,141	$2,647,141	$2,647,141	$2,647,141
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$5,475	$5,475	$5,475	$5,475
Environmental Externality	N/A	N/A	N/A	N/A	$1,253
Subtotal	N/A	$2,652,615	$2,652,615	$2,652,615	$2,653,868
Participant Benefits					
Bill Reduction - Electric	$13,894	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	$13,894	N/A	N/A	$0	$0
Total Benefits	$13,894	$2,652,615	$2,652,615	$2,652,615	$2,653,868
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,038,642	$2,038,642	$2,038,642	$2,038,642
Advertising & Promotion	N/A	$200,000	$200,000	$200,000	$200,000
Measurement & Verification	N/A	$150,000	$150,000	$150,000	$150,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,388,642	$2,388,642	$2,388,642	$2,388,642
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$13,894	N/A	N/A
Subtotal	N/A	N/A	$13,894	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	$2,388,642	$2,402,536	$2,388,642	$2,388,642
Net Benefit (Cost)	$13,894	$263,973	$250,079	$263,973	$265,226
Benefit/Cost Ratio	INF	1.11	1.10	1.11	1.11

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	19.67%
Gross Load Factor at Customer	E	0.01%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$14.68

Program Summary per Participant		
Gross kW Saved at Customer	I	19.36 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.10 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	933
Total Budget	K	**$2,388,642**
Gross kW Saved at Customer	(J x I)	18,071 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,823 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,030 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,668 kWh**
Societal Net Benefits	(J x I x H)	**$265,226**
Utility Program Cost per kWh Lifetime		**$16.4703**
Utility Program Cost per kW at Gen		**$625**

SAVER'S SWITCH FOR BUSINESS — 2019 — ELECTRIC — ACTUAL

2019 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	$1,268,285	$1,268,285	$1,268,285	$1,268,285
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$1,824	$1,824	$1,824	$1,824
Environmental Externality	N/A	N/A	N/A	N/A	$417
Subtotal	N/A	$1,270,110	$1,270,110	$1,270,110	$1,270,527
Participant Benefits					
Bill Reduction - Electric	$4,630	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	($4,022)	N/A	N/A	($4,022)	($4,022)
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$608	N/A	N/A	($4,022)	($4,022)
Total Benefits	$608	$1,270,110	$1,270,110	$1,266,088	$1,266,505
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,832,216	$1,832,216	$1,832,216	$1,832,216
Advertising & Promotion	N/A	$128,284	$128,284	$128,284	$128,284
Measurement & Verification	N/A	$21,519	$21,519	$21,519	$21,519
Rebates	N/A	($4,022)	($4,022)	($4,022)	($4,022)
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,977,996	$1,977,996	$1,977,996	$1,977,996
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,630	N/A	N/A
Subtotal	N/A	N/A	$4,630	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	$1,977,996	$1,982,626	$1,977,996	$1,977,996
Net Benefit (Cost)	$608	($707,886)	($712,516)	($711,908)	($711,491)
Benefit/Cost Ratio	INF	0.64	0.64	0.64	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	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	18.60%
Gross Load Factor at Customer	E	0.00%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	($77.69)

Program Summary per Participant		
Gross kW Saved at Customer	I	25.65 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.13 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	357
Total Budget	K	**$1,977,996**
Gross kW Saved at Customer	(J x I)	9,158 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,831 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,009 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,222 kWh**
Societal Net Benefits	(J x I x H)	**($711,491)**

Utility Program Cost per kWh Lifetime	**$40.9294**
Utility Program Cost per kW at Gen	**$1,080**

RESIDENTIAL SEGMENT TOTAL — 2019 ELECTRIC — GOAL

2019 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$29,918,124	$29,918,124	$29,918,124	$29,918,124
T & D	N/A	$6,055,954	$6,055,954	$6,055,954	$6,055,954
Marginal Energy	N/A	$24,321,404	$24,321,404	$24,321,404	$24,321,404
Environmental Externality	N/A	N/A	N/A	N/A	$8,380,411
Subtotal	N/A	$60,295,482	$60,295,482	$60,295,482	$68,675,893
Participant Benefits					
Bill Reduction - Electric	$81,523,038	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$12,272,758	N/A	N/A	$12,272,758	$12,272,758
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$287,648	N/A	N/A	$0	$0
Subtotal	$94,083,443	N/A	N/A	$12,272,758	$12,272,758
Total Benefits	$94,083,443	$60,295,482	$60,295,482	$72,568,240	$80,948,651
Costs					
Utility Project Costs					
Customer Services	N/A	$445,581	$445,581	$445,581	$445,581
Project Administration	N/A	$12,118,383	$12,118,383	$12,118,383	$12,118,383
Advertising & Promotion	N/A	$3,958,811	$3,958,811	$3,958,811	$3,958,811
Measurement & Verification	N/A	$543,004	$543,004	$543,004	$543,004
Rebates	N/A	$12,272,758	$12,272,758	$12,272,758	$12,272,758
Other	N/A	$3,500	$3,500	$3,500	$3,500
Subtotal	N/A	$29,342,036	$29,342,036	$29,342,036	$29,342,036
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$81,523,038	N/A	N/A
Subtotal	N/A	N/A	$81,523,038	N/A	N/A
Participant Costs					
Incremental Capital Costs	$19,245,677	N/A	N/A	$17,480,473	$17,480,473
Incremental O&M Costs	$0	N/A	N/A	$894,414	$894,414
Subtotal	$19,245,677	N/A	N/A	$18,374,886	$18,374,886
Total Costs	$19,245,677	$29,342,036	$110,865,075	$47,716,923	$47,716,923
Net Benefit (Cost)	$74,837,766	$30,953,446	($50,569,593)	$24,851,317	$33,231,728
Benefit/Cost Ratio	4.89	2.05	0.54	1.52	1.70

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	29.90%
Gross Load Factor at Customer	E	8.21%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$187.55

Program Summary per Participant		
Gross kW Saved at Customer	I	0.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 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)	111 kWh

Program Summary All Participants		
Total Participants	J	1,256,694
Total Budget	K	**$29,342,036**
Gross kW Saved at Customer	(J x I)	177,188 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**58,087 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	127,486,338 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**139,177,225 kWh**
Societal Net Benefits	(J x I x H)	**$33,231,728**
Utility Program Cost per kWh Lifetime		**$0.0358**
Utility Program Cost per kW at Gen		**$505**

RESIDENTIAL SEGMENT TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$28,113,224	$28,113,224	$28,113,224	$28,113,224
T & D	N/A	$8,204,349	$8,204,349	$8,204,349	$8,204,349
Marginal Energy	N/A	$33,276,369	$33,276,369	$33,276,369	$33,276,369
Environmental Externality	N/A	N/A	N/A	N/A	$11,536,241
Subtotal	N/A	$69,593,942	$69,593,942	$69,593,942	$81,130,183
Participant Benefits					
Bill Reduction - Electric	$112,785,893	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$12,412,914	N/A	N/A	$12,412,914	$12,412,914
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$125,198,807	N/A	N/A	$12,412,914	$12,412,914
Total Benefits	$125,198,807	$69,593,942	$69,593,942	$82,006,856	$93,543,097
Costs					
Utility Project Costs					
Customer Services	N/A	$407,338	$407,338	$407,338	$407,338
Project Administration	N/A	$9,350,045	$9,350,045	$9,350,045	$9,350,045
Advertising & Promotion	N/A	$2,168,355	$2,168,355	$2,168,355	$2,168,355
Measurement & Verification	N/A	$1,142,544	$1,142,544	$1,142,544	$1,142,544
Rebates	N/A	$12,412,914	$12,412,914	$12,412,914	$12,412,914
Other	N/A	$36,144	$36,144	$36,144	$36,144
Subtotal	N/A	$25,517,339	$25,517,339	$25,517,339	$25,517,339
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$112,785,893	N/A	N/A
Subtotal	N/A	N/A	$112,785,893	N/A	N/A
Participant Costs					
Incremental Capital Costs	$17,577,379	N/A	N/A	$17,577,379	$17,577,379
Incremental O&M Costs	$1,479,064	N/A	N/A	$1,479,064	$1,479,064
Subtotal	$19,056,443	N/A	N/A	$19,056,443	$19,056,443
Total Costs	$19,056,443	$25,517,339	$138,303,232	$44,573,782	$44,573,782
Net Benefit (Cost)	$106,142,364	$44,076,603	($68,709,290)	$37,433,073	$48,969,315
Benefit/Cost Ratio	6.57	2.73	0.50	1.84	2.10

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	5.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	23.65%
Gross Load Factor at Customer	E	9.61%
Transmission Loss Factor (Energy)	F	8.037%
Transmission Loss Factor (Demand)	G	8.746%
Societal Net Benefit (Cost)	H	$236.29

Program Summary per Participant

Gross kW Saved at Customer	I	0.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x I)	117 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	127 kWh

Program Summary All Participants

Total Participants	J	1,497,975
Total Budget	K	**$25,517,339**
Gross kW Saved at Customer	(J x I)	207,241 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**53,705 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	174,517,063 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**189,767,933 kWh**
Societal Net Benefits	(J x I x H)	**$48,969,315**
Utility Program Cost per kWh Lifetime		**$0.0226**
Utility Program Cost per kW at Gen		**$475**

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

Company: **Xcel Energy**
Project: **Res. 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 =			$5,065,533
Incentive Costs =			$3,348,893
16) Total Utility Project Costs =			$8,414,426
17) Direct Participant Costs ($/Part.) =			$21
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) =			14.5
21) Avg. Dth/Part. Saved =			0.48
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 =			605,339
24) Total Annual Dth Saved =			289,795
25) Incentive/Participant =			$5.53

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$14	
Cost per Participant per Dth =		$73.31	
Lifetime Energy Reduction (Dth)		4,198,279	
Societal Cost per Dth		$4.10	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($13,542,700)	0.59
Utility Cost Test	$10,969,791	2.30
Societal Test	$17,995,868	2.04
Participant Test	$31,394,504	3.45

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

Company: **Xcel Energy**
Project: **Res. 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 =			$3,495,491
Incentive Costs =			$3,883,719
16) Total Utility Project Costs =			$7,379,210
17) Direct Participant Costs ($/Part.) =			$26
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) =			14.0
21) Avg. Dth/Part. Saved =			0.57
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 =			562,568
24) Total Annual Dth Saved =			320,359
25) Incentive/Participant =			$6.90

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$13	
Cost per Participant per Dth =		$69.12	
Lifetime Energy Reduction (Dth)		4,641,073	
Societal Cost per Dth		$3.93	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($12,868,666)	0.62
Utility Cost Test	$13,528,439	2.83
Societal Test	$18,538,142	2.02
Participant Test	$21,633,880	2.47

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

Company: **Xcel Energy**
Project: **Res. 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 =			$3,963,023
Incentive Costs =			$3,348,893
16) Total Utility Project Costs =			$7,311,916
17) Direct Participant Costs ($/Part.) =			$58
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) =			14.5
21) Avg. Dth/Part. Saved =			1.32
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 =			219,627
24) Total Annual Dth Saved =			289,795
25) Incentive/Participant =			$15.25

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$33	
Cost per Participant per Dth =		$69.51	
Lifetime Energy Reduction (Dth)		4,198,279	
Societal Cost per Dth		$3.84	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($12,440,190)	0.61
Utility Cost Test	$12,072,302	2.64
Societal Test	$19,098,379	2.18
Participant Test	$31,394,504	3.45

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

Company: **Xcel Energy**
Project: **Res. 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 =			$2,485,624
Incentive Costs =			$3,883,569
16) Total Utility Project Costs =			$6,369,193
17) Direct Participant Costs ($/Part.) =			$83
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) =			14.0
21) Avg. Dth/Part. Saved =			1.81
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 =			176,982
24) Total Annual Dth Saved =			320,359
25) Incentive/Participant =			$21.94

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$36	
Cost per Participant per Dth =		$65.97	
Lifetime Energy Reduction (Dth)		4,641,073	
Societal Cost per Dth		$3.72	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($11,858,648)	0.64
Utility Cost Test	$14,538,456	3.28
Societal Test	$19,548,010	2.13
Participant Test	$21,633,730	2.47

RES. SEGMENT ENERGY EFFICIENCY TOTAL — 2019 ELECTRIC — GOAL

2019 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	$9,960,688	$9,960,688	$9,960,688	$9,960,688
T & D	N/A	$6,055,954	$6,055,954	$6,055,954	$6,055,954
Marginal Energy	N/A	$24,286,320	$24,286,320	$24,286,320	$24,286,320
Environmental Externality	N/A	N/A	N/A	N/A	$8,372,433
Subtotal	N/A	$40,302,961	$40,302,961	$40,302,961	$48,675,394
Participant Benefits					
Bill Reduction - Electric	$81,436,332	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$9,985,258	N/A	N/A	$9,985,258	$9,985,258
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$287,648	N/A	N/A	$0	$0
Subtotal	$91,709,238	N/A	N/A	$9,985,258	$9,985,258
Total Benefits	$91,709,238	$40,302,961	$40,302,961	$50,288,219	$58,660,651
Costs					
Utility Project Costs					
Customer Services	N/A	$445,581	$445,581	$445,581	$445,581
Project Administration	N/A	$5,099,504	$5,099,504	$5,099,504	$5,099,504
Advertising & Promotion	N/A	$2,822,891	$2,822,891	$2,822,891	$2,822,891
Measurement & Verification	N/A	$343,004	$343,004	$343,004	$343,004
Rebates	N/A	$9,985,258	$9,985,258	$9,985,258	$9,985,258
Other	N/A	$3,500	$3,500	$3,500	$3,500
Subtotal	N/A	$18,699,737	$18,699,737	$18,699,737	$18,699,737
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$81,436,332	N/A	N/A
Subtotal	N/A	N/A	$81,436,332	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,908,177	N/A	N/A	$17,142,973	$17,142,973
Incremental O&M Costs	$0	N/A	N/A	$894,414	$894,414
Subtotal	$18,908,177	N/A	N/A	$18,037,386	$18,037,386
Total Costs	$18,908,177	$18,699,737	$100,136,070	$36,737,124	$36,737,124
Net Benefit (Cost)	$72,801,061	$21,603,224	($59,833,108)	$13,551,095	$21,923,528
Benefit/Cost Ratio	4.85	2.16	0.40	1.37	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	5.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	23.96%
Gross Load Factor at Customer	E	15.64%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$235.73

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)	303 kWh

Program Summary All Participants		
Total Participants	J	459,315
Total Budget	K	**$18,699,737**
Gross kW Saved at Customer	(J x I)	93,001 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**24,436 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	127,423,688 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**139,108,829 kWh**
Societal Net Benefits	(J x I x H)	**$21,923,528**
Utility Program Cost per kWh Lifetime		**$0.0229**
Utility Program Cost per kW at Gen		**$765**

RES. SEGMENT ENERGY EFFICIENCY TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$13,492,194	$13,492,194	$13,492,194	$13,492,194
T & D	N/A	$8,204,349	$8,204,349	$8,204,349	$8,204,349
Marginal Energy	N/A	$33,242,001	$33,242,001	$33,242,001	$33,242,001
Environmental Externality	N/A	N/A	N/A	N/A	$11,528,381
Subtotal	N/A	$54,938,544	$54,938,544	$54,938,544	$66,466,926
Participant Benefits					
Bill Reduction - Electric	$112,698,843	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$12,195,729	N/A	N/A	$12,195,729	$12,195,729
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$124,894,572	N/A	N/A	$12,195,729	$12,195,729
Total Benefits	$124,894,572	$54,938,544	$54,938,544	$67,134,273	$78,662,654
Costs					
Utility Project Costs					
Customer Services	N/A	$407,338	$407,338	$407,338	$407,338
Project Administration	N/A	$2,884,340	$2,884,340	$2,884,340	$2,884,340
Advertising & Promotion	N/A	$990,007	$990,007	$990,007	$990,007
Measurement & Verification	N/A	$1,080,755	$1,080,755	$1,080,755	$1,080,755
Rebates	N/A	$12,195,729	$12,195,729	$12,195,729	$12,195,729
Other	N/A	$35,828	$35,828	$35,828	$35,828
Subtotal	N/A	$17,593,996	$17,593,996	$17,593,996	$17,593,996
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$112,698,843	N/A	N/A
Subtotal	N/A	N/A	$112,698,843	N/A	N/A
Participant Costs					
Incremental Capital Costs	$17,558,969	N/A	N/A	$17,558,969	$17,558,969
Incremental O&M Costs	$1,479,064	N/A	N/A	$1,479,064	$1,479,064
Subtotal	$19,038,033	N/A	N/A	$19,038,033	$19,038,033
Total Costs	$19,038,033	$17,593,996	$130,292,839	$36,632,029	$36,632,029
Net Benefit (Cost)	$105,856,539	$37,344,549	($75,354,295)	$30,502,245	$42,030,626
Benefit/Cost Ratio	6.56	3.12	0.42	1.83	2.15

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	5.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.07%
Gross Load Factor at Customer	E	14.25%
Transmission Loss Factor (Energy)	F	8.036%
Transmission Loss Factor (Demand)	G	8.720%
Societal Net Benefit (Cost)	H	$300.64

Program Summary per Participant		
Gross kW Saved at Customer	I	0.27 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)	337 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	366 kWh

Program Summary All Participants		
Total Participants	J	518,042
Total Budget	K	**$17,593,996**
Gross kW Saved at Customer	(J x I)	139,804 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**32,274 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	174,461,032 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**189,706,764 kWh**
Societal Net Benefits	(J x I x H)	**$42,030,626**
Utility Program Cost per kWh Lifetime		**$0.0156**
Utility Program Cost per kW at Gen		**$545**

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

Company: **Xcel Energy**
Project: **Res. 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 =			$3,963,023
Incentive Costs =			$3,348,893
16) Total Utility Project Costs =			$7,311,916
17) Direct Participant Costs ($/Part.) =			$58
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) =			14.5
21) Avg. Dth/Part. Saved =			1.32
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 =			219,627
24) Total Annual Dth Saved =			289,795
25) Incentive/Participant =			$15.25

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$33	
Cost per Participant per Dth =		$69.51	
Lifetime Energy Reduction (Dth)		4,198,279	
Societal Cost per Dth		$3.84	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($12,440,190)	0.61
Utility Cost Test	$12,072,302	2.64
Societal Test	$19,098,379	2.18
Participant Test	$31,394,504	3.45

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

Company: **Xcel Energy**
Project: **Res. 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 =			$2,485,624
Incentive Costs =			$3,883,569
16) Total Utility Project Costs =			$6,369,193
17) Direct Participant Costs ($/Part.) =			$83
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) =			14.0
21) Avg. Dth/Part. Saved =			1.81
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 =			176,982
24) Total Annual Dth Saved =			320,359
25) Incentive/Participant =			$21.94

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$36	
Cost per Participant per Dth =		$65.97	
Lifetime Energy Reduction (Dth)		4,641,073	
Societal Cost per Dth		$3.72	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($11,858,648)	0.64
Utility Cost Test	$14,538,456	3.28
Societal Test	$19,548,010	2.13
Participant Test	$21,633,730	2.47

EFFICIENT NEW HOME CONSTRUCTION — 2019 — ELECTRIC — GOAL

2019 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	$815,463	$815,463	$815,463	$815,463
T & D	N/A	$497,746	$497,746	$497,746	$497,746
Marginal Energy	N/A	$418,247	$418,247	$418,247	$418,247
Environmental Externality	N/A	N/A	N/A	N/A	$149,486
Subtotal	N/A	$1,731,456	$1,731,456	$1,731,456	$1,880,942
Participant Benefits					
Bill Reduction - Electric	$1,686,541	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	$35,128	$35,128
Subtotal	$2,166,415	N/A	N/A	$465,040	$465,040
Total Benefits	$2,166,415	$1,731,456	$1,731,456	$2,196,496	$2,345,982
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$21,835	$21,835	$21,835	$21,835
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	$752,352	$752,352	$752,352	$752,352
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,686,541	N/A	N/A
Subtotal	N/A	N/A	$1,686,541	N/A	N/A
Participant Costs					
Incremental Capital Costs	$764,234	N/A	N/A	$505,069	$505,069
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$764,234	N/A	N/A	$505,069	$505,069
Total Costs	$764,234	$752,352	$2,438,893	$1,257,421	$1,257,421
Net Benefit (Cost)	$1,402,181	$979,104	($707,437)	$939,075	$1,088,561
Benefit/Cost Ratio	2.83	2.30	0.71	1.75	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	19.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.43%
Gross Load Factor at Customer	E	9.40%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$966.63

Program Summary per Participant		
Gross kW Saved at Customer	I	0.51 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.44 kW
Gross Annual kWh Saved at Customer	(B x E x I)	417 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	455 kWh

Program Summary All Participants		
Total Participants	J	2,226
Total Budget	K	**$752,352**
Gross kW Saved at Customer	(J x I)	1,126 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**981 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	927,350 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,012,391 kWh**
Societal Net Benefits	(J x I x H)	**$1,088,561**
Utility Program Cost per kWh Lifetime		**$0.0387**
Utility Program Cost per kW at Gen		**$767**

EFFICIENT NEW HOME CONSTRUCTION — 2019 — ELECTRIC — ACTUAL

2019 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	$1,083,834	$1,083,834	$1,083,834	$1,083,834
T & D	N/A	$661,570	$661,570	$661,570	$661,570
Marginal Energy	N/A	$1,746,197	$1,746,197	$1,746,197	$1,746,197
Environmental Externality	N/A	N/A	N/A	N/A	$622,245
Subtotal	N/A	$3,491,601	$3,491,601	$3,491,601	$4,113,846
Participant Benefits					
Bill Reduction - Electric	$7,062,964	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$516,344	N/A	N/A	$516,344	$516,344
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$13,704	N/A	N/A	$13,704	$13,704
Subtotal	$7,593,013	N/A	N/A	$530,048	$530,048
Total Benefits	$7,593,013	$3,491,601	$3,491,601	$4,021,649	$4,643,895
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$30,852	$30,852	$30,852	$30,852
Advertising & Promotion	N/A	$17,086	$17,086	$17,086	$17,086
Measurement & Verification	N/A	$195,061	$195,061	$195,061	$195,061
Rebates	N/A	$516,344	$516,344	$516,344	$516,344
Other	N/A	$35,828	$35,828	$35,828	$35,828
Subtotal	N/A	$795,171	$795,171	$795,171	$795,171
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,062,964	N/A	N/A
Subtotal	N/A	N/A	$7,062,964	N/A	N/A
Participant Costs					
Incremental Capital Costs	$999,847	N/A	N/A	$999,847	$999,847
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$999,847	N/A	N/A	$999,847	$999,847
Total Costs	$999,847	$795,171	$7,858,135	$1,795,018	$1,795,018
Net Benefit (Cost)	$6,593,166	$2,696,430	($4,366,534)	$2,226,632	$2,848,877
Benefit/Cost Ratio	7.59	4.39	0.44	2.24	2.59

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	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	86.37%
Gross Load Factor at Customer	E	31.86%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$2,079.18

Program Summary per Participant		
Gross kW Saved at Customer	I	0.52 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)	1,452 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,585 kWh

Program Summary All Participants		
Total Participants	J	2,633
Total Budget	K	**$795,171**
Gross kW Saved at Customer	(J x I)	1,370 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,298 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,823,784 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,174,437 kWh**
Societal Net Benefits	(J x I x H)	**$2,848,877**
Utility Program Cost per kWh Lifetime		**$0.0095**
Utility Program Cost per kW at Gen		**$613**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$1,081,194
Incentive Costs =			$492,367
16) Total Utility Project Costs =			$1,573,561
17) Direct Participant Costs ($/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 =		$118.03	
Lifetime Energy Reduction (Dth)		609,936	
Societal Cost per Dth		$4.60	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,283,864)	0.54
Utility Cost Test	$1,131,764	1.72
Societal Test	$1,487,782	1.53
Participant Test	$3,576,455	2.76

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$572,721
Incentive Costs =			$787,241
16) Total Utility Project Costs =			$1,359,962
17) Direct Participant Costs ($/Part.) =			$2,583
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 =			26.30
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 =			1,424
24) Total Annual Dth Saved =			37,457
25) Incentive/Participant =			$552.84

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$955	
Cost per Participant per Dth =		$134.49	
Lifetime Energy Reduction (Dth)		748,721	
Societal Cost per Dth		$5.68	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,232,091)	0.60
Utility Cost Test	$1,961,713	2.44
Societal Test	$993,105	1.23
Participant Test	$1,315,891	1.36

ENERGY EFFICIENT SHOWERHEAD — 2019 ELECTRIC — GOAL

2019 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	$47,256	$47,256	$47,256	$47,256
T & D	N/A	$28,712	$28,712	$28,712	$28,712
Marginal Energy	N/A	$314,800	$314,800	$314,800	$314,800
Environmental Externality	N/A	N/A	N/A	N/A	$108,574
Subtotal	N/A	$390,768	$390,768	$390,768	$499,342
Participant Benefits					
Bill Reduction - Electric	$1,106,242	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$16,094	N/A	N/A	$16,094	$16,094
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$500,044	N/A	N/A	$500,044	$500,044
Subtotal	$1,622,380	N/A	N/A	$516,138	$516,138
Total Benefits	$1,622,380	$390,768	$390,768	$906,907	$1,015,481
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$20,169	$20,169	$20,169	$20,169
Advertising & Promotion	N/A	$5,038	$5,038	$5,038	$5,038
Measurement & Verification	N/A	$500	$500	$500	$500
Rebates	N/A	$16,094	$16,094	$16,094	$16,094
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$41,801	$41,801	$41,801	$41,801
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,106,242	N/A	N/A
Subtotal	N/A	N/A	$1,106,242	N/A	N/A
Participant Costs					
Incremental Capital Costs	$20,021	N/A	N/A	$20,021	$20,021
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$20,021	N/A	N/A	$20,021	$20,021
Total Costs	$20,021	$41,801	$1,148,043	$61,822	$61,822
Net Benefit (Cost)	$1,602,359	$348,967	($757,275)	$845,084	$953,658
Benefit/Cost Ratio	81.03	9.35	0.34	14.67	16.43

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	73.53%
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	$8,349.04

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)	521 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	569 kWh

Program Summary All Participants		
Total Participants	J	1,920
Total Budget	K	**$41,801**
Gross kW Saved at Customer	(J x I)	114 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**92 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,000,599 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,092,357 kWh**
Societal Net Benefits	(J x I x H)	**$953,658**
Utility Program Cost per kWh Lifetime		**$0.0038**
Utility Program Cost per kW at Gen		**$454**

ENERGY EFFICIENT SHOWERHEAD — 2019 — ELECTRIC — ACTUAL

2019 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	$21,856	$21,856	$21,856	$21,856
T & D	N/A	$13,279	$13,279	$13,279	$13,279
Marginal Energy	N/A	$158,257	$158,257	$158,257	$158,257
Environmental Externality	N/A	N/A	N/A	N/A	$54,583
Subtotal	N/A	$193,392	$193,392	$193,392	$247,974
Participant Benefits					
Bill Reduction - Electric	$556,133	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$14,284	N/A	N/A	$14,284	$14,284
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$455,654	N/A	N/A	$455,654	$455,654
Subtotal	$1,026,071	N/A	N/A	$469,938	$469,938
Total Benefits	$1,026,071	$193,392	$193,392	$663,330	$717,912
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$21,432	$21,432	$21,432	$21,432
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$14,284	$14,284	$14,284	$14,284
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$35,717	$35,717	$35,717	$35,717
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$556,133	N/A	N/A
Subtotal	N/A	N/A	$556,133	N/A	N/A
Participant Costs					
Incremental Capital Costs	$11,868	N/A	N/A	$11,868	$11,868
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$11,868	N/A	N/A	$11,868	$11,868
Total Costs	$11,868	$35,717	$591,849	$47,585	$47,585
Net Benefit (Cost)	$1,014,202	$157,675	($398,457)	$615,745	$670,327
Benefit/Cost Ratio	86.45	5.41	0.33	13.94	15.09

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	70.15%
Gross Load Factor at Customer	E	100.63%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$6,498.82

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)	393 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	429 kWh

Program Summary All Participants		
Total Participants	J	2,314
Total Budget	K	**$35,717**
Gross kW Saved at Customer	(J x I)	103 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**79 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	909,233 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**992,613 kWh**
Societal Net Benefits	(J x I x H)	**$670,327**
Utility Program Cost per kWh Lifetime		**$0.0036**
Utility Program Cost per kW at Gen		**$450**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$146,942
Incentive Costs =			$146,824
16) Total Utility Project Costs =			$293,766
17) Direct Participant Costs ($/Part.) =			$10
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$34
Escalation Rate =			1.73%
20) Project Life (Years) =			10.0
21) Avg. Dth/Part. Saved =			2.22
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 =			14,080
24) Total Annual Dth Saved =			31,295
25) Incentive/Participant =			$10.43

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$21	
Cost per Participant per Dth =		$14.08	
Lifetime Energy Reduction (Dth)		312,954	
Societal Cost per Dth		$0.94	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($710,324)	0.69
Utility Cost Test	$1,292,776	5.40
Societal Test	$6,342,788	22.59
Participant Test	$7,015,742	48.78

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

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

Input Data	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
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
Administrative & Operating Costs =			$160,440
Incentive Costs =			$115,721
16) Total Utility Project Costs =			$276,161
17) Direct Participant Costs ($/Part.) =			$11
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$43
Escalation Rate =			1.73%
20) Project Life (Years) =			10.0
21) Avg. Dth/Part. Saved =			2.75
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 =			12,115
24) Total Annual Dth Saved =			33,364
25) Incentive/Participant =			$9.55

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$23	
Cost per Participant per Dth =		$12.09	
Lifetime Energy Reduction (Dth)		333,639	
Societal Cost per Dth		$0.86	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($720,251)	0.70
Utility Cost Test	$1,415,245	6.12
Societal Test	$5,761,783	21.03
Participant Test	$5,994,760	48.12

ENERGY FEEDBACK RESIDENTIAL — 2019 — ELECTRIC — GOAL

2019 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	$740,224	$740,224	$740,224	$740,224
T & D	N/A	$447,524	$447,524	$447,524	$447,524
Marginal Energy	N/A	$2,228,866	$2,228,866	$2,228,866	$2,228,866
Environmental Externality	N/A	N/A	N/A	N/A	$672,533
Subtotal	N/A	$3,416,614	$3,416,614	$3,416,614	$4,089,147
Participant Benefits					
Bill Reduction - Electric	$5,568,055	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	$5,568,055	N/A	N/A	$0	$0
Total Benefits	$5,568,055	$3,416,614	$3,416,614	$3,416,614	$4,089,147
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,146,030	$2,146,030	$2,146,030	$2,146,030
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	$2,179,675	$2,179,675	$2,179,675	$2,179,675
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,568,055	N/A	N/A
Subtotal	N/A	N/A	$5,568,055	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	$2,179,675	$7,747,730	$2,179,675	$2,179,675
Net Benefit (Cost)	$5,568,055	$1,236,939	($4,331,115)	$1,236,939	$1,909,472
Benefit/Cost Ratio	INF	1.57	0.44	1.57	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	3.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	96.39%
Gross Load Factor at Customer	E	47.03%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$513.55

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)	60 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	65 kWh

Program Summary All Participants		
Total Participants	J	256,320
Total Budget	K	**$2,179,675**
Gross kW Saved at Customer	(J x I)	3,718 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,930 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	15,317,788 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**16,722,476 kWh**
Societal Net Benefits	(J x I x H)	**$1,909,472**

Utility Program Cost per kWh Lifetime	**$0.0434**
Utility Program Cost per kW at Gen	**$555**

ENERGY FEEDBACK RESIDENTIAL — 2019 — ELECTRIC — ACTUAL

2019 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	$796,276	$796,276	$796,276	$796,276
T & D	N/A	$481,412	$481,412	$481,412	$481,412
Marginal Energy	N/A	$2,371,229	$2,371,229	$2,371,229	$2,371,229
Environmental Externality	N/A	N/A	N/A	N/A	$715,489
Subtotal	N/A	$3,648,918	$3,648,918	$3,648,918	$4,364,407
Participant Benefits					
Bill Reduction - Electric	$5,923,700	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	$5,923,700	N/A	N/A	$0	$0
Total Benefits	$5,923,700	$3,648,918	$3,648,918	$3,648,918	$4,364,407
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$950,681	$950,681	$950,681	$950,681
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$856,036	$856,036	$856,036	$856,036
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,806,717	$1,806,717	$1,806,717	$1,806,717
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,923,700	N/A	N/A
Subtotal	N/A	N/A	$5,923,700	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	$1,806,717	$7,730,417	$1,806,717	$1,806,717
Net Benefit (Cost)	$5,923,700	$1,842,201	($4,081,499)	$1,842,201	$2,557,690
Benefit/Cost Ratio	INF	2.02	0.47	2.02	2.42

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	3.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	32.56%
Gross Load Factor at Customer	E	15.71%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$216.02

Program Summary per Participant

Gross kW Saved at Customer	I	0.05 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	243,303
Total Budget	K	**$1,806,717**
Gross kW Saved at Customer	(J x I)	11,840 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**4,227 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	16,296,172 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**17,790,581 kWh**
Societal Net Benefits	(J x I x H)	**$2,557,690**
Utility Program Cost per kWh Lifetime		**$0.0339**
Utility Program Cost per kW at Gen		**$427**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$330,672
Incentive Costs =			$0
16) Total Utility Project Costs =			$330,672
17) Direct Participant Costs ($/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 =			170,898
24) Total Annual Dth Saved =			24,762
25) Incentive/Participant =			$0.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2	
Cost per Participant per Dth =		$13.35	
Lifetime Energy Reduction (Dth)		74,287	
Societal Cost per Dth		$4.45	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($442,856)	0.49
Utility Cost Test	$96,601	1.29
Societal Test	$126,699	1.38
Participant Test	$539,456	#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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$275,720
Incentive Costs =			$0
16) Total Utility Project Costs =			$275,720
17) Direct Participant Costs ($/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 =			0.37
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 =			137,772
24) Total Annual Dth Saved =			50,829
25) Incentive/Participant =			$0.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2	
Cost per Participant per Dth =		$5.42	
Lifetime Energy Reduction (Dth)		152,486	
Societal Cost per Dth		$1.81	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($505,995)	0.63
Utility Cost Test	$601,328	3.18
Societal Test	$663,109	3.41
Participant Test	$1,107,323	#DIV/0!

RESIDENTIAL HEATING — 2019 ELECTRIC — GOAL

2019 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	$1,074,462	$1,074,462	$1,074,462	$1,074,462
T & D	N/A	$655,278	$655,278	$655,278	$655,278
Marginal Energy	N/A	$2,912,469	$2,912,469	$2,912,469	$2,912,469
Environmental Externality	N/A	N/A	N/A	N/A	$1,029,364
Subtotal	N/A	$4,642,209	$4,642,209	$4,642,209	$5,671,572
Participant Benefits					
Bill Reduction - Electric	$11,493,342	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	$12,493,342	N/A	N/A	$1,000,000	$1,000,000
Total Benefits	$12,493,342	$4,642,209	$4,642,209	$5,642,209	$6,671,572
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$78,475	$78,475	$78,475	$78,475
Advertising & Promotion	N/A	$141,690	$141,690	$141,690	$141,690
Measurement & Verification	N/A	$13,537	$13,537	$13,537	$13,537
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	$1,233,702	$1,233,702	$1,233,702	$1,233,702
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$11,493,342	N/A	N/A
Subtotal	N/A	N/A	$11,493,342	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	$1,233,702	$12,727,044	$4,980,314	$4,980,314
Net Benefit (Cost)	$8,746,730	$3,408,507	($8,084,836)	$661,894	$1,691,258
Benefit/Cost Ratio	3.33	3.76	0.36	1.13	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	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	$887.40

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	**$1,233,702**
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)	**$1,691,258**

Utility Program Cost per kWh Lifetime	**$0.0096**
Utility Program Cost per kW at Gen	**$894**

RESIDENTIAL HEATING — 2019 ELECTRIC — ACTUAL

2019 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	$1,565,661	$1,565,661	$1,565,661	$1,565,661
T & D	N/A	$954,849	$954,849	$954,849	$954,849
Marginal Energy	N/A	$4,144,211	$4,144,211	$4,144,211	$4,144,211
Environmental Externality	N/A	N/A	N/A	N/A	$1,464,773
Subtotal	N/A	$6,664,721	$6,664,721	$6,664,721	$8,129,494
Participant Benefits					
Bill Reduction - Electric	$16,357,832	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,392,169	N/A	N/A	$1,392,169	$1,392,169
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$17,750,001	N/A	N/A	$1,392,169	$1,392,169
Total Benefits	$17,750,001	$6,664,721	$6,664,721	$8,056,890	$9,521,663
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$115,132	$115,132	$115,132	$115,132
Advertising & Promotion	N/A	$118,549	$118,549	$118,549	$118,549
Measurement & Verification	N/A	$11,135	$11,135	$11,135	$11,135
Rebates	N/A	$1,392,169	$1,392,169	$1,392,169	$1,392,169
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,636,984	$1,636,984	$1,636,984	$1,636,984
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$16,357,832	N/A	N/A
Subtotal	N/A	N/A	$16,357,832	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,947,224	N/A	N/A	$2,947,224	$2,947,224
Incremental O&M Costs	$2,266,974	N/A	N/A	$2,266,974	$2,266,974
Subtotal	$5,214,198	N/A	N/A	$5,214,198	$5,214,198
Total Costs	$5,214,198	$1,636,984	$17,994,816	$6,851,182	$6,851,182
Net Benefit (Cost)	$12,535,803	$5,027,737	($11,330,095)	$1,205,709	$2,670,481
Benefit/Cost Ratio	3.40	4.07	0.37	1.18	1.39

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	69.56%
Gross Load Factor at Customer	E	40.62%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,014.02

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)	683 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	746 kWh

Program Summary All Participants		
Total Participants	J	13,718
Total Budget	K	**$1,636,984**
Gross kW Saved at Customer	(J x I)	2,634 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,009 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,371,426 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**10,230,815 kWh**
Societal Net Benefits	(J x I x H)	**$2,670,481**
Utility Program Cost per kWh Lifetime		**$0.0089**
Utility Program Cost per kW at Gen		**$815**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$386,713
Incentive Costs =			$2,130,700
16) Total Utility Project Costs =			$2,517,413
17) Direct Participant Costs ($/Part.) =			$590
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 =			9.78
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			12,272
24) Total Annual Dth Saved =			120,000
25) Incentive/Participant =			$173.62

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$205	
Cost per Participant per Dth =		$81.27	
Lifetime Energy Reduction (Dth)		2,171,608	
Societal Cost per Dth		$3.51	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($5,109,681)	0.66
Utility Cost Test	$7,355,738	3.92
Societal Test	$7,352,180	1.96
Participant Test	$12,725,640	2.76

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$255,401
Incentive Costs =			$2,427,900
16) Total Utility Project Costs =			$2,683,301
17) Direct Participant Costs ($/Part.) =			$1,083
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 =			17.80
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 =			7,853
24) Total Annual Dth Saved =			139,767
25) Incentive/Participant =			$309.17

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$342	
Cost per Participant per Dth =		$80.05	
Lifetime Energy Reduction (Dth)		2,529,315	
Societal Cost per Dth		$3.46	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($5,708,090)	0.67
Utility Cost Test	$8,837,192	4.29
Societal Test	$8,728,315	2.00
Participant Test	$8,467,699	2.00

HOME ENERGY SQUAD — 2019 ELECTRIC — GOAL

2019 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	$181,593	$181,593	$181,593	$181,593
T & D	N/A	$110,165	$110,165	$110,165	$110,165
Marginal Energy	N/A	$765,977	$765,977	$765,977	$765,977
Environmental Externality	N/A	N/A	N/A	N/A	$259,937
Subtotal	N/A	$1,057,735	$1,057,735	$1,057,735	$1,317,672
Participant Benefits					
Bill Reduction - Electric	$2,504,538	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	$235,573	N/A	N/A	$19,676	$19,676
Subtotal	$2,740,111	N/A	N/A	$19,676	$19,676
Total Benefits	$2,740,111	$1,057,735	$1,057,735	$1,077,411	$1,337,348
Costs					
Utility Project Costs					
Customer Services	N/A	$438,581	$438,581	$438,581	$438,581
Project Administration	N/A	$180,544	$180,544	$180,544	$180,544
Advertising & Promotion	N/A	$270,420	$270,420	$270,420	$270,420
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	$889,545	$889,545	$889,545	$889,545
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,504,538	N/A	N/A
Subtotal	N/A	N/A	$2,504,538	N/A	N/A
Participant Costs					
Incremental Capital Costs	$202,600	N/A	N/A	$64,000	$64,000
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$202,600	N/A	N/A	$64,000	$64,000
Total Costs	$202,600	$889,545	$3,394,083	$953,545	$953,545
Net Benefit (Cost)	$2,537,511	$168,191	($2,336,347)	$123,867	$383,803
Benefit/Cost Ratio	13.52	1.19	0.31	1.13	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	5.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.07%
Gross Load Factor at Customer	E	11.15%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$96.54

Program Summary per Participant		
Gross kW Saved at Customer	I	0.74 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)	723 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	789 kWh

Program Summary All Participants		
Total Participants	J	5,371
Total Budget	K	**$889,545**
Gross kW Saved at Customer	(J x I)	3,975 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**526 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,883,008 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,239,092 kWh**
Societal Net Benefits	(J x I x H)	**$383,803**
Utility Program Cost per kWh Lifetime		**$0.0376**
Utility Program Cost per kW at Gen		**$1,691**

HOME ENERGY SQUAD — 2019 — ELECTRIC — ACTUAL

2019 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	$209,519	$209,519	$209,519	$209,519
T & D	N/A	$126,986	$126,986	$126,986	$126,986
Marginal Energy	N/A	$1,071,976	$1,071,976	$1,071,976	$1,071,976
Environmental Externality	N/A	N/A	N/A	N/A	$366,804
Subtotal	N/A	$1,408,480	$1,408,480	$1,408,480	$1,775,284
Participant Benefits					
Bill Reduction - Electric	$3,520,906	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	$65,455	N/A	N/A	$65,455	$65,455
Subtotal	$3,586,360	N/A	N/A	$65,455	$65,455
Total Benefits	$3,586,360	$1,408,480	$1,408,480	$1,473,935	$1,840,739
Costs					
Utility Project Costs					
Customer Services	N/A	$406,298	$406,298	$406,298	$406,298
Project Administration	N/A	$173,873	$173,873	$173,873	$173,873
Advertising & Promotion	N/A	$88,788	$88,788	$88,788	$88,788
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	$668,959	$668,959	$668,959	$668,959
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,520,906	N/A	N/A
Subtotal	N/A	N/A	$3,520,906	N/A	N/A
Participant Costs					
Incremental Capital Costs	$460	N/A	N/A	$460	$460
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$460	N/A	N/A	$460	$460
Total Costs	$460	$668,959	$4,189,864	$669,419	$669,419
Net Benefit (Cost)	$3,585,900	$739,521	($2,781,384)	$804,516	$1,171,320
Benefit/Cost Ratio	7,796.44	2.11	0.34	2.20	2.75

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.72%
Gross Load Factor at Customer	E	10.65%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$198.77

Program Summary per Participant		
Gross kW Saved at Customer	I	1.18 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)	1,104 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,205 kWh

Program Summary All Participants		
Total Participants	J	4,978
Total Budget	K	**$668,959**
Gross kW Saved at Customer	(J x I)	5,893 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**693 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,496,090 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,000,098 kWh**
Societal Net Benefits	(J x I x H)	**$1,171,320**
Utility Program Cost per kWh Lifetime		**$0.0202**
Utility Program Cost per kW at Gen		**$965**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$1,306,189
Incentive Costs =			$0
16) Total Utility Project Costs =			$1,306,189
17) Direct Participant Costs ($/Part.) =			$70
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$27
Escalation Rate =			1.73%
20) Project Life (Years) =			9.7
21) Avg. Dth/Part. Saved =			9.21
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			2,200
24) Total Annual Dth Saved =			20,261
25) Incentive/Participant =			$0.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$594	
Cost per Participant per Dth =		$72.12	
Lifetime Energy Reduction (Dth)		196,405	
Societal Cost per Dth		$7.36	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,530,418)	0.36
Utility Cost Test	($452,171)	0.65
Societal Test	$95,498	1.07
Participant Test	$1,662,338	11.73

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$827,354
Incentive Costs =			$0
16) Total Utility Project Costs =			$827,354
17) Direct Participant Costs ($/Part.) =			$2
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$35
Escalation Rate =			1.73%
20) Project Life (Years) =			9.7
21) Avg. Dth/Part. Saved =			5.83
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			1,598
24) Total Annual Dth Saved =			9,324
25) Incentive/Participant =			$0.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$518	
Cost per Participant per Dth =		$89.02	
Lifetime Energy Reduction (Dth)		90,382	
Societal Cost per Dth		$9.18	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($948,140)	0.33
Utility Cost Test	($367,318)	0.56
Societal Test	$172,646	1.21
Participant Test	$991,965	373.92

HOME LIGHTING — 2019 ELECTRIC — GOAL

2019 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	$2,206,536	$2,206,536	$2,206,536	$2,206,536
T & D	N/A	$1,336,581	$1,336,581	$1,336,581	$1,336,581
Marginal Energy	N/A	$12,871,478	$12,871,478	$12,871,478	$12,871,478
Environmental Externality	N/A	N/A	N/A	N/A	$4,573,488
Subtotal	N/A	$16,414,595	$16,414,595	$16,414,595	$20,988,083
Participant Benefits					
Bill Reduction - Electric	$43,277,501	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,166,400	N/A	N/A	$4,166,400	$4,166,400
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$47,443,901	N/A	N/A	$4,166,400	$4,166,400
Total Benefits	$47,443,901	$16,414,595	$16,414,595	$20,580,995	$25,154,483
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,401,206	$1,401,206	$1,401,206	$1,401,206
Advertising & Promotion	N/A	$1,894,040	$1,894,040	$1,894,040	$1,894,040
Measurement & Verification	N/A	$10,000	$10,000	$10,000	$10,000
Rebates	N/A	$4,166,400	$4,166,400	$4,166,400	$4,166,400
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$7,471,646	$7,471,646	$7,471,646	$7,471,646
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$43,277,501	N/A	N/A
Subtotal	N/A	N/A	$43,277,501	N/A	N/A
Participant Costs					
Incremental Capital Costs	$7,351,126	N/A	N/A	$7,351,126	$7,351,126
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$7,351,126	N/A	N/A	$7,351,126	$7,351,126
Total Costs	$7,351,126	$7,471,646	$50,749,147	$14,822,772	$14,822,772
Net Benefit (Cost)	$40,092,775	$8,942,949	($34,334,552)	$5,758,223	$10,331,711
Benefit/Cost Ratio	6.45	2.20	0.32	1.39	1.70

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	4.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.45%
Gross Load Factor at Customer	E	13.62%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$144.27

Program Summary per Participant		
Gross kW Saved at Customer	I	0.49 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	585 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	639 kWh

Program Summary All Participants		
Total Participants	J	146,067
Total Budget	K	**$7,471,646**
Gross kW Saved at Customer	(J x I)	71,614 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**9,773 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	85,464,271 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**93,301,606 kWh**
Societal Net Benefits	(J x I x H)	**$10,331,711**
Utility Program Cost per kWh Lifetime		**$0.0181**
Utility Program Cost per kW at Gen		**$765**

HOME LIGHTING — 2019 ELECTRIC — ACTUAL

2019 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	$3,387,273	$3,387,273	$3,387,273	$3,387,273
T & D	N/A	$2,051,816	$2,051,816	$2,051,816	$2,051,816
Marginal Energy	N/A	$19,608,168	$19,608,168	$19,608,168	$19,608,168
Environmental Externality	N/A	N/A	N/A	N/A	$6,963,598
Subtotal	N/A	$25,047,257	$25,047,257	$25,047,257	$32,010,855
Participant Benefits					
Bill Reduction - Electric	$65,911,797	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,433,207	N/A	N/A	$4,433,207	$4,433,207
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$70,345,004	N/A	N/A	$4,433,207	$4,433,207
Total Benefits	$70,345,004	$25,047,257	$25,047,257	$29,480,465	$36,444,063
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$517,277	$517,277	$517,277	$517,277
Advertising & Promotion	N/A	$642,771	$642,771	$642,771	$642,771
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$4,433,207	$4,433,207	$4,433,207	$4,433,207
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$5,593,255	$5,593,255	$5,593,255	$5,593,255
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$65,911,797	N/A	N/A
Subtotal	N/A	N/A	$65,911,797	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,639,414	N/A	N/A	$4,639,414	$4,639,414
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,639,414	N/A	N/A	$4,639,414	$4,639,414
Total Costs	$4,639,414	$5,593,255	$71,505,052	$10,232,669	$10,232,669
Net Benefit (Cost)	$65,705,590	$19,454,002	($46,457,795)	$19,247,795	$26,211,393
Benefit/Cost Ratio	15.16	4.48	0.35	2.88	3.56

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	4.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.34%
Gross Load Factor at Customer	E	13.61%
Transmission Loss Factor (Energy)	F	7.898%
Transmission Loss Factor (Demand)	G	8.694%
Societal Net Benefit (Cost)	H	$247.10

Program Summary per Participant		
Gross kW Saved at Customer	I	0.50 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)	594 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	645 kWh

Program Summary All Participants		
Total Participants	J	213,009
Total Budget	K	**$5,593,255**
Gross kW Saved at Customer	(J x I)	106,075 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**14,341 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	126,448,065 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**137,290,860 kWh**
Societal Net Benefits	(J x I x H)	**$26,211,393**
Utility Program Cost per kWh Lifetime		**$0.0091**
Utility Program Cost per kW at Gen		**$390**

INSULATION REBATE — 2019 ELECTRIC — GOAL

2019 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	$123,791	$123,791	$123,791	$123,791
T & D	N/A	$75,502	$75,502	$75,502	$75,502
Marginal Energy	N/A	$819,070	$819,070	$819,070	$819,070
Environmental Externality	N/A	N/A	N/A	N/A	$255,391
Subtotal	N/A	$1,018,364	$1,018,364	$1,018,364	$1,273,754
Participant Benefits					
Bill Reduction - Electric	$2,675,026	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$206,972	N/A	N/A	$206,972	$206,972
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$951,330	N/A	N/A	$0	$0
Subtotal	$3,833,328	N/A	N/A	$206,972	$206,972
Total Benefits	$3,833,328	$1,018,364	$1,018,364	$1,225,336	$1,480,726
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$27,800	$27,800	$27,800	$27,800
Advertising & Promotion	N/A	$9,800	$9,800	$9,800	$9,800
Measurement & Verification	N/A	$4,000	$4,000	$4,000	$4,000
Rebates	N/A	$206,972	$206,972	$206,972	$206,972
Other	N/A	$3,500	$3,500	$3,500	$3,500
Subtotal	N/A	$252,072	$252,072	$252,072	$252,072
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,675,026	N/A	N/A
Subtotal	N/A	N/A	$2,675,026	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,612,667	N/A	N/A	$724,821	$724,821
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,612,667	N/A	N/A	$724,821	$724,821
Total Costs	$1,612,667	$252,072	$2,927,098	$976,893	$976,893
Net Benefit (Cost)	$2,220,661	$766,292	($1,908,734)	$248,443	$503,834
Benefit/Cost Ratio	2.38	4.04	0.35	1.25	1.52

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	19.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.38%
Gross Load Factor at Customer	E	15.07%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$416.36

Program Summary per Participant		
Gross kW Saved at Customer	I	1.95 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)	2,580 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,817 kWh

Program Summary All Participants		
Total Participants	J	619
Total Budget	K	**$252,072**
Gross kW Saved at Customer	(J x I)	1,210 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**164 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,597,125 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,743,586 kWh**
Societal Net Benefits	(J x I x H)	**$503,834**
Utility Program Cost per kWh Lifetime		**$0.0076**
Utility Program Cost per kW at Gen		**$1,534**

INSULATION REBATE — 2019 ELECTRIC — ACTUAL

2019 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	$179,866	$179,866	$179,866	$179,866
T & D	N/A	$109,583	$109,583	$109,583	$109,583
Marginal Energy	N/A	$110,720	$110,720	$110,720	$110,720
Environmental Externality	N/A	N/A	N/A	N/A	$34,078
Subtotal	N/A	$400,169	$400,169	$400,169	$434,247
Participant Benefits					
Bill Reduction - Electric	$342,544	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$45,350	N/A	N/A	$45,350	$45,350
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$387,893	N/A	N/A	$45,350	$45,350
Total Benefits	$387,893	$400,169	$400,169	$445,519	$479,597
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$30,202	$30,202	$30,202	$30,202
Advertising & Promotion	N/A	$250	$250	$250	$250
Measurement & Verification	N/A	$1,784	$1,784	$1,784	$1,784
Rebates	N/A	$45,350	$45,350	$45,350	$45,350
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$77,585	$77,585	$77,585	$77,585
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$342,544	N/A	N/A
Subtotal	N/A	N/A	$342,544	N/A	N/A
Participant Costs					
Incremental Capital Costs	$324,219	N/A	N/A	$324,219	$324,219
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$324,219	N/A	N/A	$324,219	$324,219
Total Costs	$324,219	$77,585	$420,129	$401,804	$401,804
Net Benefit (Cost)	$63,675	$322,584	($19,959)	$43,715	$77,793
Benefit/Cost Ratio	1.20	5.16	0.95	1.11	1.19

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	77.05%
Gross Load Factor at Customer	E	9.16%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$242.90

Program Summary per Participant		
Gross kW Saved at Customer	I	0.53 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.44 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)	460 kWh

Program Summary All Participants		
Total Participants	J	610
Total Budget	K	**$77,585**
Gross kW Saved at Customer	(J x I)	320 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**271 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	257,123 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**280,702 kWh**
Societal Net Benefits	(J x I x H)	**$77,793**
Utility Program Cost per kWh Lifetime		**$0.0195**
Utility Program Cost per kW at Gen		**$287**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$100,625
Incentive Costs =			$229,810
16) Total Utility Project Costs =			$330,435
17) Direct Participant Costs ($/Part.) =			$2,150
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) =			18.0
21) Avg. Dth/Part. Saved =			23.27
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			773
24) Total Annual Dth Saved =			17,985
25) Incentive/Participant =			$297.30

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$427	
Cost per Participant per Dth =		$110.77	
Lifetime Energy Reduction (Dth)		324,365	
Societal Cost per Dth		$5.01	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($714,031)	0.67
Utility Cost Test	$1,130,565	4.42
Societal Test	$625,413	1.39
Participant Test	$1,395,197	1.84

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$35,891
Incentive Costs =			$249,553
16) Total Utility Project Costs =			$285,444
17) Direct Participant Costs ($/Part.) =			$2,849
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) =			13.9
21) Avg. Dth/Part. Saved =			37.05
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 =			645
24) Total Annual Dth Saved =			23,899
25) Incentive/Participant =			$386.90

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$443	
Cost per Participant per Dth =		$88.85	
Lifetime Energy Reduction (Dth)		431,011	
Societal Cost per Dth		$4.35	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($697,440)	0.69
Utility Cost Test	$1,283,724	5.50
Societal Test	$386,832	1.21
Participant Test	$392,833	1.21

REFRIGERATOR RECYCLING — 2019 — ELECTRIC — GOAL

2019 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	$381,320	$381,320	$381,320	$381,320
T & D	N/A	$231,418	$231,418	$231,418	$231,418
Marginal Energy	N/A	$1,716,248	$1,716,248	$1,716,248	$1,716,248
Environmental Externality	N/A	N/A	N/A	N/A	$625,502
Subtotal	N/A	$2,328,986	$2,328,986	$2,328,986	$2,954,488
Participant Benefits					
Bill Reduction - Electric	$6,151,652	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$241,500	N/A	N/A	$241,500	$241,500
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$6,393,152	N/A	N/A	$241,500	$241,500
Total Benefits	$6,393,152	$2,328,986	$2,328,986	$2,570,486	$3,195,988
Costs					
Utility Project Costs					
Customer Services	N/A	$7,000	$7,000	$7,000	$7,000
Project Administration	N/A	$517,490	$517,490	$517,490	$517,490
Advertising & Promotion	N/A	$206,944	$206,944	$206,944	$206,944
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$241,500	$241,500	$241,500	$241,500
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$972,934	$972,934	$972,934	$972,934
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,151,652	N/A	N/A
Subtotal	N/A	N/A	$6,151,652	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$972,934	$7,124,586	$972,934	$972,934
Net Benefit (Cost)	$6,393,152	$1,356,052	($4,795,600)	$1,597,552	$2,223,054
Benefit/Cost Ratio	INF	2.39	0.33	2.64	3.28

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	65.98%
Gross Load Factor at Customer	E	60.34%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,711.08

Program Summary per Participant		
Gross kW Saved at Customer	I	0.18 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.13 kW
Gross Annual kWh Saved at Customer	(B x E x I)	967 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,056 kWh

Program Summary All Participants		
Total Participants	J	7,100
Total Budget	K	**$972,934**
Gross kW Saved at Customer	(J x I)	1,299 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**940 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,867,053 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,496,782 kWh**
Societal Net Benefits	(J x I x H)	**$2,223,054**

Utility Program Cost per kWh Lifetime	**$0.0160**
Utility Program Cost per kW at Gen	**$1,035**

REFRIGERATOR RECYCLING — 2019 — ELECTRIC — ACTUAL

2019 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	$214,041	$214,041	$214,041	$214,041
T & D	N/A	$129,886	$129,886	$129,886	$129,886
Marginal Energy	N/A	$984,477	$984,477	$984,477	$984,477
Environmental Externality	N/A	N/A	N/A	N/A	$347,629
Subtotal	N/A	$1,328,404	$1,328,404	$1,328,404	$1,676,033
Participant Benefits					
Bill Reduction - Electric	$3,412,215	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$243,070	N/A	N/A	$243,070	$243,070
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$3,655,285	N/A	N/A	$243,070	$243,070
Total Benefits	$3,655,285	$1,328,404	$1,328,404	$1,571,474	$1,919,103
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$485,652	$485,652	$485,652	$485,652
Advertising & Promotion	N/A	$115,565	$115,565	$115,565	$115,565
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$243,070	$243,070	$243,070	$243,070
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$844,287	$844,287	$844,287	$844,287
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,412,215	N/A	N/A
Subtotal	N/A	N/A	$3,412,215	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	$844,287	$4,256,501	$844,287	$844,287
Net Benefit (Cost)	$3,655,285	$484,118	($2,928,097)	$727,188	$1,074,816
Benefit/Cost Ratio	INF	1.57	0.31	1.86	2.27

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	7.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	66.11%
Gross Load Factor at Customer	E	61.10%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,447.35

Program Summary per Participant		
Gross kW Saved at Customer	I	0.16 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x I)	856 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	934 kWh

Program Summary All Participants		
Total Participants	J	4,644
Total Budget	K	**$844,287**
Gross kW Saved at Customer	(J x I)	743 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**538 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,974,441 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,338,909 kWh**
Societal Net Benefits	(J x I x H)	**$1,074,816**

Utility Program Cost per kWh Lifetime	**$0.0253**
Utility Program Cost per kW at Gen	**$1,568**

RESIDENTIAL COOLING — 2019 ELECTRIC — GOAL

2019 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	$3,756,217	$3,756,217	$3,756,217	$3,756,217
T & D	N/A	$2,287,831	$2,287,831	$2,287,831	$2,287,831
Marginal Energy	N/A	$1,660,500	$1,660,500	$1,660,500	$1,660,500
Environmental Externality	N/A	N/A	N/A	N/A	$511,427
Subtotal	N/A	$7,704,548	$7,704,548	$7,704,548	$8,215,975
Participant Benefits					
Bill Reduction - Electric	$5,153,255	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,552,450	N/A	N/A	$3,552,450	$3,552,450
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$8,705,705	N/A	N/A	$3,552,450	$3,552,450
Total Benefits	$8,705,705	$7,704,548	$7,704,548	$11,256,998	$11,768,425
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$364,869	$364,869	$364,869	$364,869
Advertising & Promotion	N/A	$212,074	$212,074	$212,074	$212,074
Measurement & Verification	N/A	$9,967	$9,967	$9,967	$9,967
Rebates	N/A	$3,552,450	$3,552,450	$3,552,450	$3,552,450
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,139,360	$4,139,360	$4,139,360	$4,139,360
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,153,255	N/A	N/A
Subtotal	N/A	N/A	$5,153,255	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,723,187	N/A	N/A	$5,723,187	$5,723,187
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,723,187	N/A	N/A	$5,723,187	$5,723,187
Total Costs	$5,723,187	$4,139,360	$9,292,615	$9,862,547	$9,862,547
Net Benefit (Cost)	$2,982,519	$3,565,188	($1,588,067)	$1,394,452	$1,905,879
Benefit/Cost Ratio	1.52	1.86	0.83	1.14	1.19

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	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	$347.88

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	11,582
Total Budget	K	**$4,139,360**
Gross kW Saved at Customer	(J x I)	5,479 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,406 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,600,307 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,930,467 kWh**
Societal Net Benefits	(J x I x H)	**$1,905,879**
Utility Program Cost per kWh Lifetime		**$0.0696**
Utility Program Cost per kW at Gen		**$766**

RESIDENTIAL COOLING — 2019 ELECTRIC — ACTUAL

2019 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	$5,805,272	$5,805,272	$5,805,272	$5,805,272
T & D	N/A	$3,536,115	$3,536,115	$3,536,115	$3,536,115
Marginal Energy	N/A	$2,514,758	$2,514,758	$2,514,758	$2,514,758
Environmental Externality	N/A	N/A	N/A	N/A	$774,747
Subtotal	N/A	$11,856,144	$11,856,144	$11,856,144	$12,630,891
Participant Benefits					
Bill Reduction - Electric	$7,815,990	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$5,095,315	N/A	N/A	$5,095,315	$5,095,315
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$12,911,305	N/A	N/A	$5,095,315	$5,095,315
Total Benefits	$12,911,305	$11,856,144	$11,856,144	$16,951,459	$17,726,206
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$317,941	$317,941	$317,941	$317,941
Advertising & Promotion	N/A	$6,297	$6,297	$6,297	$6,297
Measurement & Verification	N/A	$16,740	$16,740	$16,740	$16,740
Rebates	N/A	$5,095,315	$5,095,315	$5,095,315	$5,095,315
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$5,436,293	$5,436,293	$5,436,293	$5,436,293
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,815,990	N/A	N/A
Subtotal	N/A	N/A	$7,815,990	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,299,670	N/A	N/A	$8,299,670	$8,299,670
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$8,299,670	N/A	N/A	$8,299,670	$8,299,670
Total Costs	$8,299,670	$5,436,293	$13,252,282	$13,735,962	$13,735,962
Net Benefit (Cost)	$4,611,635	$6,419,851	($1,396,139)	$3,215,496	$3,990,244
Benefit/Cost Ratio	1.56	2.18	0.89	1.23	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	15.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	89.44%
Gross Load Factor at Customer	E	7.32%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$471.11

Program Summary per Participant		
Gross kW Saved at Customer	I	0.48 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.47 kW
Gross Annual kWh Saved at Customer	(B x E x I)	307 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	335 kWh

Program Summary All Participants		
Total Participants	J	17,690
Total Budget	K	**$5,436,293**
Gross kW Saved at Customer	(J x I)	8,470 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,307 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,433,142 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,931,378 kWh**
Societal Net Benefits	(J x I x H)	**$3,990,244**
Utility Program Cost per kWh Lifetime		**$0.0602**
Utility Program Cost per kW at Gen		**$654**

SCHOOL EDUCATION KITS — 2019 ELECTRIC — GOAL

2019 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	$46,252	$46,252	$46,252	$46,252
T & D	N/A	$28,054	$28,054	$28,054	$28,054
Marginal Energy	N/A	$296,336	$296,336	$296,336	$296,336
Environmental Externality	N/A	N/A	N/A	N/A	$105,660
Subtotal	N/A	$370,642	$370,642	$370,642	$476,301
Participant Benefits					
Bill Reduction - Electric	$1,031,754	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$232,775	N/A	N/A	$232,775	$232,775
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	$1,445,411	N/A	N/A	$413,657	$413,657
Total Benefits	$1,445,411	$370,642	$370,642	$784,299	$889,959
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$240,416	$240,416	$240,416	$240,416
Advertising & Promotion	N/A	$2,820	$2,820	$2,820	$2,820
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$232,775	$232,775	$232,775	$232,775
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$476,011	$476,011	$476,011	$476,011
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,031,754	N/A	N/A
Subtotal	N/A	N/A	$1,031,754	N/A	N/A
Participant Costs					
Incremental Capital Costs	$232,775	N/A	N/A	$232,775	$232,775
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$232,775	N/A	N/A	$232,775	$232,775
Total Costs	$232,775	$476,011	$1,507,765	$708,786	$708,786
Net Benefit (Cost)	$1,212,636	($105,369)	($1,137,123)	$75,513	$181,173
Benefit/Cost Ratio	6.21	0.78	0.25	1.11	1.26

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	6.3 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	$149.49

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	**$476,011**
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)	**$181,173**

Utility Program Cost per kWh Lifetime	**$0.0481**
Utility Program Cost per kW at Gen	**$3,488**

SCHOOL EDUCATION KITS — 2019 — ELECTRIC — ACTUAL

2019 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	$72,977	$72,977	$72,977	$72,977
T & D	N/A	$44,260	$44,260	$44,260	$44,260
Marginal Energy	N/A	$465,377	$465,377	$465,377	$465,377
Environmental Externality	N/A	N/A	N/A	N/A	$165,933
Subtotal	N/A	$582,614	$582,614	$582,614	$748,547
Participant Benefits					
Bill Reduction - Electric	$1,615,967	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$248,520	N/A	N/A	$248,520	$248,520
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$254,898	N/A	N/A	$254,898	$254,898
Subtotal	$2,119,384	N/A	N/A	$503,418	$503,418
Total Benefits	$2,119,384	$582,614	$582,614	$1,086,032	$1,251,965
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$189,344	$189,344	$189,344	$189,344
Advertising & Promotion	N/A	$628	$628	$628	$628
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$248,520	$248,520	$248,520	$248,520
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$438,492	$438,492	$438,492	$438,492
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,615,967	N/A	N/A
Subtotal	N/A	N/A	$1,615,967	N/A	N/A
Participant Costs					
Incremental Capital Costs	$233,234	N/A	N/A	$233,234	$233,234
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$233,234	N/A	N/A	$233,234	$233,234
Total Costs	$233,234	$438,492	$2,054,459	$671,726	$671,726
Net Benefit (Cost)	$1,886,151	$144,122	($1,471,845)	$414,306	$580,239
Benefit/Cost Ratio	9.09	1.33	0.28	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	6.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	9.96%
Gross Load Factor at Customer	E	12.99%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$288.62

Program Summary per Participant		
Gross kW Saved at Customer	I	0.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	163 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	178 kWh

Program Summary All Participants		
Total Participants	J	14,058
Total Budget	K	**$438,492**
Gross kW Saved at Customer	(J x I)	2,010 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	2,286,949 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,496,670 kWh**
Societal Net Benefits	(J x I x H)	**$580,239**

Utility Program Cost per kWh Lifetime	**$0.0283**
Utility Program Cost per kW at Gen	**$1,998**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$262,015
Incentive Costs =			$64,350
16) Total Utility Project Costs =			$326,365
17) Direct Participant Costs ($/Part.) =			$5
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$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 =			$4.60

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$23	
Cost per Participant per Dth =		$34.30	
Lifetime Energy Reduction (Dth)		113,912	
Societal Cost per Dth		$2.87	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($477,988)	0.55
Utility Cost Test	$251,119	1.77
Societal Test	$2,078,905	7.37
Participant Test	$2,543,290	40.52

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$251,107
Incentive Costs =			$64,872
16) Total Utility Project Costs =			$315,979
17) Direct Participant Costs ($/Part.) =			$4
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$17
Escalation Rate =			1.73%
20) Project Life (Years) =			10.0
21) Avg. Dth/Part. Saved =			1.14
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 =			14,058
24) Total Annual Dth Saved =			16,036
25) Incentive/Participant =			$4.61

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$22	
Cost per Participant per Dth =		$23.50	
Lifetime Energy Reduction (Dth)		160,355	
Societal Cost per Dth		$1.95	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($529,420)	0.61
Utility Cost Test	$496,952	2.57
Societal Test	$2,556,177	9.19
Participant Test	$2,851,401	47.82

WATER HEATER REBATE — 2019 ELECTRIC — GOAL

2019 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	$0	$0	$0	$0
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	$0	$0	$0	$0
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	$0	$0	$0	$0
Net Benefit (Cost)	$0	$0	$0	$0	$0
Benefit/Cost Ratio	INF	INF	INF	INF	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	0.00 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)	#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	**$0**
Gross kW Saved at Customer	(J x I)	0 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	#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	**N/A**

WATER HEATER REBATE — 2019 — ELECTRIC — ACTUAL

2019 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	$0	$0	$0	$0
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	$0	$0	$0	$0
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	$0	$0	$0	$0
Net Benefit (Cost)	$0	$0	$0	$0	$0
Benefit/Cost Ratio	INF	INF	INF	INF	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	0.00 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)	#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	**$0**
Gross kW Saved at Customer	(J x I)	0 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	#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	**N/A**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$106,994
Incentive Costs =			$95,550
16) Total Utility Project Costs =			$202,544
17) Direct Participant Costs ($/Part.) =			$352
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) =			14.5
21) Avg. Dth/Part. Saved =			3.23
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 =			1,071
24) Total Annual Dth Saved =			3,461
25) Incentive/Participant =			$89.22

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$189	
Cost per Participant per Dth =		$167.49	
Lifetime Energy Reduction (Dth)		50,175	
Societal Cost per Dth		$9.65	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($291,699)	0.45
Utility Cost Test	$8,541	1.04
Societal Test	($145,172)	0.70
Participant Test	$148,114	1.39

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$62,156
Incentive Costs =			$123,250
16) Total Utility Project Costs =			$185,406
17) Direct Participant Costs ($/Part.) =			$414
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) =			16.8
21) Avg. Dth/Part. Saved =			4.37
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 =			992
24) Total Annual Dth Saved =			4,339
25) Incentive/Participant =			$124.24

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$187	
Cost per Participant per Dth =		$137.36	
Lifetime Energy Reduction (Dth)		62,896	
Societal Cost per Dth		$7.52	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($273,377)	0.55
Utility Cost Test	$149,648	1.81
Societal Test	$29,388	1.06
Participant Test	$135,676	1.33

WHOLE HOME EFFICIENCY — 2019 ELECTRIC — GOAL

2019 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	$88,399	$88,399	$88,399	$88,399
T & D	N/A	$53,858	$53,858	$53,858	$53,858
Marginal Energy	N/A	$55,457	$55,457	$55,457	$55,457
Environmental Externality	N/A	N/A	N/A	N/A	$18,349
Subtotal	N/A	$197,714	$197,714	$197,714	$216,063
Participant Benefits					
Bill Reduction - Electric	$188,136	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$32,131	N/A	N/A	$32,131	$32,131
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$220,267	N/A	N/A	$32,131	$32,131
Total Benefits	$220,267	$197,714	$197,714	$229,845	$248,194
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$45,950	$45,950	$45,950	$45,950
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	$32,131	$32,131	$32,131	$32,131
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$122,496	$122,496	$122,496	$122,496
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$188,136	N/A	N/A
Subtotal	N/A	N/A	$188,136	N/A	N/A
Participant Costs					
Incremental Capital Costs	$105,449	N/A	N/A	$105,449	$105,449
Incremental O&M Costs	$3,532	N/A	N/A	$3,532	$3,532
Subtotal	$108,981	N/A	N/A	$108,981	$108,981
Total Costs	$108,981	$122,496	$310,632	$231,477	$231,477
Net Benefit (Cost)	$111,285	$75,218	($112,918)	($1,632)	$16,716
Benefit/Cost Ratio	2.02	1.61	0.64	0.99	1.07

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	67.64%
Gross Load Factor at Customer	E	10.48%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$92.66

Program Summary per Participant		
Gross kW Saved at Customer	I	0.79 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.58 kW
Gross Annual kWh Saved at Customer	(B x E x I)	723 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	789 kWh

Program Summary All Participants		
Total Participants	J	229
Total Budget	K	**$122,496**
Gross kW Saved at Customer	(J x I)	180 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**134 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	165,633 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**180,822 kWh**
Societal Net Benefits	(J x I x H)	**$16,716**
Utility Program Cost per kWh Lifetime		**$0.0596**
Utility Program Cost per kW at Gen		**$915**

WHOLE HOME EFFICIENCY — 2019 — ELECTRIC — ACTUAL

2019 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	$19,163	$19,163	$19,163	$19,163
T & D	N/A	$11,686	$11,686	$11,686	$11,686
Marginal Energy	N/A	$9,250	$9,250	$9,250	$9,250
Environmental Externality	N/A	N/A	N/A	N/A	$3,041
Subtotal	N/A	$40,099	$40,099	$40,099	$43,140
Participant Benefits					
Bill Reduction - Electric	$32,183	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,643	N/A	N/A	$6,643	$6,643
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$38,826	N/A	N/A	$6,643	$6,643
Total Benefits	$38,826	$40,099	$40,099	$46,742	$49,783
Costs					
Utility Project Costs					
Customer Services	N/A	$1,040	$1,040	$1,040	$1,040
Project Administration	N/A	$20,507	$20,507	$20,507	$20,507
Advertising & Promotion	N/A	$75	$75	$75	$75
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$6,643	$6,643	$6,643	$6,643
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$28,265	$28,265	$28,265	$28,265
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$32,183	N/A	N/A
Subtotal	N/A	N/A	$32,183	N/A	N/A
Participant Costs					
Incremental Capital Costs	$23,272	N/A	N/A	$23,272	$23,272
Incremental O&M Costs	$1,801	N/A	N/A	$1,801	$1,801
Subtotal	$25,073	N/A	N/A	$25,073	$25,073
Total Costs	$25,073	$28,265	$60,448	$53,338	$53,338
Net Benefit (Cost)	$13,753	$11,834	($20,349)	($6,596)	($3,555)
Benefit/Cost Ratio	1.55	1.42	0.66	0.88	0.93

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	83.52%
Gross Load Factor at Customer	E	8.96%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($126.20)

Program Summary per Participant		
Gross kW Saved at Customer	I	1.01 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.92 kW
Gross Annual kWh Saved at Customer	(B x E x I)	790 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	863 kWh

Program Summary All Participants		
Total Participants	J	28
Total Budget	K	**$28,265**
Gross kW Saved at Customer	(J x I)	28 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	22,122 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**24,151 kWh**
Societal Net Benefits	(J x I x H)	**($3,555)**
Utility Program Cost per kWh Lifetime		**$0.0759**
Utility Program Cost per kW at Gen		**$1,095**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$207,299
Incentive Costs =			$83,316
16) Total Utility Project Costs =			$290,615
17) Direct Participant Costs ($/Part.) =			$2,581
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 =			38.97
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 =			205
24) Total Annual Dth Saved =			7,998
25) Incentive/Participant =			$405.93

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,416	
Cost per Participant per Dth =		$102.58	
Lifetime Energy Reduction (Dth)		123,380	
Societal Cost per Dth		$5.97	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($444,470)	0.56
Utility Cost Test	$276,045	1.94
Societal Test	$147,771	1.20
Participant Test	$602,999	2.14

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$34,803
Incentive Costs =			$29,319
16) Total Utility Project Costs =			$64,122
17) Direct Participant Costs ($/Part.) =			$4,931
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) =			16.9
21) Avg. Dth/Part. Saved =			64.15
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 =			29
24) Total Annual Dth Saved =			1,860
25) Incentive/Participant =			$1,010.99

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2,211	
Cost per Participant per Dth =		$111.34	
Lifetime Energy Reduction (Dth)		28,697	
Societal Cost per Dth		$6.20	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($101,697)	0.58
Utility Cost Test	$78,993	2.23
Societal Test	$39,048	1.22
Participant Test	$67,343	1.47

RESIDENTIAL SAVER'S SWITCH — 2019 ELECTRIC — GOAL

2019 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	$19,957,436	$19,957,436	$19,957,436	$19,957,436
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$35,084	$35,084	$35,084	$35,084
Environmental Externality	N/A	N/A	N/A	N/A	$7,978
Subtotal	N/A	$19,992,521	$19,992,521	$19,992,521	$20,000,499
Participant Benefits					
Bill Reduction - Electric	$86,706	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,287,500	N/A	N/A	$2,287,500	$2,287,500
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$2,374,206	N/A	N/A	$2,287,500	$2,287,500
Total Benefits	$2,374,206	$19,992,521	$19,992,521	$22,280,021	$22,287,999
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$5,633,873	$5,633,873	$5,633,873	$5,633,873
Advertising & Promotion	N/A	$550,000	$550,000	$550,000	$550,000
Measurement & Verification	N/A	$200,000	$200,000	$200,000	$200,000
Rebates	N/A	$2,287,500	$2,287,500	$2,287,500	$2,287,500
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$8,671,373	$8,671,373	$8,671,373	$8,671,373
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$86,706	N/A	N/A
Subtotal	N/A	N/A	$86,706	N/A	N/A
Participant Costs					
Incremental Capital Costs	$337,500	N/A	N/A	$337,500	$337,500
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$337,500	N/A	N/A	$337,500	$337,500
Total Costs	$337,500	$8,671,373	$8,758,078	$9,008,873	$9,008,873
Net Benefit (Cost)	$2,036,706	$11,321,148	$11,234,443	$13,271,148	$13,279,127
Benefit/Cost Ratio	7.03	2.31	2.28	2.47	2.47

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.45%
Gross Load Factor at Customer	E	0.01%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$157.74

Program Summary per Participant		
Gross kW Saved at Customer	I	2.40 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.96 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	35,025
Total Budget	K	**$8,671,373**
Gross kW Saved at Customer	(J x I)	84,186 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**33,651 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	62,650 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**68,395 kWh**
Societal Net Benefits	(J x I x H)	**$13,279,127**
Utility Program Cost per kWh Lifetime		**$9.8587**
Utility Program Cost per kW at Gen		**$258**

RESIDENTIAL DEMAND RESPONSE — 2019 — ELECTRIC — ACTUAL

2019 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	$14,621,030	$14,621,030	$14,621,030	$14,621,030
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$34,367	$34,367	$34,367	$34,367
Environmental Externality	N/A	N/A	N/A	N/A	$7,860
Subtotal	N/A	$14,655,398	$14,655,398	$14,655,398	$14,663,258
Participant Benefits					
Bill Reduction - Electric	$87,049	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$217,035	N/A	N/A	$217,035	$217,035
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$304,084	N/A	N/A	$217,035	$217,035
Total Benefits	$304,084	$14,655,398	$14,655,398	$14,872,433	$14,880,293
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$5,141,179	$5,141,179	$5,141,179	$5,141,179
Advertising & Promotion	N/A	$731,805	$731,805	$731,805	$731,805
Measurement & Verification	N/A	$61,789	$61,789	$61,789	$61,789
Rebates	N/A	$217,035	$217,035	$217,035	$217,035
Other	N/A	$316	$316	$316	$316
Subtotal	N/A	$6,152,125	$6,152,125	$6,152,125	$6,152,125
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$87,049	N/A	N/A
Subtotal	N/A	N/A	$87,049	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,410	N/A	N/A	$18,410	$18,410
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$18,410	N/A	N/A	$18,410	$18,410
Total Costs	$18,410	$6,152,125	$6,239,174	$6,170,535	$6,170,535
Net Benefit (Cost)	$285,674	$8,503,273	$8,416,223	$8,701,898	$8,709,758
Benefit/Cost Ratio	16.52	2.38	2.35	2.41	2.41

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.98%
Gross Load Factor at Customer	E	0.01%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$129.15

Program Summary per Participant		
Gross kW Saved at Customer	I	2.46 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.78 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	27,437
Total Budget	K	**$6,152,125**
Gross kW Saved at Customer	(J x I)	67,436 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**21,431 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	56,031 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**61,170 kWh**
Societal Net Benefits	(J x I x H)	**$8,709,758**
Utility Program Cost per kWh Lifetime		**$6.7847**
Utility Program Cost per kW at Gen		**$287**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$0
Incentive Costs =			$0
16) Total Utility Project Costs =			$0
17) Direct Participant Costs ($/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)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	$0	#DIV/0!
Utility Cost Test	$0	#DIV/0!
Societal Test	$0	#DIV/0!
Participant Test	$0	#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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$0
Incentive Costs =			$0
16) Total Utility Project Costs =			$0
17) Direct Participant Costs ($/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)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	$0	#DIV/0!
Utility Cost Test	$0	#DIV/0!
Societal Test	$0	#DIV/0!
Participant Test	$0	#DIV/0!

THERMOSTAT OPTIMIZATION — 2019 — ELECTRIC — GOAL

2019 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	$499,173	$499,173	$499,173	$499,173
T & D	N/A	$303,286	$303,286	$303,286	$303,286
Marginal Energy	N/A	$226,871	$226,871	$226,871	$226,871
Environmental Externality	N/A	N/A	N/A	N/A	$62,724
Subtotal	N/A	$1,029,330	$1,029,330	$1,029,330	$1,092,054
Participant Benefits					
Bill Reduction - Electric	$600,291	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$107,024	N/A	N/A	$107,024	$107,024
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$707,315	N/A	N/A	$107,024	$107,024
Total Benefits	$707,315	$1,029,330	$1,029,330	$1,136,354	$1,199,078
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$54,720	$54,720	$54,720	$54,720
Advertising & Promotion	N/A	$6,400	$6,400	$6,400	$6,400
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$107,024	$107,024	$107,024	$107,024
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$168,144	$168,144	$168,144	$168,144
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$600,291	N/A	N/A
Subtotal	N/A	N/A	$600,291	N/A	N/A
Participant Costs					
Incremental Capital Costs	$776,118	N/A	N/A	$296,525	$296,525
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$776,118	N/A	N/A	$296,525	$296,525
Total Costs	$776,118	$168,144	$768,435	$464,669	$464,669
Net Benefit (Cost)	($68,804)	$861,187	$260,896	$671,685	$734,409
Benefit/Cost Ratio	0.91	6.12	1.34	2.45	2.58

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.00%
Gross Load Factor at Customer	E	5.65%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$629.16

Program Summary per Participant		
Gross kW Saved at Customer	I	0.30 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.25 kW
Gross Annual kWh Saved at Customer	(B x E x I)	149 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	163 kWh

Program Summary All Participants		
Total Participants	J	3,881
Total Budget	K	**$168,144**
Gross kW Saved at Customer	(J x I)	1,167 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**973 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	578,053 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**631,062 kWh**
Societal Net Benefits	(J x I x H)	**$734,409**
Utility Program Cost per kWh Lifetime		**$0.0266**
Utility Program Cost per kW at Gen		**$173**

THERMOSTAT OPTIMIZATION — 2019 — ELECTRIC — ACTUAL

2019 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	$136,456	$136,456	$136,456	$136,456
T & D	N/A	$82,908	$82,908	$82,908	$82,908
Marginal Energy	N/A	$57,382	$57,382	$57,382	$57,382
Environmental Externality	N/A	N/A	N/A	N/A	$15,461
Subtotal	N/A	$276,746	$276,746	$276,746	$292,207
Participant Benefits					
Bill Reduction - Electric	$146,614	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$200,827	N/A	N/A	$200,827	$200,827
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$347,441	N/A	N/A	$200,827	$200,827
Total Benefits	$347,441	$276,746	$276,746	$477,573	$493,033
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$31,445	$31,445	$31,445	$31,445
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$200,827	$200,827	$200,827	$200,827
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$232,272	$232,272	$232,272	$232,272
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$146,614	N/A	N/A
Subtotal	N/A	N/A	$146,614	N/A	N/A
Participant Costs					
Incremental Capital Costs	$79,762	N/A	N/A	$79,762	$79,762
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$79,762	N/A	N/A	$79,762	$79,762
Total Costs	$79,762	$232,272	$378,886	$312,033	$312,033
Net Benefit (Cost)	$267,679	$44,474	($102,140)	$165,539	$181,000
Benefit/Cost Ratio	4.36	1.19	0.73	1.53	1.58

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.08%
Gross Load Factor at Customer	E	5.10%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$567.83

Program Summary per Participant		
Gross kW Saved at Customer	I	0.30 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.25 kW
Gross Annual kWh Saved at Customer	(B x E x I)	135 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	147 kWh

Program Summary All Participants		
Total Participants	J	1,057
Total Budget	K	**$232,272**
Gross kW Saved at Customer	(J x I)	319 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**266 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	142,484 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**155,550 kWh**
Societal Net Benefits	(J x I x H)	**$181,000**
Utility Program Cost per kWh Lifetime		**$0.1493**
Utility Program Cost per kW at Gen		**$873**

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

GOAL

Company: **Xcel Energy**
Project: **Thermostat Optimization**

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 =			$34,380
Incentive Costs =			$105,976
16) Total Utility Project Costs =			$140,356
17) Direct Participant Costs ($/Part.) =			$200
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 =			6.98
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			3,168
24) Total Annual Dth Saved =			22,126
25) Incentive/Participant =			$33.45

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$44	
Cost per Participant per Dth =		$34.98	
Lifetime Energy Reduction (Dth)		221,257	
Societal Cost per Dth		$2.07	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($434,862)	0.72
Utility Cost Test	$981,323	7.99
Societal Test	$986,515	3.15
Participant Test	$1,185,271	2.87

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

Company: **Xcel Energy**
Project: **Thermostat Optimization**

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 =			$10,032
Incentive Costs =			$85,713
16) Total Utility Project Costs =			$95,746
17) Direct Participant Costs ($/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 =			7.03
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 =			496
24) Total Annual Dth Saved =			3,486
25) Incentive/Participant =			$172.81

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$193	
Cost per Participant per Dth =		$27.47	
Lifetime Energy Reduction (Dth)		34,860	
Societal Cost per Dth		$0.29	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($142,146)	0.55
Utility Cost Test	$80,980	1.85
Societal Test	$217,605	22.69
Participant Test	$308,839	#DIV/0!

LOW INCOME SEGMENT TOTAL — 2019 ELECTRIC — GOAL

2019 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	$175,589	$175,589	$175,589	$175,589
T & D	N/A	$106,820	$106,820	$106,820	$106,820
Marginal Energy	N/A	$778,331	$778,331	$778,331	$778,331
Environmental Externality	N/A	N/A	N/A	N/A	$283,228
Subtotal	N/A	$1,060,740	$1,060,740	$1,060,740	$1,343,968
Participant Benefits					
Bill Reduction - Electric	$2,954,642	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,419,785	N/A	N/A	$1,419,785	$1,419,785
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$4,374,427	N/A	N/A	$1,419,785	$1,419,785
Total Benefits	$4,374,427	$1,060,740	$1,060,740	$2,480,525	$2,763,753
Costs					
Utility Project Costs					
Customer Services	N/A	$458,914	$458,914	$458,914	$458,914
Project Administration	N/A	$443,680	$443,680	$443,680	$443,680
Advertising & Promotion	N/A	$150,051	$150,051	$150,051	$150,051
Measurement & Verification	N/A	$17,914	$17,914	$17,914	$17,914
Rebates	N/A	$1,419,785	$1,419,785	$1,419,785	$1,419,785
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,490,344	$2,490,344	$2,490,344	$2,490,344
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,954,642	N/A	N/A
Subtotal	N/A	N/A	$2,954,642	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,463,100	N/A	N/A	$1,449,879	$1,449,879
Incremental O&M Costs	$22,761	N/A	N/A	$22,761	$22,761
Subtotal	$1,485,861	N/A	N/A	$1,472,641	$1,472,641
Total Costs	$1,485,861	$2,490,344	$5,444,986	$3,962,985	$3,962,985
Net Benefit (Cost)	$2,888,566	($1,429,604)	($4,384,246)	($1,482,459)	($1,199,231)
Benefit/Cost Ratio	2.94	0.43	0.19	0.63	0.70

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	15.44%
Gross Load Factor at Customer	E	15.44%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($543.17)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.38 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)	516 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	564 kWh

Program Summary All Participants		
Total Participants	J	5,783
Total Budget	K	**$2,490,344**
Gross kW Saved at Customer	(J x I)	2,208 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**374 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,985,419 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,259,191 kWh**
Societal Net Benefits	(J x I x H)	**($1,199,231)**
Utility Program Cost per kWh Lifetime		**$0.0750**
Utility Program Cost per kW at Gen		**$6,662**

LOW INCOME SEGMENT TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$151,828	$151,828	$151,828	$151,828
T & D	N/A	$92,326	$92,326	$92,326	$92,326
Marginal Energy	N/A	$542,785	$542,785	$542,785	$542,785
Environmental Externality	N/A	N/A	N/A	N/A	$196,290
Subtotal	N/A	$786,938	$786,938	$786,938	$983,228
Participant Benefits					
Bill Reduction - Electric	$2,017,720	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$854,825	N/A	N/A	$854,825	$854,825
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$2,872,545	N/A	N/A	$854,825	$854,825
Total Benefits	$2,872,545	$786,938	$786,938	$1,641,764	$1,838,053
Costs					
Utility Project Costs					
Customer Services	N/A	$1,187,517	$1,187,517	$1,187,517	$1,187,517
Project Administration	N/A	$307,964	$307,964	$307,964	$307,964
Advertising & Promotion	N/A	$127,500	$127,500	$127,500	$127,500
Measurement & Verification	N/A	$8,800	$8,800	$8,800	$8,800
Rebates	N/A	$854,825	$854,825	$854,825	$854,825
Other	N/A	$383	$383	$383	$383
Subtotal	N/A	$2,486,988	$2,486,988	$2,486,988	$2,486,988
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,017,720	N/A	N/A
Subtotal	N/A	N/A	$2,017,720	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,841,269	N/A	N/A	$1,841,269	$1,841,269
Incremental O&M Costs	$1,417	N/A	N/A	$1,417	$1,417
Subtotal	$1,842,686	N/A	N/A	$1,842,686	$1,842,686
Total Costs	$1,842,686	$2,486,988	$4,504,708	$4,329,675	$4,329,675
Net Benefit (Cost)	$1,029,859	($1,700,050)	($3,717,770)	($2,687,911)	($2,491,621)
Benefit/Cost Ratio	1.56	0.32	0.17	0.38	0.42

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	8.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	17.05%
Gross Load Factor at Customer	E	13.74%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($1,371.11)

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)	512 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	559 kWh

Program Summary All Participants		
Total Participants	J	4,269
Total Budget	K	**$2,486,988**
Gross kW Saved at Customer	(J x I)	1,817 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**340 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,187,203 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,387,776 kWh**
Societal Net Benefits	(J x I x H)	**($2,491,621)**
Utility Program Cost per kWh Lifetime		**$0.1179**
Utility Program Cost per kW at Gen		**$7,321**

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 =			$609,590
Incentive Costs =			$1,291,728
16) Total Utility Project Costs =			$1,901,318
17) Direct Participant Costs ($/Part.) =			$629
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$21
Escalation Rate =			1.73%
20) Project Life (Years) =			11.9
21) Avg. Dth/Part. Saved =			7.16
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			2,054
24) Total Annual Dth Saved =			14,697
25) Incentive/Participant =			$628.95

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$926	
Cost per Participant per Dth =		$217.26	
Lifetime Energy Reduction (Dth)		174,273	
Societal Cost per Dth		$10.80	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,805,060)	0.32
Utility Cost Test	($733,904)	0.54
Societal Test	($311,083)	0.83
Participant Test	$1,470,175	2.14

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 =			$418,368
Incentive Costs =			$1,129,985
16) Total Utility Project Costs =			$1,548,353
17) Direct Participant Costs ($/Part.) =			$1,407
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$15
Escalation Rate =			1.73%
20) Project Life (Years) =			14.0
21) Avg. Dth/Part. Saved =			10.96
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 =			759
24) Total Annual Dth Saved =			8,319
25) Incentive/Participant =			$1,488.78

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2,040	
Cost per Participant per Dth =		$314.46	
Lifetime Energy Reduction (Dth)		98,644	
Societal Cost per Dth		$15.06	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,692,702)	0.25
Utility Cost Test	($998,574)	0.36
Societal Test	($609,693)	0.59
Participant Test	$841,935	1.79

HOME ENERGY SAVINGS PROGRAM — 2019 — ELECTRIC — GOAL

2019 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	$72,935	$72,935	$72,935	$72,935
T & D	N/A	$44,446	$44,446	$44,446	$44,446
Marginal Energy	N/A	$280,147	$280,147	$280,147	$280,147
Environmental Externality	N/A	N/A	N/A	N/A	$105,791
Subtotal	N/A	$397,528	$397,528	$397,528	$503,319
Participant Benefits					
Bill Reduction - Electric	$1,162,180	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$815,697	N/A	N/A	$815,697	$815,697
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,977,877	N/A	N/A	$815,697	$815,697
Total Benefits	$1,977,877	$397,528	$397,528	$1,213,225	$1,319,016
Costs					
Utility Project Costs					
Customer Services	N/A	$161,600	$161,600	$161,600	$161,600
Project Administration	N/A	$215,439	$215,439	$215,439	$215,439
Advertising & Promotion	N/A	$146,614	$146,614	$146,614	$146,614
Measurement & Verification	N/A	$9,801	$9,801	$9,801	$9,801
Rebates	N/A	$815,697	$815,697	$815,697	$815,697
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,349,151	$1,349,151	$1,349,151	$1,349,151
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,162,180	N/A	N/A
Subtotal	N/A	N/A	$1,162,180	N/A	N/A
Participant Costs					
Incremental Capital Costs	$859,011	N/A	N/A	$845,791	$845,791
Incremental O&M Costs	$22,761	N/A	N/A	$22,761	$22,761
Subtotal	$881,772	N/A	N/A	$868,552	$868,552
Total Costs	$881,772	$1,349,151	$2,511,331	$2,217,703	$2,217,703
Net Benefit (Cost)	$1,096,104	($951,623)	($2,113,803)	($1,004,478)	($898,687)
Benefit/Cost Ratio	2.24	0.29	0.16	0.55	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	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	31.86%
Gross Load Factor at Customer	E	28.77%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($2,729.38)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.16 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	392 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	428 kWh

Program Summary All Participants		
Total Participants	J	2,117
Total Budget	K	**$1,349,151**
Gross kW Saved at Customer	(J x I)	329 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**115 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	829,685 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**905,770 kWh**
Societal Net Benefits	(J x I x H)	**($898,687)**
Utility Program Cost per kWh Lifetime		**$0.0905**
Utility Program Cost per kW at Gen		**$11,731**

HOME ENERGY SAVINGS PROGRAM — 2019 — ELECTRIC — ACTUAL

2019 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	$81,500	$81,500	$81,500	$81,500
T & D	N/A	$49,612	$49,612	$49,612	$49,612
Marginal Energy	N/A	$277,387	$277,387	$277,387	$277,387
Environmental Externality	N/A	N/A	N/A	N/A	$102,536
Subtotal	N/A	$408,499	$408,499	$408,499	$511,035
Participant Benefits					
Bill Reduction - Electric	$1,076,405	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$854,825	N/A	N/A	$854,825	$854,825
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,931,230	N/A	N/A	$854,825	$854,825
Total Benefits	$1,931,230	$408,499	$408,499	$1,263,324	$1,365,860
Costs					
Utility Project Costs					
Customer Services	N/A	$16,411	$16,411	$16,411	$16,411
Project Administration	N/A	$184,356	$184,356	$184,356	$184,356
Advertising & Promotion	N/A	$127,500	$127,500	$127,500	$127,500
Measurement & Verification	N/A	$8,800	$8,800	$8,800	$8,800
Rebates	N/A	$854,825	$854,825	$854,825	$854,825
Other	N/A	$383	$383	$383	$383
Subtotal	N/A	$1,192,275	$1,192,275	$1,192,275	$1,192,275
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,076,405	N/A	N/A
Subtotal	N/A	N/A	$1,076,405	N/A	N/A
Participant Costs					
Incremental Capital Costs	$767,169	N/A	N/A	$767,169	$767,169
Incremental O&M Costs	$32,086	N/A	N/A	$32,086	$32,086
Subtotal	$799,255	N/A	N/A	$799,255	$799,255
Total Costs	$799,255	$1,192,275	$2,268,680	$1,991,530	$1,991,530
Net Benefit (Cost)	$1,131,975	($783,776)	($1,860,181)	($728,206)	($625,670)
Benefit/Cost Ratio	2.42	0.34	0.18	0.63	0.69

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	18.21%
Gross Load Factor at Customer	E	14.52%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($780.52)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.42 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)	536 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	585 kWh

Program Summary All Participants		
Total Participants	J	1,902
Total Budget	K	**$1,192,275**
Gross kW Saved at Customer	(J x I)	802 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**160 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,019,688 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,113,197 kWh**
Societal Net Benefits	(J x I x H)	**($625,670)**
Utility Program Cost per kWh Lifetime		**$0.1034**
Utility Program Cost per kW at Gen		**$7,450**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$196,613
Incentive Costs =			$1,291,728
16) Total Utility Project Costs =			$1,488,341
17) Direct Participant Costs ($/Part.) =			$2,333
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) =			16.1
21) Avg. Dth/Part. Saved =			8.88
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 =			554
24) Total Annual Dth Saved =			4,919
25) Incentive/Participant =			$2,332.50

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2,688	
Cost per Participant per Dth =		$565.12	
Lifetime Energy Reduction (Dth)		79,309	
Societal Cost per Dth		$18.52	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,265,181)	0.22
Utility Cost Test	($804,258)	0.31
Societal Test	($924,846)	0.37
Participant Test	$328,707	1.25

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$257,379
Incentive Costs =			$1,129,985
16) Total Utility Project Costs =			$1,387,364
17) Direct Participant Costs ($/Part.) =			$3,007
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 =			16.66
22) Avg Non-Gas Fuel Units/Part. Saved =			0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =			0 kWh
23) Number of Participants =			355
24) Total Annual Dth Saved =			5,915
25) Incentive/Participant =			$3,183.06

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$3,908	
Cost per Participant per Dth =		$415.03	
Lifetime Energy Reduction (Dth)		95,361	
Societal Cost per Dth		$13.89	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,500,514)	0.22
Utility Cost Test	($956,413)	0.31
Societal Test	($686,283)	0.48
Participant Test	$606,498	1.57

LI HOME ENERGY SQUAD — 2019 ELECTRIC — GOAL

2019 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	$44,090	$44,090	$44,090	$44,090
T & D	N/A	$26,718	$26,718	$26,718	$26,718
Marginal Energy	N/A	$235,964	$235,964	$235,964	$235,964
Environmental Externality	N/A	N/A	N/A	N/A	$80,595
Subtotal	N/A	$306,773	$306,773	$306,773	$387,367
Participant Benefits					
Bill Reduction - Electric	$768,981	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	$768,981	N/A	N/A	$0	$0
Total Benefits	$768,981	$306,773	$306,773	$306,773	$387,367
Costs					
Utility Project Costs					
Customer Services	N/A	$247,314	$247,314	$247,314	$247,314
Project Administration	N/A	$77,361	$77,361	$77,361	$77,361
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	$327,675	$327,675	$327,675	$327,675
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$768,981	N/A	N/A
Subtotal	N/A	N/A	$768,981	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	$327,675	$1,096,656	$327,675	$327,675
Net Benefit (Cost)	$768,981	($20,902)	($789,884)	($20,902)	$59,692
Benefit/Cost Ratio	INF	0.94	0.28	0.94	1.18

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	5.3 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	$45.75

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	**$327,675**
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)	**$59,692**

Utility Program Cost per kWh Lifetime	**$0.0452**
Utility Program Cost per kW at Gen	**$2,154**

LI HOME ENERGY SQUAD — 2019 ELECTRIC — ACTUAL

2019 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	$30,218	$30,218	$30,218	$30,218
T & D	N/A	$18,312	$18,312	$18,312	$18,312
Marginal Energy	N/A	$143,996	$143,996	$143,996	$143,996
Environmental Externality	N/A	N/A	N/A	N/A	$49,183
Subtotal	N/A	$192,526	$192,526	$192,526	$241,709
Participant Benefits					
Bill Reduction - Electric	$469,267	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	$30,669	N/A	N/A	$30,669	$30,669
Subtotal	$499,936	N/A	N/A	$30,669	$30,669
Total Benefits	$499,936	$192,526	$192,526	$223,195	$272,378
Costs					
Utility Project Costs					
Customer Services	N/A	$97,006	$97,006	$97,006	$97,006
Project Administration	N/A	$56,241	$56,241	$56,241	$56,241
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	$153,247	$153,247	$153,247	$153,247
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$469,267	N/A	N/A
Subtotal	N/A	N/A	$469,267	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	$153,247	$622,513	$153,247	$153,247
Net Benefit (Cost)	$499,936	$39,280	($429,987)	$69,949	$119,131
Benefit/Cost Ratio	INF	1.26	0.31	1.46	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	5.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.64%
Gross Load Factor at Customer	E	11.66%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$158.35

Program Summary per Participant		
Gross kW Saved at Customer	I	0.80 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)	814 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	889 kWh

Program Summary All Participants		
Total Participants	J	944
Total Budget	K	**$153,247**
Gross kW Saved at Customer	(J x I)	752 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**104 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	768,571 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**839,051 kWh**
Societal Net Benefits	(J x I x H)	**$119,131**
Utility Program Cost per kWh Lifetime		**$0.0347**
Utility Program Cost per kW at Gen		**$1,470**

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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$412,977
Incentive Costs =			$0
16) Total Utility Project Costs =			$412,977
17) Direct Participant Costs ($/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 =		$275	
Cost per Participant per Dth =		$42.24	
Lifetime Energy Reduction (Dth)		94,964	
Societal Cost per Dth		$4.35	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($539,879)	0.47
Utility Cost Test	$70,354	1.17
Societal Test	$613,763	2.49
Participant Test	$1,141,467	#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) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/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 =			$160,989
Incentive Costs =			$0
16) Total Utility Project Costs =			$160,989
17) Direct Participant Costs ($/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 =			5.95
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 =			404
24) Total Annual Dth Saved =			2,404
25) Incentive/Participant =			$0.00

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$398	
Cost per Participant per Dth =		$66.97	
Lifetime Energy Reduction (Dth)		23,347	
Societal Cost per Dth		$6.90	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($192,188)	0.38
Utility Cost Test	($42,161)	0.74
Societal Test	$76,589	1.48
Participant Test	$235,437	#DIV/0!

MULTI-FAMILY ENERGY SAVINGS PROGRAM — 2019 ELECTRIC — GOAL

2019 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	$58,564	$58,564	$58,564	$58,564
T & D	N/A	$35,656	$35,656	$35,656	$35,656
Marginal Energy	N/A	$262,220	$262,220	$262,220	$262,220
Environmental Externality	N/A	N/A	N/A	N/A	$96,842
Subtotal	N/A	$356,440	$356,440	$356,440	$453,282
Participant Benefits					
Bill Reduction - Electric	$1,023,481	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$604,088	N/A	N/A	$604,088	$604,088
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,627,569	N/A	N/A	$604,088	$604,088
Total Benefits	$1,627,569	$356,440	$356,440	$960,528	$1,057,370
Costs					
Utility Project Costs					
Customer Services	N/A	$50,000	$50,000	$50,000	$50,000
Project Administration	N/A	$150,880	$150,880	$150,880	$150,880
Advertising & Promotion	N/A	$437	$437	$437	$437
Measurement & Verification	N/A	$8,113	$8,113	$8,113	$8,113
Rebates	N/A	$604,088	$604,088	$604,088	$604,088
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$813,518	$813,518	$813,518	$813,518
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,023,481	N/A	N/A
Subtotal	N/A	N/A	$1,023,481	N/A	N/A
Participant Costs					
Incremental Capital Costs	$604,088	N/A	N/A	$604,088	$604,088
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$604,088	N/A	N/A	$604,088	$604,088
Total Costs	$604,088	$813,518	$1,836,999	$1,417,606	$1,417,606
Net Benefit (Cost)	$1,023,481	($457,078)	($1,480,560)	($457,079)	($360,237)
Benefit/Cost Ratio	2.69	0.44	0.19	0.68	0.75

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.95%
Gross Load Factor at Customer	E	17.83%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($627.66)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.32 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	508 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	554 kWh

Program Summary All Participants		
Total Participants	J	1,766
Total Budget	K	**$813,518**
Gross kW Saved at Customer	(J x I)	574 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	896,287 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**978,479 kWh**
Societal Net Benefits	(J x I x H)	**($360,237)**
Utility Program Cost per kWh Lifetime		**$0.0734**
Utility Program Cost per kW at Gen		**$7,626**

MULTI-FAMILY ENERGY SAVINGS PROGRAM — 2019 — ELECTRIC — ACTUAL

2019 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	$40,110	$40,110	$40,110	$40,110
T & D	N/A	$24,402	$24,402	$24,402	$24,402
Marginal Energy	N/A	$121,402	$121,402	$121,402	$121,402
Environmental Externality	N/A	N/A	N/A	N/A	$44,571
Subtotal	N/A	$185,913	$185,913	$185,913	$230,484
Participant Benefits					
Bill Reduction - Electric	$472,048	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	$472,048	N/A	N/A	($0)	($0)
Total Benefits	$472,048	$185,913	$185,913	$185,913	$230,484
Costs					
Utility Project Costs					
Customer Services	N/A	$1,074,100	$1,074,100	$1,074,100	$1,074,100
Project Administration	N/A	$67,367	$67,367	$67,367	$67,367
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	$1,141,467	$1,141,467	$1,141,467	$1,141,467
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$472,048	N/A	N/A
Subtotal	N/A	N/A	$472,048	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,074,100	N/A	N/A	$1,074,100	$1,074,100
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,074,100	N/A	N/A	$1,074,100	$1,074,100
Total Costs	$1,074,100	$1,141,467	$1,613,515	$2,215,567	$2,215,567
Net Benefit (Cost)	($602,052)	($955,554)	($1,427,602)	($2,029,653)	($1,985,083)
Benefit/Cost Ratio	0.44	0.16	0.12	0.08	0.10

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	26.12%
Gross Load Factor at Customer	E	17.30%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($7,539.24)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	280 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	306 kWh

Program Summary All Participants		
Total Participants	J	1,423
Total Budget	K	**$1,141,467**
Gross kW Saved at Customer	(J x I)	263 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**75 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	398,944 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**435,528 kWh**
Societal Net Benefits	(J x I x H)	**($1,985,083)**
Utility Program Cost per kWh Lifetime		**$0.2223**
Utility Program Cost per kW at Gen		**$15,135**

RESEARCH, EVAL. & PILOTS SEGMENT TOTAL — 2019 ELECTRIC — GOAL

2019 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	$758,838	$758,838	$758,838	$758,838
T & D	N/A	$460,971	$460,971	$460,971	$460,971
Marginal Energy	N/A	$1,762,226	$1,762,226	$1,762,226	$1,762,226
Environmental Externality	N/A	N/A	N/A	N/A	$629,338
Subtotal	N/A	$2,982,035	$2,982,035	$2,982,035	$3,611,374
Participant Benefits					
Bill Reduction - Electric	$5,568,549	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$671,902	N/A	N/A	$671,902	$671,902
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$3,424,108	N/A	N/A	$0	$0
Subtotal	$9,664,559	N/A	N/A	$671,902	$671,902
Total Benefits	$9,664,559	$2,982,035	$2,982,035	$3,653,937	$4,283,276
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,639,495	$2,639,495	$2,639,495	$2,639,495
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	$671,902	$671,902	$671,902	$671,902
Other	N/A	$418,522	$418,522	$418,522	$418,522
Subtotal	N/A	$3,762,405	$3,762,405	$3,762,405	$3,762,405
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,568,549	N/A	N/A
Subtotal	N/A	N/A	$5,568,549	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,067,914	N/A	N/A	$2,047,909	$2,047,909
Incremental O&M Costs	$0	N/A	N/A	$24,939	$24,939
Subtotal	$2,067,914	N/A	N/A	$2,072,848	$2,072,848
Total Costs	$2,067,914	$3,762,405	$9,330,954	$5,835,253	$5,835,253
Net Benefit (Cost)	$7,596,644	($780,370)	($6,348,919)	($2,181,316)	($1,551,977)
Benefit/Cost Ratio	4.67	0.79	0.32	0.63	0.73

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	8.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	17.23%
Gross Load Factor at Customer	E	8.93%
Transmission Loss Factor (Energy)	F	7.660%
Transmission Loss Factor (Demand)	G	8.711%
Societal Net Benefit (Cost)	H	($183.94)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.22 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x I)	170 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	184 kWh

Program Summary All Participants		
Total Participants	J	38,906
Total Budget	K	**$3,762,405**
Gross kW Saved at Customer	(J x I)	8,437 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,592 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,597,864 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,145,162 kWh**
Societal Net Benefits	(J x I x H)	**($1,551,977)**
Utility Program Cost per kWh Lifetime		**$0.0593**
Utility Program Cost per kW at Gen		**$2,363**

RESEARCH, EVAL. & PILOTS SEGMENT TOTAL — 2019 ELECTRIC — ACTUAL

2019 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	$168,874	$168,874	$168,874	$168,874
T & D	N/A	$102,541	$102,541	$102,541	$102,541
Marginal Energy	N/A	$198,995	$198,995	$198,995	$198,995
Environmental Externality	N/A	N/A	N/A	N/A	$64,628
Subtotal	N/A	$470,411	$470,411	$470,411	$535,039
Participant Benefits					
Bill Reduction - Electric	$554,580	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$596,303	N/A	N/A	$596,303	$596,303
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,150,884	N/A	N/A	$596,303	$596,303
Total Benefits	$1,150,884	$470,411	$470,411	$1,066,714	$1,131,342
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,231,950	$2,231,950	$2,231,950	$2,231,950
Advertising & Promotion	N/A	$14,702	$14,702	$14,702	$14,702
Measurement & Verification	N/A	$489,010	$489,010	$489,010	$489,010
Rebates	N/A	$596,303	$596,303	$596,303	$596,303
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$3,331,966	$3,331,966	$3,331,966	$3,331,966
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$554,580	N/A	N/A
Subtotal	N/A	N/A	$554,580	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,092,565	N/A	N/A	$1,092,565	$1,092,565
Incremental O&M Costs	$523	N/A	N/A	$523	$523
Subtotal	$1,093,088	N/A	N/A	$1,093,088	$1,093,088
Total Costs	$1,093,088	$3,331,966	$3,886,546	$4,425,053	$4,425,053
Net Benefit (Cost)	$57,796	($2,861,555)	($3,416,135)	($3,358,339)	($3,293,711)
Benefit/Cost Ratio	1.05	0.14	0.12	0.24	0.26

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	8.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	9.74%
Gross Load Factor at Customer	E	6.51%
Transmission Loss Factor (Energy)	F	7.795%
Transmission Loss Factor (Demand)	G	8.762%
Societal Net Benefit (Cost)	H	($530.16)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.34 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)	192 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	208 kWh

Program Summary All Participants		
Total Participants	J	18,449
Total Budget	K	**$3,331,966**
Gross kW Saved at Customer	(J x I)	6,213 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**663 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,543,652 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,843,229 kWh**
Societal Net Benefits	(J x I x H)	**($3,293,711)**
Utility Program Cost per kWh Lifetime		**$0.1062**
Utility Program Cost per kW at Gen		**$5,025**

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

Company: **Xcel Energy**
Project: **Research, Eval. & Pilots 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 =			$566,169
Incentive Costs =			$34,389
16) Total Utility Project Costs =			$600,558
17) Direct Participant Costs ($/Part.) =			$111
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$131
Escalation Rate =			1.73%
20) Project Life (Years) =			7.0
21) Avg. Dth/Part. Saved =			8.73
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 =			554
24) Total Annual Dth Saved =			4,839
25) Incentive/Participant =			$62.07

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,084	
Cost per Participant per Dth =		$136.82	
Lifetime Energy Reduction (Dth)		33,759	
Societal Cost per Dth		$18.38	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($643,500)	0.20
Utility Cost Test	($437,007)	0.27
Societal Test	$96,326	1.16
Participant Test	$1,983,561	28.74

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

Company: **Xcel Energy**
Project: **Research, Eval. & Pilots 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 =			$158,171
Incentive Costs =			$128
16) Total Utility Project Costs =			$158,299
17) Direct Participant Costs ($/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)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($158,299)	-
Utility Cost Test	($158,299)	-
Societal Test	($158,171)	-
Participant Test	$128	#DIV/0!

ENERGY STAR RETAIL PRODUCTS — 2019 ELECTRIC — GOAL

2019 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	$685,210	$685,210	$685,210	$685,210
T & D	N/A	$416,313	$416,313	$416,313	$416,313
Marginal Energy	N/A	$1,316,465	$1,316,465	$1,316,465	$1,316,465
Environmental Externality	N/A	N/A	N/A	N/A	$456,834
Subtotal	N/A	$2,417,989	$2,417,989	$2,417,989	$2,874,823
Participant Benefits					
Bill Reduction - Electric	$4,669,966	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$554,132	N/A	N/A	$554,132	$554,132
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,224,098	N/A	N/A	$554,132	$554,132
Total Benefits	$5,224,098	$2,417,989	$2,417,989	$2,972,121	$3,428,955
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$131,605	$131,605	$131,605	$131,605
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	$554,132	$554,132	$554,132	$554,132
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$718,223	$718,223	$718,223	$718,223
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,669,966	N/A	N/A
Subtotal	N/A	N/A	$4,669,966	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,863,224	N/A	N/A	$1,863,224	$1,863,224
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,863,224	N/A	N/A	$1,863,224	$1,863,224
Total Costs	$1,863,224	$718,223	$5,388,190	$2,581,447	$2,581,447
Net Benefit (Cost)	$3,360,874	$1,699,765	($2,970,201)	$390,673	$847,508
Benefit/Cost Ratio	2.80	3.37	0.45	1.15	1.33

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	11.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	15.48%
Gross Load Factor at Customer	E	5.49%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$105.75

Program Summary per Participant		
Gross kW Saved at Customer	I	0.21 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	99 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	108 kWh

Program Summary All Participants		
Total Participants	J	38,861
Total Budget	K	**$718,223**
Gross kW Saved at Customer	(J x I)	8,014 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,360 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,853,162 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,206,508 kWh**
Societal Net Benefits	(J x I x H)	**$847,508**
Utility Program Cost per kWh Lifetime		**$0.0150**
Utility Program Cost per kW at Gen		**$528**

ENERGY STAR RETAIL PRODUCTS — 2019 — ELECTRIC — ACTUAL

2019 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	$162,308	$162,308	$162,308	$162,308
T & D	N/A	$98,568	$98,568	$98,568	$98,568
Marginal Energy	N/A	$153,117	$153,117	$153,117	$153,117
Environmental Externality	N/A	N/A	N/A	N/A	$47,852
Subtotal	N/A	$413,994	$413,994	$413,994	$461,846
Participant Benefits					
Bill Reduction - Electric	$467,726	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$505,016	N/A	N/A	$505,016	$505,016
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$972,742	N/A	N/A	$505,016	$505,016
Total Benefits	$972,742	$413,994	$413,994	$919,010	$966,862
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$107,350	$107,350	$107,350	$107,350
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$505,016	$505,016	$505,016	$505,016
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$612,366	$612,366	$612,366	$612,366
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$467,726	N/A	N/A
Subtotal	N/A	N/A	$467,726	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,017,789	N/A	N/A	$1,017,789	$1,017,789
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,017,789	N/A	N/A	$1,017,789	$1,017,789
Total Costs	$1,017,789	$612,366	$1,080,091	$1,630,155	$1,630,155
Net Benefit (Cost)	($45,047)	($198,372)	($666,098)	($711,145)	($663,293)
Benefit/Cost Ratio	0.96	0.68	0.38	0.56	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	11.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	8.32%
Gross Load Factor at Customer	E	4.39%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($109.11)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.33 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	127 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	138 kWh

Program Summary All Participants		
Total Participants	J	18,444
Total Budget	K	**$612,366**
Gross kW Saved at Customer	(J x I)	6,079 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**554 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,337,020 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,551,332 kWh**
Societal Net Benefits	(J x I x H)	**($663,293)**
Utility Program Cost per kWh Lifetime		**$0.0212**
Utility Program Cost per kW at Gen		**$1,105**

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 =			$911
Incentive Costs =			$3,414
16) Total Utility Project Costs =			$4,325
17) Direct Participant Costs ($/Part.) =			$34
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 =			541
24) Total Annual Dth Saved =			271
25) Incentive/Participant =			$6.31

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$8	
Cost per Participant per Dth =		$84.03	
Lifetime Energy Reduction (Dth)		3,252	
Societal Cost per Dth		$5.95	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($4,912)	0.31
Utility Cost Test	($2,091)	0.52
Societal Test	($16,361)	0.15
Participant Test	($11,475)	0.38

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 =			($876)
Incentive Costs =			$128
16) Total Utility Project Costs =			($748)
17) Direct Participant Costs ($/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)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	$748	-
Utility Cost Test	$748	-
Societal Test	$876	-
Participant Test	$128	#DIV/0!

ENERGY INFORMATION SYSTEMS — 2019 ELECTRIC — GOAL

2019 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	$73,628	$73,628	$73,628	$73,628
T & D	N/A	$44,658	$44,658	$44,658	$44,658
Marginal Energy	N/A	$445,761	$445,761	$445,761	$445,761
Environmental Externality	N/A	N/A	N/A	N/A	$172,504
Subtotal	N/A	$564,047	$564,047	$564,047	$736,551
Participant Benefits					
Bill Reduction - Electric	$898,583	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$117,770	N/A	N/A	$117,770	$117,770
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$3,424,108	N/A	N/A	$0	$0
Subtotal	$4,440,460	N/A	N/A	$117,770	$117,770
Total Benefits	$4,440,460	$564,047	$564,047	$681,817	$854,321
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$192,250	$192,250	$192,250	$192,250
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$117,770	$117,770	$117,770	$117,770
Other	N/A	$16,560	$16,560	$16,560	$16,560
Subtotal	N/A	$326,580	$326,580	$326,580	$326,580
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$898,583	N/A	N/A
Subtotal	N/A	N/A	$898,583	N/A	N/A
Participant Costs					
Incremental Capital Costs	$204,691	N/A	N/A	$184,685	$184,685
Incremental O&M Costs	$0	N/A	N/A	$24,939	$24,939
Subtotal	$204,691	N/A	N/A	$209,624	$209,624
Total Costs	$204,691	$326,580	$1,225,163	$536,204	$536,204
Net Benefit (Cost)	$4,235,770	$237,467	($661,116)	$145,613	$318,117
Benefit/Cost Ratio	21.69	1.73	0.46	1.27	1.59

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

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.08%
Gross Load Factor at Customer	E	74.12%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$752.54

Program Summary per Participant		
Gross kW Saved at Customer	I	9.39 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.16 kW
Gross Annual kWh Saved at Customer	(B x E x I)	60,993 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	65,303 kWh

Program Summary All Participants		
Total Participants	J	45
Total Budget	K	**$326,580**
Gross kW Saved at Customer	(J x I)	423 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**232 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,744,702 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,938,653 kWh**
Societal Net Benefits	(J x I x H)	**$318,117**
Utility Program Cost per kWh Lifetime		**$0.0209**
Utility Program Cost per kW at Gen		**$1,407**

ENERGY INFORMATION SYSTEMS | **2019** | **ELECTRIC** | **ACTUAL**

2019 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	$6,566	$6,566	$6,566	$6,566
T & D	N/A	$3,973	$3,973	$3,973	$3,973
Marginal Energy	N/A	$45,878	$45,878	$45,878	$45,878
Environmental Externality	N/A	N/A	N/A	N/A	$16,776
Subtotal	N/A	$56,417	$56,417	$56,417	$73,193
Participant Benefits					
Bill Reduction - Electric	$86,854	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$84,037	N/A	N/A	$84,037	$84,037
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$170,892	N/A	N/A	$84,037	$84,037
Total Benefits	$170,892	$56,417	$56,417	$140,455	$157,231
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$293,378	$293,378	$293,378	$293,378
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$84,037	$84,037	$84,037	$84,037
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$377,416	$377,416	$377,416	$377,416
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$86,854	N/A	N/A
Subtotal	N/A	N/A	$86,854	N/A	N/A
Participant Costs					
Incremental Capital Costs	$74,776	N/A	N/A	$74,776	$74,776
Incremental O&M Costs	$523	N/A	N/A	$523	$523
Subtotal	$75,298	N/A	N/A	$75,298	$75,298
Total Costs	$75,298	$377,416	$464,270	$452,714	$452,714
Net Benefit (Cost)	$95,593	($320,998)	($407,853)	($312,259)	($295,483)
Benefit/Cost Ratio	2.27	0.15	0.12	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	1.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	75.86%
Gross Load Factor at Customer	E	103.23%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	($2,214.47)

Program Summary per Participant		
Gross kW Saved at Customer	I	26.69 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	21.77 kW
Gross Annual kWh Saved at Customer	(B x E x I)	241,326 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	258,379 kWh

Program Summary All Participants		
Total Participants	J	5
Total Budget	K	**$377,416**
Gross kW Saved at Customer	(J x I)	133 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**109 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,206,632 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,291,897 kWh**
Societal Net Benefits	(J x I x H)	**($295,483)**
Utility Program Cost per kWh Lifetime		**$0.1518**
Utility Program Cost per kW at Gen		**$3,468**

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 =			$86,600
Incentive Costs =			$30,975
16) Total Utility Project Costs =			$117,575
17) Direct Participant Costs ($/Part.) =			$3,312
18) Participant Non-Energy Costs (Annual $/Part.) =			$0
Escalation Rate =			1.73%
19) Participant Non-Energy Savings (Annual $/Part) =			$5,593
Escalation Rate =			1.73%
20) Project Life (Years) =			6.7
21) Avg. Dth/Part. Saved =			351.38
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 =			13
24) Total Annual Dth Saved =			4,568
25) Incentive/Participant =			$2,382.69

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$9,044	
Cost per Participant per Dth =		$35.16	
Lifetime Energy Reduction (Dth)		30,507	
Societal Cost per Dth		$4.02	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($159,930)	0.50
Utility Cost Test	$43,742	1.37
Societal Test	$591,344	5.83
Participant Test	$1,995,036	38.60

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 =			$23,359
Incentive Costs =			$0
16) Total Utility Project Costs =			$23,359
17) Direct Participant Costs ($/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)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($23,359)	-
Utility Cost Test	($23,359)	-
Societal Test	($23,359)	-
Participant Test	$0	#DIV/0!

➢ One-Stop Efficiency Shop Program — Actual for 2019

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	$ 8,559,623	$ 8,559,623	$ 8,559,623	$ 8,559,623
T & D	N/A	$ 5,216,584	$ 5,216,584	$ 5,216,584	$ 5,216,584
Marginal Energy	N/A	$ 24,993,311	$ 24,993,311	$ 24,993,311	$ 24,993,311
Environmental Externality	N/A	N/A	N/A	N/A	$ 8,820,868
Subtotal	N/A	$ 38,769,519	$ 38,769,519	$ 38,769,519	$ 47,590,387
Participant Benefits					
Bill Reduction - Electric	$ 61,754,165	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$ 7,034,542	N/A	N/A	$ 7,034,542	$ 7,034,542
Incremental Capital Savings	$ -	N/A	N/A	$ -	$ -
Incremental O&M Savings	$ -	N/A	N/A	$ -	$ -
Subtotal	$ 68,788,707	N/A	N/A	$ 7,034,542	$ 7,034,542
Total Benefits	$ 68,788,707	$ 38,769,519	$ 38,769,519	$ 45,804,061	$ 54,624,929
Costs					
Utility Project Costs					
Product Delivery	N/A	$ 6,877,780	$ 6,877,780	$ 6,877,780	$ 6,877,780
Utility Administration	N/A	$ 302,791	$ 302,791	$ 302,791	$ 302,791
Other Project Administration	N/A	$ -	$ -	$ -	$ -
Advertising & Promotion	N/A	$ -	$ -	$ -	$ -
Evaluation / M&V	N/A	$ -	$ -	$ -	$ -
Rebates	N/A	$ 7,034,542	$ 7,034,542	$ 7,034,542	$ 7,034,542
Other	N/A	$ -	$ -	$ -	$ -
Subtotal	N/A	$ 14,215,113	$ 14,215,113	$ 14,215,113	$ 14,215,113
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$ 61,754,165	N/A	N/A
Subtotal	N/A	N/A	$ 61,754,165	N/A	N/A
Participant Costs					
Incremental Capital Costs	$ 17,420,770	N/A	N/A	$ 17,420,770	$ 17,420,770
Incremental O&M Costs	$ 1,676,588	N/A	N/A	$ 1,676,588	$ 1,676,588
Subtotal	$ 19,097,358	N/A	N/A	$ 19,097,358	$ 19,097,358
Total Costs	$ 19,097,358	$ 14,215,113	$ 75,969,278	$ 33,312,471	$ 33,312,471
Net Benefit (Cost)	$49,691,349	$24,554,406	($37,199,759)	$12,491,590	$21,312,458
Benefit/Cost Ratio	3.60	2.73	0.51	1.37	1.64

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

➢ One-Stop Efficiency Shop Program — Actual for 2019

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	16.00 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.48%
Gross Load Factor at Customer	E	49.93%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
TRC Net Benefit (Cost)	H	$1,510
Net coincident kW Saved at Generator	(D x C) / (1 - G)	0.8546 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,374 kWh
Net Annual kWh Saved at Generator	(B x E x C) / (1 - F)	4,683 kWh

Program Summary per Participant

Gross kW Saved at Customer	I	6.23 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.32 kW
Gross Annual kWh Saved at Customer	(B x E x I)	27,248 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	29,173 kWh

Program Summary All Participants

Total Participants	J	2,265
Total Budget	K	$ 14,215,113
Gross kW Saved at Customer	(J x I)	14,111 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G) x J	12,059 kW
Gross Annual kWh Saved at Customer	(B x E x I) x J	61,716,065 kWh
Net Annual kWh Saved at Generator	((B x E x I) / (1 - F)) x J	66,077,157 kWh
TRC Net Benefits	(J x I x H)	$21,312,458

Utility Program Cost per kWh Lifetime	**$0.0134**
Utility Program Cost per kW at Gen	**$1,178.82**

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
Business																														
Business New Construction																											**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	$0	$214,836	$0.06	27%	6.7	4.9	541,318	$0.108	$0.005	110.7	85.7	$0.00	$0.00	72%	0	0	100%	100%	100%	0	0	0	0
Average EDA Project - 2018	More Efficient than Code Building	187,640	4,555	Code-Compliant Building	268,057	4,555	20	$41,710	$0	$145,391	$0.06	29%	6.7	4.8	366,338	$0.114	$0.006	80.4	62.3	$0.00	$0.00	72%	0	0	100%	100%	100%	0	0	0	0
Average EDA Project - 2019	More Efficient than Code Building	152,055	4,086	Code-Compliant Building	217,222	4,086	20	$32,709	$0	$105,670	$0.06	31%	6.7	4.6	266,254	$0.123	$0.006	65.2	50.5	$0.00	$0.00	72%	70	70	100%	100%	100%	3,532	19,954,818	2,289,635	7,396,876
Average EEB Project - 2017	More Efficient than Code Building	43,253	3,338	Code-Compliant Building	61,790	3,338	20	$8,743	$0	$23,574	$0.06	37%	6.6	4.2	61,881	$0.141	$0.007	18.5	15.4	-$89.73	$0.00	77%	0	0	100%	100%	100%	0	0	0	0
Average EEB Project - 2018	More Efficient than Code Building	40,411	3,250	Code-Compliant Building	57,730	3,250	20	$8,115	$0	$21,505	$0.06	38%	6.6	4.1	56,286	$0.144	$0.007	17.3	14.4	-$81.62	$0.00	77%	0	0	100%	100%	100%	0	0	0	0
Average EEB Project - 2019	More Efficient than Code Building	42,216	3,025	Code-Compliant Building	60,308	3,025	20	$8,333	$0	$21,008	$0.06	40%	6.7	4.0	54,724	$0.152	$0.008	18.1	15.1	-$79.35	$0.00	77%	52	52	100%	100%	100%	784	3,046,713	433,310	1,092,415
Commercial Efficiency																											**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	$0	$56,886	$0.07	24%	4.9	3.7	151,147	$0.090	$0.005	25.6	22.0	$476.82	$0.00	80%	172	172	100%	100%	100%	3,780	27,834,366	2,337,511	9,784,388
Study Cost Allocations	0	0	0	0	0	0	0	$138,750	$0	$138,750	$0.07	100%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	4	4	100%	100%	100%	0	0	555,000	555,000
Phase 2 Customer Contribution	0	0	0	0	0	0	0	$0	$0	$7,500	$0.07	0%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	4	4	100%	100%	100%	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	$0	$0.06	#DIV/0!	0.0	0.0	545,921	$0.000	$0.000	62.3	67.0	$0.00	$0.00	100%	1	1	100%	100%	100%	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	$0	$0.06	#DIV/0!	0.0	0.0	-363,947	$0.000	$0.000	-41.5	-44.7	$0.00	$0.00	100%	1	1	100%	100%	100%	-45	-389,665	0	0
Cooling Efficiency	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.07**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	$7,847	$2,137	$0.07	53%	17.8	8.3	1,798	$0.630	$0.032	1.2	1.1	$0.00	$0.00	90%	1,000	1,177	100%	100%	100%	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	$0	$1,500	$0.07	21%	37.3	29.6	601	$0.517	$0.034	1.2	1.2	$0.00	$0.00	90%	75	130	100%	100%	100%	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	$2,010	$497	$0.07	29%	30.2	21.4	246	$0.588	$0.029	0.3	0.3	$0.00	$0.00	90%	150	160	100%	100%	100%	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	$1,232	$185	$0.07	19%	63.0	51.3	44	$0.780	$0.039	0.0	0.0	$0.00	$0.00	90%	120	140	100%	100%	100%	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	$41,416	$12,692	$0.07	12%	29.6	26.0	6,405	$0.241	$0.012	5.9	5.7	$0.00	$0.00	90%	2	2	100%	100%	100%	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	$144,784	$13,330	$0.07	62%	1.8	0.7	109,357	$0.075	$0.004	18.3	17.7	$0.00	$0.00	90%	5	7	100%	100%	100%	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	$66,720	$24,698	$0.07	17%	11.0	9.1	33,692	$0.123	$0.006	13.9	13.5	$0.00	$0.00	90%	19	22	100%	100%	100%	296	793,608	91,135	543,356
Cooling Studies	Customer has Study			No Study				$10,000	$0	$14,501	$0.07	69%			0			0.0	0.0	$0.00	$0.00	100%	9	9	100%	100%	100%	0	0	90,000	130,512
Recommissioning Studies	Efficient equipment as identified in a recommissioning study			Existing equipment				$10,081	$0	$12,526	$0.07	80%			0			0.0	0.0	$0.00	$0.00	200%	1	1	100%	100%	100%	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	$138,359	$61,460	$0.07	39%	5.7	3.5	161,810	$0.147	$0.010	158.5	-13.5	$0.00	$0.00	-8%	1	1	100%	100%	100%	-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	$7,961	$33,935	$0.07	27%	5.8	4.2	85,090	$0.106	$0.006	22.9	9.8	$202.06	$0.00	40%	13	15	100%	100%	100%	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	$0	$3,732	$0.07	300%	9.1	-18.3	6,103	$1.834	$0.122	18.1	17.5	$0.00	$0.00	90%	3	3	100%	100%	100%	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	$3,440	$512	$0.07	44%	10.8	6.0	707	$0.321	$0.018	0.6	0.5	$0.00	$0.00	90%	0	216	100%	100%	100%	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	$3,440	$512	$0.07	21%	2.6	2.1	2,926	$0.037	$0.002	0.6	0.6	$0.00	$0.00	100%	0	0	100%	100%	100%	0	0	0	0
ECM Motors - Medium Temp Display Case	ECM Motor	24	8,672	Shaded Pole Motor	72	8,672	15	$40	$0	$141	$0.07	28%	5.1	3.6	414	$0.097	$0.006	0.0	0.1	$0.00	$0.00	99%	20	29	100%	100%	100%	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	$0	$141	$0.07	28%	4.3	3.1	489	$0.082	$0.005	0.1	0.1	$0.00	$0.00	99%	7	12	100%	100%	100%	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	$0	$269	$0.07	26%	5.1	3.7	793	$0.088	$0.006	0.1	0.1	$0.00	$0.00	98%	51	74	100%	100%	100%	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	$0	$269	$0.07	26%	4.3	3.2	936	$0.075	$0.005	0.1	0.1	$0.00	$0.00	98%	22	34	100%	100%	100%	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	$0	$269	$0.07	26%	6.6	4.9	605	$0.116	$0.008	0.1	0.1	$0.00	$0.00	98%	16	24	100%	100%	100%	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	$0	$269	$0.07	26%	5.6	4.2	714	$0.098	$0.007	0.1	0.1	$0.00	$0.00	98%	16	24	100%	100%	100%	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	$0	$300	$0.07	20%	3.2	2.5	1,414	$0.042	$0.004	0.2	0.2	$0.00	$0.00	90%	120	173	100%	100%	100%	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	$0	$538	$0.07	23%	5.1	3.9	1,571	$0.080	$0.008	0.2	0.2	$0.00	$0.00	100%	156	173	100%	100%	100%	33	291,057	21,625	92,988
Custom Efficiency	0	0	0	0	0	0	0	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	800%	0	0	100%	100%	100%	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	$49,905	$26,976	$0.07	24%	1.5	1.2	91,420	$0.070	$0.004	19.7	15.7	$10,688.27	$0.00	74%	50	50	100%	100%	100%	783	4,894,015	321,956	1,348,797
Custom Studies Electric	0	0	0	0	0	0	0	$9,808	$0	$19,069	$0.07	51%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	2	2	100%	100%	100%	0	0	19,615	38,139
Data Center Efficiency	0	0	0	0	0	0	0	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	0	0	0	0
Data Center Efficiency Study	0	0	0	0	0	0	0	$16,301	$0	$21,735	$0.07	75%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	0%	10	10	100%	100%	100%	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	$255,991	$53,346	$0.07	23%	2.8	2.1	266,416	$0.045	$0.004	36.4	26.9	$1,392.65	$0.00	69%	20	20	100%	100%	100%	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	$0	$2,787	$0.07	43%	9.0	5.1	4,634	$0.259	$0.026	0.6	0.6	$0.00	$0.00	100%	5	10	100%	100%	100%	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	$0	$2,787	$0.07	43%	5.4	3.1	7,681	$0.156	$0.016	0.9	1.0	$0.00	$0.00	100%	5	10	100%	100%	100%	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	$0	$1,700	$0.07	41%	5.7	3.4	4,439	$0.158	$0.008	0.5	0.6	$0.00	$0.00	100%	12	48	100%	100%	100%	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	$0	$1,700	$0.07	41%	3.5	2.0	7,357	$0.095	$0.005	0.9	0.9	$0.00	$0.00	100%	9	36	100%	100%	100%	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	$0	$96,780	$0.07	30%	3.0	2.1	483,333	$0.060	$0.005	55.6	56.8	$0.00	$0.00	95%	6	6	100%	100%	100%	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	$0	$65,571	$0.07	32%	5.0	3.4	180,351	$0.118	$0.006	20.6	0.0	$0.00	$0.00	0%	0	0	100%	100%	100%	0	0	0	0
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	28	7,311	10	$10	$600	$117	$0.07	9%	3.1	2.8	111		$0.051	0.0	0.0	$30.50	-$0.44	100%	13	350	100%	100%	100%	60	41,682	3,500	40,950
Efficiency Controls	0	0	0	0	0	0	0	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	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	$0	$45,453	$0.06	26%	5.2	3.9	127,631	$0.092	$0.006	18.5	4.2	$1,117.07	$0.00	21%	67	67	100%	100%	100%	280	9,155,555	788,760	3,045,357
Efficiency Controls - Study Allocation	Study Allocation	0	0	0	0	0	0	$2,511	$0	$3,835	$0.06	65%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	3	3	100%	100%	100%	0	0	7,534	11,506
Fluid System Optimization	0	0	0	0	0	0	0	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	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	$0	$1,163	$0.07	0%	0.3	0.3	53,182	$0.000	$0.000	6.8	5.2	$0.00	$0.00	71%	9	9	100%	100%	100%	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	$0	$9,395	$0.07	47%	3.2	1.7	42,972	$0.104	$0.021	6.0	6.4	$0.00	$0.00	100%	40	40	100%	100%	100%	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	$0	$47,846	$0.07	25%	3.2	2.4	217,607	$0.055	$0.003	34.8	25.3	$0.00	$0.00	68%	35	35	100%	100%	100%	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	$7,374	$1,332	$0.07	56%	2.5	1.1	7,735	$0.096	$0.005	1.1	1.2	$0.00	$0.00	100%	67	70	100%	100%	100%	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	$0	$3,474	$0.07	29%	0.7	0.5	75,065	$0.013	$0.001	10.5	11.3	$0.00	$0.00	100%	8	8	100%	100%	100%	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	$1,351	$4,479	$0.07	47%	6.1	3.3	9,890	$0.212	$0.011	1.4	1.5	$61.92	$0.00	100%	40	40	100%	100%	100%	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	$125	$448	$0.07	45%	1.8	1.0	3,616	$0.055	$0.004	0.5	0.4	$0.00	$0.00	68%	60	63	100%	100%	100%	24	243,917	12,600	28,224

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
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	$10,768	$5,334	$0.07	49%	4.3	2.2	18,155	$0.144	$0.007	6.1	5.8	$0.00	$0.00	89%	41	42	100%	100%	100%	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	$0	$18,009	$0.07	31%	13.5	9.3	19,709	$0.287	$0.014	6.5	6.2	$0.00	$0.00	89%	23	25	100%	100%	100%	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	$0	$21,666	$0.07	30%	6.4	4.5	50,102	$0.130	$0.006	14.2	13.6	$0.00	$0.00	89%	6	6	100%	100%	100%	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	$0	$9,089	$0.07	100%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.1	0.1	$0.00	$0.00	88%	12	12	100%	100%	100%	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	$0	$1,188	$0.08	29%	3.6	2.6	4,376	$0.079	$0.004	0.9	0.7	$0.00	$0.00	78%	1	1	100%	100%	100%	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	$797	$181	$0.08	22%	7.5	5.9	319	$0.125	$0.006	0.1	0.0	$0.00	$0.00	78%	1	1	100%	100%	100%	0	342	40	181
Upgrade Motor	NEMA Premium Efficient Motor	15,650	4,806	EPACT Efficient Motor	15,950	4,806	20	$926	$0	$2,362	$0.08	39%	21.8	13.2	1,440	$0.643	$0.032	0.3	0.3	$0.00	$0.00	78%	1	1	100%	100%	100%	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	$0	$1,407	$0.08	35%	16.4	10.6	1,136	$0.438	$0.022	0.2	0.2	$0.00	$0.00	78%	1	1	100%	100%	100%	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	$0	$5,393	$0.08	28%	4.1	2.9	17,385	$0.088	$0.006	3.7	3.1	$0.00	$0.00	78%	1	1	100%	100%	100%	3	18,613	1,531	5,393
Food Service	0	0	0	0	0	0	0	$0	$0	$0	#N/A	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	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	$4,925	$82	$0.07	238%	0.4	-0.5	2,644	$0.074	$0.007	0.4	0.4	$35.00	$0.00	86%	14	14	100%	100%	100%	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	$6,729	$360	$0.07	58%	0.3	0.1	12,555	$0.017	$0.001	1.9	1.8	$234.98	$0.00	86%	9	9	100%	100%	100%	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	$2,069	$1,713	$0.07	23%	12.3	9.5	2,073	$0.193	$0.016	0.4	0.3	$0.00	$0.00	86%	41	41	100%	100%	100%	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	$0	$16,019	$0.07	5%	3.9	3.7	25,896	$0.033	$0.002	7.8	4.2	$0.00	$2,380.02	49%	9	9	100%	100%	100%	37	249,533	7,785	144,169
Lighting Efficiency	0	0	0	0	0	0	0.000	$0	$0	$0	$0.11	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	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	$0	$4	$0.07	13%	1.7	1.5	34	$0.015	$0.003	0.0	0.0	$0.00	-$0.19	73%	121	17,000	100%	100%	100%	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	$0	$43	$0.07	28%	2.4	1.7	269	$0.045	$0.002	0.1	0.0	$0.00	-$1.47	73%	11	1,500	100%	100%	100%	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	$0	$164	$0.07	21%	2.6	2.1	924	$0.038	$0.002	0.2	0.1	$0.00	-$5.06	73%	0	50	100%	100%	100%	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	$0	$215	$0.07	23%	3.3	2.5	962	$0.052	$0.003	0.2	0.1	$0.00	-$5.27	73%	11	1,500	100%	100%	100%	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	$0	$392	$0.07	20%	2.3	1.8	2,533	$0.032	$0.002	0.5	0.4	$0.00	-$13.87	73%	2	258	100%	100%	100%	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	$0	$430	$0.07	23%	2.0	1.6	3,144	$0.032	$0.002	0.6	0.5	$0.00	-$17.21	73%	1	35	100%	100%	100%	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	$0	$169	$0.07	30%	3.2	2.3	722	$0.069	$0.003	0.1	0.1	$0.00	$0.00	100%	1	50	100%	100%	100%	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	$0	$4	$0.07	13%	1.2	1.1	45	$0.011	$0.003	0.0	0.0	$0.00	$0.00	100%	6	801	100%	100%	100%	4	38,702	401	3,204
CFL, Pin Based - <=19W	Pin Based CFL	20	5,336	Incandescent	62	5,336	20	$2	$0	$9	$0.07	22%	0.6	0.5	226	$0.009	$0.000	0.0	0.0	$0.00	-$1.24	73%	1	5	100%	100%	100%	0	1,211	10	46
CFL, Pin Based - 19-32W	Pin Based CFL	44	5,336	Incandescent	105	5,336	20	$3	$0	$9	$0.07	32%	0.4	0.3	328	$0.009	$0.000	0.1	0.0	$0.00	-$1.24	73%	5	642	100%	100%	100%	31	225,725	1,926	5,928
CFL, Pin Based - 33-100W	Pin Based CFL	37	5,336	Incandescent	104	5,336	20	$4	$0	$12	$0.07	32%	0.5	0.3	356	$0.011	$0.001	0.1	0.1	$0.00	-$1.95	73%	5	600	100%	100%	100%	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	$0	$12	$0.07	4%	1.9	1.9	90	$0.006	$0.001	0.0	0.0	$0.00	-$0.49	73%	1	5	100%	100%	100%	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	$0	$55	$0.07	27%	4.1	3.0	200	$0.075	$0.009	0.0	0.0	$0.00	-$1.09	73%	4	500	100%	100%	100%	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	$0	$55	$0.07	45%	0.8	0.4	1,021	$0.024	$0.003	0.2	0.2	$0.00	-$5.59	73%	1	25	100%	100%	100%	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	$0	$125	$0.07	24%	9.3	7.0	200	$0.150	$0.019	0.0	0.0	$0.00	-$1.09	73%	18	2,500	100%	100%	100%	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	$0	$125	$0.07	32%	1.8	1.2	1,021	$0.039	$0.005	0.2	0.2	$0.00	-$5.59	73%	5	600	100%	100%	100%	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	$0	$65	$0.07	38%	1.9	1.2	494	$0.051	$0.006	0.1	0.1	$0.00	-$2.70	73%	1	25	100%	100%	100%	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	$0	$306	$0.07	25%	13.3	10.1	339	$0.221	$0.015	0.1	0.0	$0.00	-$1.86	73%	1	10	100%	100%	100%	0	3,635	750	3,060
Exit sign retrofit and replacement	LED/LEC Exit	1	7,602	Incandescent	44	7,602	20	$25	$0	$82	$0.07	30%	3.8	2.6	321	$0.078	$0.004	0.0	0.0	$0.00	-$1.76	100%	6	750	100%	100%	100%	34	257,605	18,750	61,502
LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	21	5,336	Incandescent Luminaire	53	5,336	20	$35	$0	$133	$0.07	26%	11.3	8.3	175	$0.200	$0.010	0.0	0.0	$0.00	-$0.96	73%	18	2,500	100%	100%	100%	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	$0	$194	$0.07	26%	15.4	11.5	186	$0.269	$0.013	0.0	0.0	$0.00	-$1.02	73%	8	1,000	100%	100%	100%	27	199,266	50,000	194,061
LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	21	5,336	Incandescent Luminaire	53	5,336	20	$35	$0	$133	$0.07	26%	11.3	8.3	175	$0.200	$0.010	0.0	0.0	$0.00	-$0.96	73%	18	2,500	100%	100%	100%	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	$0	$194	$0.07	26%	15.4	11.5	186	$0.269	$0.013	0.0	0.0	$0.00	-$1.02	73%	8	1,000	100%	100%	100%	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	$0	$164	$0.07	27%	2.9	2.1	771	$0.058	$0.003	0.1	0.1	$0.00	$0.00	100%	5	700	100%	100%	100%	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	$0	$80	$0.07	38%	4.1	2.6	267	$0.112	$0.006	0.1	0.0	$0.00	$0.00	21%	1	5	100%	100%	100%	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	$0	$110	$0.07	36%	3.2	2.1	464	$0.086	$0.004	0.1	0.0	$0.00	$0.00	21%	1	5	100%	100%	100%	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	$0	$70	$0.07	36%	3.6	2.3	267	$0.094	$0.005	0.1	0.0	$0.00	$0.00	55%	1	5	100%	100%	100%	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	$0	$90	$0.07	28%	2.3	1.6	543	$0.046	$0.002	0.1	0.1	$0.00	$0.00	55%	1	5	100%	100%	100%	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	$0	$70	$0.07	46%	3.6	1.9	267	$0.120	$0.006	0.1	0.0	$0.00	$0.00	43%	1	5	100%	100%	100%	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	$0	$90	$0.07	36%	2.3	1.5	543	$0.059	$0.003	0.1	0.1	$0.00	$0.00	43%	1	5	100%	100%	100%	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	$0	$90	$0.07	56%	112.5	50.0	11	$4.566	$0.228	0.0	0.0	$0.00	$0.00	90%	1	5	100%	100%	100%	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	$0	$352	$0.07	38%	4.0	2.5	1,208	$0.112	$0.006	0.1	0.1	$0.00	$0.00	100%	4	500	100%	100%	100%	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	$0	$425	$0.07	35%	3.2	2.1	1,829	$0.082	$0.004	0.2	0.2	$0.00	$0.00	100%	5	700	100%	100%	100%	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	$0	$38	$0.07	53%	6.8	3.2	81	$0.247	$0.031	0.0	0.0	$0.00	-$0.44	73%	8	1,000	100%	100%	100%	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	$0	$13	$0.07	64%	1.9	0.7	95	$0.084	$0.011	0.0	0.0	$0.00	-$0.52	73%	8	1,000	100%	100%	100%	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	$0	$50	$0	$1	6.9	3.1	107	$0.262	$0.033	0.0	0.0	$0.00	-$0.58	73%	4	500	100%	100%	100%	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	$0	$405	$0.07	33%	8.3	5.5	723	$0.187	$0.009	0.1	0.1	$0.00	-$3.96	73%	6	750	100%	100%	100%	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	$0	$682	$0.07	22%	8.8	6.9	1,141	$0.131	$0.007	0.2	0.2	$0.00	-$6.24	73%	4	450	100%	100%	100%	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	$0	$1,080	$0.07	19%	5.3	4.3	3,034	$0.066	$0.003	0.6	0.4	$0.00	-$16.61	73%	4	450	100%	100%	100%	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	$0	$1,560	$0.07	16%	6.4	5.4	3,600	$0.069	$0.003	0.7	0.5	$0.00	-$19.71	73%	2	215	100%	100%	100%	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	$0	$322	$0.07	12%	6.6	5.8	722	$0.055	$0.003	0.1	0.1	$0.00	-$3.95	73%	1	30	100%	100%	100%	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	$0	$431	$0.07	12%	5.7	5.0	1,118	$0.045	$0.002	0.2	0.2	$0.00	-$6.12	73%	2	150	100%	100%	100%	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	$0	$584	$0.07	14%	2.8	2.5	3,034	$0.026	$0.001	0.6	0.4	$0.00	-$16.61	73%	2	150	100%	100%	100%	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	$0	$770	$0.07	21%	3.2	2.5	3,600	$0.044	$0.002	0.7	0.5	$0.00	-$19.71	73%	1	125	100%	100%	100%	66	481,857	20,000	96,295
LED Linear Ambient <=35W	LED Ambient Fixture <=35W	32	5,335	Flourescent Ambient Fixture	51	5,335	20	$20	$30	$129	$0.07	15%	23.0	19.5	103	$0.194	$0.010	0.0	0.0	$0.00	-$1.90	84%	29	1,140	100%	100%	100%	20	125,565	22,800	147,341
LED Linear Ambient 61-100W	LED Ambient Fixture 61-100W	92	5,335	Flourescent Ambient Fixture	156	5,335	20	$38	$43	$252	$0.07	15%	11.9	10.1	339	$0.112	$0.006	0.1	0.1	$0.00	-$3.56	84%	11	450	100%	100%	100%	26	163,299	17,100	113,573

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
LED Linear Ambient 36-60W	LED Ambient Fixture 36-60W	57	5,335	Flourescent Ambient Fixture	92	5,335	20	$25	$36	$180	$0.07	14%	16.6	14.3	184	$0.136	$0.007	0.0	0.0	$0.00	-$2.53	84%	35	1,410	100%	100%	100%	44	277,292	35,250	254,478
LED Tube Type A 2 foot	LED 2 Foot Tube Instafit	15	5,336	Fluorescent Lamps	20	5,336	8	$2	$2	$26	$0.07	8%	15.7	14.5	24	$0.082	$0.010	0.0	0.0	$0.00	-$0.13	73%	54	7,500	100%	100%	100%	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	$0	$51	$0.07	12%	17.0	15.0	44	$0.135	$0.017	0.0	0.0	$0.00	-$0.24	73%	54	7,500	100%	100%	100%	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	$3	$27	$0.07	15%	4.2	3.6	95	$0.042	$0.005	0.0	0.0	$0.00	-$0.52	73%	143	20,000	100%	100%	100%	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	$0	$64	$0.07	16%	7.6	6.4	125	$0.080	$0.010	0.0	0.0	$0.00	-$0.68	73%	143	20,000	100%	100%	100%	368	2,675,864	200,000	1,288,000
LED Tube Type B 4 foot	LED 4 Foot Tube External Driver Retrofit Kits	22	5,336	Fluorescent Lamps	46	5,336	8	$10	$0	$64	$0.07	16%	7.6	6.4	125	$0.080	$0.010	0.0	0.0	$0.00	-$0.68	73%	143	20,000	100%	100%	100%	368	2,675,864	200,000	1,288,000
LED Screw-in Lamps - 145 - 230W (400W HID replacement lamp)	LED High Bay Replacement Lamp	303	5,335	<=400W HID Fixture	568	5,335	8	$75	$10	$252	$0.07	30%	2.7	1.9	1,410	$0.053	$0.007	0.3	0.2	$0.00	-$7.72	84%	3	400	100%	100%	100%	95	603,807	30,000	100,964
LED Screw-in Lamps - 30 - 39W (25W HID replacement lamp)	LED High Bay Replacement Lamp	72	5,335	<=70W HID Fixture	107	5,335	8	$30	$8	$126	$0.07	24%	9.9	7.5	188	$0.160	$0.020	0.0	0.0	$0.00	-$1.03	84%	4	500	100%	100%	100%	16	100,674	15,000	62,805
LED Screw-in Lamps - 40 - 49W (100W HID replacement lamp)	LED High Bay Replacement Lamp	87	5,335	<=100W HID Fixture	155	5,335	8	$40	$10	$126	$0.07	32%	5.1	3.5	364	$0.110	$0.014	0.1	0.1	$0.00	-$1.99	84%	2	150	100%	100%	100%	9	58,483	6,000	18,842
LED Screw-in Lamps - 50 - 79W (175W HID replacement lamp)	LED High Bay Replacement Lamp	124	5,335	<=175W HID Fixture	253	5,335	8	$50	$11	$169	$0.07	30%	3.6	2.6	688	$0.073	$0.009	0.1	0.1	$0.00	-$3.76	84%	2	150	100%	100%	100%	17	110,457	7,500	25,281
LED Screw-in Lamps - 120 - 144W	LED High Bay Replacement Lamp	227	5,335	<=320W HID Fixture	458	5,335	8	$75	$14	$252	$0.07	30%	3.0	2.1	1,233	$0.061	$0.007	0.2	0.2	$0.00	-$6.75	84%	2	250	100%	100%	100%	52	329,948	18,750	63,103
LED Screw-in Lamps - 80 -119W (250W HID replacement lamp)	LED High Bay Replacement Lamp	180	5,335	<=250W HID Fixture	357	5,335	8	$60	$10	$221	$0.07	27%	3.5	2.5	945	$0.063	$0.008	0.2	0.2	$0.00	-$5.17	84%	2	250	100%	100%	100%	40	253,019	15,000	55,301
LED Street lighting - 30-44W	LED Street Light Fixture	37	4,903	70W HID Street Light Fixture	90	4,903	20	$30	$0	$395	$0.07	8%	20.9	19.3	258	$0.116	$0.006	0.1	0.0	$0.00	$0.00	0%	1	50	100%	100%	100%	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	$0	$418	$0.07	10%	15.3	13.8	374	$0.107	$0.005	0.1	0.0	$0.00	$0.00	0%	1	50	100%	100%	100%	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	$0	$464	$0.07	11%	12.2	10.9	522	$0.096	$0.005	0.1	0.0	$0.00	$0.00	0%	2	250	100%	100%	100%	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	$0	$518	$0.07	14%	14.8	12.7	478	$0.157	$0.008	0.1	0.0	$0.00	$0.00	0%	1	50	100%	100%	100%	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	$0	$554	$0.07	18%	9.5	7.8	797	$0.125	$0.006	0.2	0.0	$0.00	$0.00	0%	2	175	100%	100%	100%	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	$0	$626	$0.07	20%	6.1	4.9	1,404	$0.089	$0.004	0.3	0.0	$0.00	$0.00	0%	1	125	100%	100%	100%	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	$0	$478	$0.07	21%	10.7	8.5	611	$0.164	$0.008	0.1	0.0	$0.00	$0.00	0%	1	100	100%	100%	100%	0	65,459	10,000	47,791
LED Area lighting - 45-65W	LED Street Light Fixture	60	4,903	150W MH Fixture	185	4,903	20	$100	$0	$478	$0.07	21%	10.7	8.5	611	$0.164	$0.008	0.1	0.0	$0.00	$0.00	0%	1	100	100%	100%	100%	0	65,459	10,000	47,791
LED Area lighting - 45-65W	LED Street Light Fixture	60	4,903	150W MH Fixture	185	4,903	20	$100	$0	$478	$0.07	21%	10.7	8.5	611	$0.164	$0.008	0.1	0.0	$0.00	$0.00	0%	1	100	100%	100%	100%	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	$0	$520	$0.07	24%	11.0	8.3	650	$0.192	$0.010	0.1	0.0	$0.00	$0.00	0%	2	150	100%	100%	100%	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	$0	$586	$0.07	26%	8.6	6.4	934	$0.161	$0.008	0.2	0.0	$0.00	$0.00	0%	2	200	100%	100%	100%	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	$0	$649	$0.07	27%	5.6	4.1	1,598	$0.109	$0.005	0.3	0.0	$0.00	$0.00	0%	3	300	100%	100%	100%	0	513,398	52,500	194,627
LED Troffer Fixture 1X4	LED Troffer Fixture	45	5,336	Fluorescent Fixture	91	5,336	20	$50	$0	$223	$0.07	22%	13.4	10.4	245	$0.204	$0.010	0.0	0.0	$0.00	-$1.34	73%	4	450	100%	100%	100%	16	118,097	22,500	100,126
LED Troffer Fixture 2X2	LED Troffer Fixture	39	5,336	Fluorescent Fixture	73	5,336	20	$50	$0	$197	$0.07	25%	15.8	11.8	184	$0.271	$0.014	0.0	0.0	$0.00	-$1.01	73%	31	4,250	100%	100%	100%	115	839,260	212,500	836,496
LED Troffer Fixture 2X4	LED Troffer Fixture	63	5,336	Fluorescent Fixture	122	5,336	20	$50	$0	$241	$0.07	21%	11.3	8.9	317	$0.158	$0.008	0.1	0.0	$0.00	-$1.73	73%	24	3,250	100%	100%	100%	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	$0	$106	$0.07	28%	7.7	5.5	203	$0.148	$0.007	0.0	0.0	$0.00	-$1.11	73%	1	20	100%	100%	100%	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	$0	$165	$0.07	18%	13.5	11.1	180	$0.167	$0.008	0.0	0.0	$0.00	-$0.99	73%	3	300	100%	100%	100%	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	$0	$188	$0.07	16%	9.2	7.7	304	$0.099	$0.005	0.1	0.0	$0.00	-$1.67	73%	22	3,000	100%	100%	100%	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	$0	$248	$0.07	14%	8.6	7.4	395	$0.089	$0.004	0.1	0.0	$0.00	$0.00	0%	2	200	100%	100%	100%	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	$0	$326	$0.07	23%	5.2	4.0	853	$0.088	$0.004	0.2	0.0	$0.00	$0.00	0%	6	750	100%	100%	100%	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	$0	$496	$0.07	20%	4.4	3.5	1,546	$0.065	$0.003	0.3	0.0	$0.00	$0.00	0%	2	250	100%	100%	100%	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	$0	$279	$0.07	13%	5.4	4.7	710	$0.049	$0.002	0.1	0.1	$0.00	$0.00	100%	1	25	100%	100%	100%	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	$0	$378	$0.07	20%	3.4	2.7	1,530	$0.049	$0.002	0.2	0.2	$0.00	$0.00	100%	1	25	100%	100%	100%	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	$0	$566	$0.07	18%	2.8	2.3	2,771	$0.036	$0.002	0.3	0.3	$0.00	$0.00	100%	1	30	100%	100%	100%	10	88,999	3,000	16,995
LED Outdoor Canopy lighting - 25W - 60W	LED	40	4,903	Metal Halide	202	4,903	20	$100	$0	$351	$0.07	28%	6.1	4.3	793	$0.126	$0.006	0.2	0.0	$0.00	$0.00	0%	1	75	100%	100%	100%	0	63,650	7,500	26,356
LED Outdoor Canopy lighting - 61W - 150W	LED	103	4,903	Metal Halide	454	4,903	20	$125	$0	$328	$0.07	38%	2.6	1.6	1,719	$0.073	$0.004	0.4	0.0	$0.00	$0.00	0%	6	800	100%	100%	100%	0	1,472,650	100,000	262,520
LED Interior Lamp - A Lamps	LED lamp	11	5,649	Halogen, Incandescent, or CFL Lamp	21	5,649	8	$5	$4	$14	$0.07	35%	6.0	3.9	33	$0.152	$0.019	0.0	0.0	$0.00	$0.00	90%	143	20,000	100%	100%	100%	185	705,879	100,000	288,600
LED Interior Lamp - PAR20, R20	LED lamp	8	5,649	Halogen, Incandescent, or CFL Lamp	27	5,649	9	$10	$6	$13	$0.07	75%	2.8	0.7	65	$0.153	$0.017	0.0	0.0	$0.00	$0.00	90%	15	2,000	100%	100%	100%	37	139,783	20,000	26,650
LED Interior Lamp - PAR30	LED lamp	13	5,649	Halogen, Incandescent, or CFL Lamp	43	5,649	9	$15	$8	$21	$0.07	71%	2.8	0.8	104	$0.144	$0.016	0.0	0.0	$0.00	$0.00	90%	58	8,000	100%	100%	100%	234	893,805	120,000	167,840
LED Interior Lamp - BR30	LED lamp	11	5,649	Halogen, Incandescent, or CFL Lamp	37	5,649	9	$10	$8	$11	$0.07	92%	1.7	0.1	90	$0.112	$0.012	0.0	0.0	$0.00	$0.00	90%	40	5,500	100%	100%	100%	138	527,214	55,000	59,840
LED Interior Lamp - PAR38	LED lamp	17	5,649	Halogen, Incandescent, or CFL Lamp	57	5,649	9	$20	$6	$30	$0.07	67%	2.9	1.0	139	$0.144	$0.016	0.0	0.0	$0.00	$0.00	90%	43	6,000	100%	100%	100%	234	892,990	120,000	179,250
LED Interior Lamp - BR40	LED lamp	15	5,649	Halogen, Incandescent, or CFL Lamp	51	5,649	9	$20	$4	$22	$0.07	92%	2.4	0.2	124	$0.161	$0.018	0.0	0.0	$0.00	$0.00	90%	6	750	100%	100%	100%	26	99,697	15,000	16,343
LED Interior Lamp - PAR16	LED lamp	7	5,649	Halogen, Incandescent, or CFL Lamp	22	5,649	9	$6	$10	$11	$0.07	55%	2.8	1.3	53	$0.113	$0.013	0.0	0.0	$0.00	$0.00	90%	1	60	100%	100%	100%	1	3,419	360	653
LED Interior Lamp - MR16	LED lamp	6	5,649	Halogen, Incandescent, or CFL Lamp	27	5,649	8	$10	$4	$16	$0.07	63%	3.0	1.1	73	$0.137	$0.017	0.0	0.0	$0.00	$0.00	90%	65	9,000	100%	100%	100%	184	702,820	90,000	142,830
LED Interior Lamp - GU10	LED lamp	6	5,649	Halogen, Incandescent, or CFL Lamp	19	5,649	9	$10	$2	$13	$0.07	79%	4.0	0.9	43	$0.233	$0.026	0.0	0.0	$0.00	$0.00	90%	1	100	100%	100%	100%	1	4,602	1,000	1,267
LED Interior Lamp - Decorative (B, BA, Candle)	LED lamp	5	5,649	Halogen, Incandescent, or CFL Lamp	28	5,649	7	$5	$1	$19	$0.07	26%	3.3	2.4	80	$0.063	$0.009	0.0	0.0	$0.00	$0.00	90%	9	1,250	100%	100%	100%	28	106,805	6,250	24,000
LED Interior Screw In Fixture Retrofit	LED lamp	15	5,649	Halogen, Incandescent, or CFL Fixture	39	5,649	10	$15	$15	$19	$0.07	81%	3.1	0.6	82	$0.184	$0.018	0.0	0.0	$0.00	$0.00	90%	1	100	100%	100%	100%	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	$2	$4	$0.07	13%	1.7	1.5	34	$0.015	$0.003	0.0	0.0	$0.00	-$0.19	73%	72	10,000	100%	100%	100%	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	$179	$93	$0.07	11%	1.0	0.9	1,306	$0.008	$0.000	0.2	0.2	$0.00	-$7.15	73%	1	30	100%	100%	100%	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	$270	$134	$0.07	11%	0.8	0.7	2,467	$0.006	$0.000	0.5	0.4	$0.00	-$13.50	73%	4	500	100%	100%	100%	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	$360	$159	$0.07	13%	0.7	0.6	3,111	$0.006	$0.000	0.6	0.6	$0.00	$0.00	100%	1	134	100%	100%	100%	84	446,281	2,680	21,306
CFL, Pin Based - <=19W	Pin Based CFL	20	5,336	Incandescent	62	5,336	20	$2	$40	$9	$0.07	22%	0.6	0.5	226	$0.009	$0.000	0.0	0.0	$0.00	-$1.24	73%	1	4	100%	100%	100%	0	969	8	37
CFL, Pin Based - 19-32W	Pin Based CFL	44	5,336	Incandescent	105	5,336	20	$2	$40	$12	$0.07	16%	0.5	0.5	328	$0.006	$0.000	0.1	0.0	$0.00	-$1.80	73%	3	305	100%	100%	100%	15	107,237	610	3,702
CFL, Pin Based - 33-100W	Pin Based CFL	37	5,336	Incandescent	104	5,336	20	$2	$41	$12	$0.07	16%	0.5	0.4	356	$0.006	$0.000	0.1	0.1	$0.00	-$1.95	73%	4	500	100%	100%	100%	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	$11	$12	$0.07	4%	2.0	1.9	90	$0.006	$0.001	0.0	0.0	$0.00	-$0.49	73%	1	5	100%	100%	100%	0	480	3	61
LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	21	5,336	Incandescent Luminaire	53	5,336	20	$25	$27	$107	$0.07	23%	9.0	6.9	175	$0.143	$0.007	0.0	0.0	$0.00	-$0.96	73%	22	3,000	100%	100%	100%	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	$40	$154	$0.07	26%	12.3	9.1	186	$0.215	$0.011	0.0	0.0	$0.00	-$1.02	73%	11	1,500	100%	100%	100%	41	298,900	60,000	231,091
LED Refrigerated Case Lighting	LED Strip lighting	51	8,760	T8 or T12 Fluorescent	139	8,760	20	$35	$19	$145	$0.07	24%	2.6	1.9	771	$0.045	$0.002	0.1	0.1	$0.00	$0.00	100%	9	1,200	100%	100%	100%	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	$252	$108	$0.07	23%	1.3	1.0	1,165	$0.021	$0.001	0.1	0.1	$0.00	$0.00	100%	3	400	100%	100%	100%	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	$290	$137	$0.07	25%	1.1	0.8	1,778	$0.020	$0.001	0.2	0.2	$0.00	$0.00	100%			100%	100%	100%	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	$206	$351	$0.07	36%	6.5	4.2	802	$0.156	$0.008	0.2	0.1	$0.00	-$4.39	73%	2	275	100%	100%	100%	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	$263	$608	$0.07	23%	6.2	4.8	1,442	$0.097	$0.005	0.3	0.2	$0.00	-$7.89	73%	2	275	100%	100%	100%	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	$374	$954	$0.07	17%	4.6	3.8	3,075	$0.054	$0.003	0.6	0.5	$0.00	-$16.83	73%	2	275	100%	100%	100%	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	$450	$1,552	$0.07	11%	6.2	5.5	3,709	$0.047	$0.002	0.7	0.5	$0.00	-$20.30	73%	2	150	100%	100%	100%	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	$93	$302	$0.07	5%	16.0	15.2	258	$0.058	$0.003	0.1	0.0	$0.00	$0.00	0%	1	50				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	$87	$331	$0.07	8%	12.1	11.2	374	$0.067	$0.003	0.1	0.0	$0.00	$0.00	0%	1	50				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	$248	$217	$0.07	16%	5.7	4.8	522	$0.067	$0.003	0.1	0.0	$0.00	$0.00	0%	2	250	100%	100%	100%	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	$255	$264	$0.07	21%	7.5	6.0	479	$0.115	$0.006	0.1	0.0	$0.00	$0.00	0%	1	50	100%	100%	100%	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	$258	$317	$0.07	21%	5.8	4.6	743	$0.087	$0.004	0.2	0.0	$0.00	$0.00	0%	2	175	100%	100%	100%	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	$280	$346	$0.07	25%	3.4	2.5	1,404	$0.061	$0.003	0.3	0.0	$0.00	$0.00	0%	1	125	100%	100%	100%	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	$222	$243	$0.07	23%	6.0	4.7	553	$0.099	$0.005	0.1	0.0	$0.00	$0.00	0%	1	50	100%	100%	100%	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	$290	$230	$0.07	28%	5.8	4.1	547	$0.119	$0.006	0.1	0.0	$0.00	$0.00	0%	1	75	100%	100%	100%	0	43,899	4,875	17,255

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
LED Area lighting - 90-119W	LED Parking Area Fixture	105	4,903	250W MH Fixture	275	4,903	20	$75	$290	$296	$0.07	25%	4.9	3.6	836	$0.090	$0.004	0.2	0.0	$0.00	$0.00	0%	1	100	100%	100%	100%	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	$298	$351	$0.07	24%	3.2	2.4	1,495	$0.057	$0.003	0.3	0.0	$0.00	$0.00	0%	2	150	100%	100%	100%	0	240,163	12,750	52,613
LED Area Lighting - 141-199W	LED Parking Area Fixture	170	4,903	750W MH Fixture	850	4,903	20	$200	$0	$747	$0.07	27%	3.1	2.2	3,334	$0.060	$0.003	0.7	0.0	$0.00	$0.00	0%	1	125	100%	100%	100%	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	$52	$1,249	$0.07	20%	4.9	4.0	3,457	$0.072	$0.004	0.7	0.0	$0.00	$0.00	0%	1	125	100%	100%	100%	0	462,609	31,250	156,166
LED Troffer Fixture 1X4	LED Troffer Fixture	45	5,336	Fluorescent Fixture	91	5,336	20	$30	$50	$173	$0.07	17%	10.4	8.6	245	$0.122	$0.006	0.0	0.0	$0.00	-$1.34	73%	1	100	100%	100%	100%	4	26,244	3,000	17,268
LED Troffer Fixture 2X2	LED Troffer Fixture	39	5,336	Fluorescent Fixture	73	5,336	20	$30	$40	$157	$0.07	19%	12.6	10.2	184	$0.163	$0.008	0.0	0.0	$0.00	-$1.01	73%	17	2,250	100%	100%	100%	61	444,314	67,500	352,282
LED Troffer Fixture 2X4	LED Troffer Fixture	63	5,336	Fluorescent Fixture	122	5,336	20	$30	$56	$185	$0.07	16%	8.7	7.2	317	$0.095	$0.005	0.1	0.0	$0.00	-$1.73	73%	22	3,000	100%	100%	100%	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	$223	$27	$0.07	56%	0.9	0.4	419	$0.036	$0.002	0.1	0.0	$0.00	$0.00	0%	1	75	100%	100%	100%	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	$264	$75	$0.07	40%	1.1	0.7	903	$0.033	$0.002	0.2	0.0	$0.00	$0.00	0%	3	300	100%	100%	100%	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	$298	$206	$0.07	24%	1.8	1.4	1,567	$0.032	$0.002	0.3	0.0	$0.00	$0.00	0%	1	100	100%	100%	100%	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	$198	$77	$0.07	19%	1.6	1.3	660	$0.023	$0.001	0.1	0.1	$0.00	$0.00	100%	1	1	100%	100%	100%	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	$234	$139	$0.07	22%	1.3	1.0	1,467	$0.020	$0.001	0.2	0.2	$0.00	$0.00	100%	1	10	100%	100%	100%	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	$294	$319	$0.07	16%	1.6	1.3	2,762	$0.018	$0.001	0.3	0.3	$0.00	$0.00	100%	1	15	100%	100%	100%	5	44,354	750	4,787
LED Outdoor Canopy - 25W - 60W	LED	40	4,903	Metal Halide	202	4,903	20	$50	$206	$145	$0.07	34%	2.5	1.6	793	$0.063	$0.003	0.2	0.0	$0.00	$0.00	0%	1	50	100%	100%	100%	0	42,433	2,500	7,255
LED Outdoor Canopy - 61W - 150W	LED	103	4,903	Metal Halide	454	4,903	20	$100	$262	$66	$0.07	151%	0.5	-0.3	1,719	$0.058	$0.003	0.4	0.0	$0.00	$0.00	0%	2	250	100%	100%	100%	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	$0	$18,278	$0.07	12%	11.0	9.6	14,883	$0.153	$0.010	5.7	0.0	$575.28	$0.00	0%	1	1	100%	100%	100%	0	15,935	2,280	18,278
Custom Lighting & Recommissioning	Engineering Study		0	Existing Overlit Lighting System	0	0	0	$52,585	$0	$142,104	$0.07	37%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	0	0	0	0
Custom Lighting	Custom Lighting Solution	99,000	4,558	Existing Overlit Lighting System	115,053	4,558	16	$6,421	$0	$22,054	$0.07	29%	4.1	2.9	73,176	$0.088	$0.005	16.1	11.7	$0.00	$0.00	68%	1	100	100%	100%	100%	1,167	7,834,743	642,132	2,205,386
Lighting Redesign Studies	Redesign Lighting Solution Study			Existing Overlit Lighting System				$12,038	$0	$17,949	$0.07	67%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	10	10	100%	100%	100%	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	$0	$86,652	$0.07	20%	3.5	2.8	341,943	$0.051	$0.003	43.6	31.7	$0.00	$0.00	68%	4	4	100%	100%	100%	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	$0	$325	$0.07	23%	13.5	10.4	355	$0.211	$0.011	0.1	0.1	$0.00	-$1.94	73%	0	0	100%	100%	100%	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	$0	$650	$0.07	15%	13.1	11.1	735	$0.136	$0.007	0.1	0.1	$0.00	-$4.02	73%	0	0	100%	100%	100%	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	$0	$982	$0.07	13%	13.3	11.6	1,096	$0.114	$0.006	0.2	0.2	$0.00	-$6.00	73%	0	0	100%	100%	100%	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	$0	$1,543	$0.07	10%	13.5	12.2	1,688	$0.089	$0.004	0.3	0.2	$0.00	-$9.24	73%	0	0	100%	100%	100%	0	0	0	0
LED Area Lighting - 141-199W	LED Parking Area Fixture	170	4,903	750W MH Fixture	850	4,903	20	$200	$0	$747	$0.07	27%	3.1	2.2	3,334	$0.060	$0.003	0.7	0.0	$0.00	$0.00	0%	1	125	100%	100%	100%	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	$52	$1,249	$0.07	20%	4.9	4.0	3,457	$0.072	$0.004	0.7	0.0	$0.00	$0.00	0%	1	125	100%	100%	100%	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	$8	$126	$0.07	24%	9.9	7.5	188	$0.159	$0.020	0.0	0.0	$0.00	-$1.03	73%	4	500	100%	100%	100%	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	$10	$126	$0.07	32%	5.1	3.4	368	$0.109	$0.013	0.1	0.1	$0.00	-$2.01	73%	2	150	100%	100%	100%	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	$11	$169	$0.07	30%	3.6	2.6	688	$0.073	$0.009	0.1	0.1	$0.00	-$3.77	73%	2	150	100%	100%	100%	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	$10	$221	$0.07	27%	3.5	2.5	946	$0.063	$0.008	0.2	0.1	$0.00	-$5.18	73%	2	250	100%	100%	100%	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	$14	$252	$0.07	30%	3.0	2.1	1,233	$0.061	$0.007	0.2	0.2	$0.00	-$6.75	73%	2	250	100%	100%	100%	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	$10	$252	$0.07	30%	2.6	1.9	1,410	$0.053	$0.007	0.3	0.2	$0.00	-$7.72	73%	3	400	100%	100%	100%	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	$1	$20	$0.07	35%	2.2	1.4	136	$0.051	$0.006	0.0	0.0	$0.00	-$0.75	73%	25	3,500	100%	100%	100%	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	$0	$88	$0.07	28%	6.4	4.6	204	$0.123	$0.006	0.0	0.0	$0.00	-$1.11	73%	1	50	100%	100%	100%	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	$0	$132	$0.07	27%	8.4	6.2	233	$0.150	$0.008	0.0	0.0	$0.00	-$1.28	73%	1	51	100%	100%	100%	2	12,730	1,785	6,736
LED Tube Type A 4 foot T5	LED 4 Foot Tube Instafit	28	5,335	T5 Fluorescent Lamps	60	5,335	8	$2	$2	$14	$0.07	22%	1.2	0.9	171	$0.018	$0.002	0.0	0.0	$0.00	-$0.94	84%	51	2,532	100%	100%	100%	73	463,162	5,064	34,924
LED Tube Type C 4 foot T5	LED 4 Foot Tube External Drive Retrofit Kits	26	5,335	T5 Fluorescent Lamps	57	5,335	20	$5	$0	$25	$0.07	20%	2.3	1.8	163	$0.031	$0.002	0.0	0.0	$0.00	-$0.89	84%	8	422	100%	100%	100%	12	73,624	2,110	10,584
LED Tube Type B 4 foot T5	LED 4 Foot Tube Internal LED Ballast/Driver Kits	29	5,335	T5 Fluorescent Lamps	61	5,335	8	$3	$2	$17	$0.07	18%	1.4	1.2	175	$0.017	$0.002	0.0	0.0	$0.00	-$0.96	84%	25	1,266	100%	100%	100%	37	237,162	3,798	21,032
LED Linear Ambient <=35W	LED Ambient Fixture <=35W	32	5,335	Flourescent Ambient Fixture	51	5,335	20	$20	$30	$129	$0.07	15%	23.0	19.5	103	$0.194	$0.010	0.0	0.0	$0.00	-$1.90	84%	29	1,140	100%	100%	100%	20	125,565	22,800	147,341
LED Linear Ambient 36-60W	LED Ambient Fixture 36-60W	57	5,335	Flourescent Ambient Fixture	92	5,335	20	$25	$36	$180	$0.07	14%	16.6	14.3	184	$0.136	$0.007	0.0	0.0	$0.00	-$2.53	84%	35	1,410	100%	100%	100%	44	277,292	35,250	254,478
LED Linear Ambient 61-100W	LED Ambient Fixture 61-100W	92	5,335	Flourescent Ambient Fixture	156	5,335	20	$38	$43	$252	$0.07	15%	11.9	10.1	339	$0.112	$0.006	0.1	0.1	$0.00	-$3.56	84%	11	450	100%	100%	100%	26	163,299	17,100	113,573
Recommissioning Study Allocation	Existing Building with measures as identified in	0	0	Existing Building	0	0	0	$4,530	$0	$7,246	$0.07	63%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	0%	1	14	100%	100%	100%	0	0	63,420	101,440
Motor Efficiency		0	0	0	0	0	0	$0	$0	$0	#N/A	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	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	$797	$181	$0.08	22%	7.5	5.9	319	$0.125	$0.006	0.1	0.0	$0.00	$0.00	78%	4	4	100%	100%	100%	0	1,366	160	725
Upgrade Motor	NEMA Premium Efficient Motor	15,650	4,806	EPACT Efficient Motor	15,950	4,806	20	$926	$0	$2,362	$0.08	39%	21.8	13.2	1,440	$0.643	$0.032	0.3	0.3	$0.00	$0.00	78%	40	54	100%	100%	100%	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	$0	$1,407	$0.08	35%	16.4	10.6	1,136	$0.438	$0.022	0.2	0.2	$0.00	$0.00	78%	9	13	100%	100%	100%	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	$0	$5,393	$0.08	28%	4.1	2.9	17,385	$0.088	$0.006	3.7	3.1	$0.00	$0.00	78%	400	1,138	100%	100%	100%	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	$0	$1,188	$0.08	29%	3.6	2.6	4,376	$0.079	$0.004	0.9	0.7	$0.00	$0.00	78%	4	4	100%	100%	100%	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	$0	$20,797	$0.08	29%	4.2	3.0	66,143	$0.091	$0.006	24.9	10.2	$0.00	$0.00	38%	3	3	100%	100%	100%	31	212,449	18,000	62,390
Study	Motor Study	0	0	No Study	0	0	7	$10,000	$0	$20,000	$0.08	50%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	78%	1	1	100%	100%	100%	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	$0	$56,547	$0.08	58%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	78%	1	1	100%	100%	100%	0	0	32,980	56,547
Custom	New Equipment	47,392	4,549	Existing or New Inefficient	80,699	4,549	16	$7,770	$0	$49,399	$0.08	16%	3.6	3.0	151,521	$0.051	$0.003	33.3	12.6	$2,384.63	$0.00	35%	3	3	100%	100%	100%	38	486,684	23,310	148,196
Multi Family Building Efficiency		0	0	0	0	0	0	$0	$0	$0	$0.08	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	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	$0	$0.12	#DIV/0!	0.0	0.0	604	$0.000	$0.000	0.1	0.0	$39.46	$0.00	64%	33	269	100%	100%	100%	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	$0	$0.12	#DIV/0!	0.0	0.0	98	$0.000	$0.000	0.0	0.0	$5.40	$0.00	124%	34	276	100%	100%	100%	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	$0	$0.12	#DIV/0!	0.0	0.0	73	$0.000	$0.000	0.0	0.0	$4.75	$0.00	124%	34	276	100%	100%	100%	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	$0	$0.12	#DIV/0!	0.0	0.0	103	$0.000	$0.000	0.0	0.0	$6.73	$0.00	124%	14	110	100%	100%	100%	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	$0	$0.12	#DIV/0!	0.0	0.0	245	$0.000	$0.000	0.0	0.0	$0.00	$0.00	100%	1	8	100%	100%	100%	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	$0	$0.12	#DIV/0!	0.0	0.0	29	$0.000	$0.000	0.0	0.0	$0.00	$0.00	8%	6,388	52,573	100%	100%	100%	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	$0	$0.07	#DIV/0!	0.0	0.0	257	$0.000	$0.000	0.1	0.0	$0.00	$0.00	74%	355	2,924	100%	100%	100%	142	804,964	0	0
Exit sign retrofit and replacement	LED/LEC Exit	1	7,602	Incandescent	44	7,602	20	$0	$0	$0	$0.07	#DIV/0!	0.0	0.0	321	$0.000	$0.000	0.0	0.0	-$1.76	$0.00	100%	8	68	100%	100%	100%	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	$17,578	$2,366	$0.07	105%	3.7	-0.2	9,486	$0.263	$0.013	1.1	1.2	$0.00	$0.00	100%	12	101	100%	100%	100%	118	1,025,783	251,615	238,968
Process Efficiency		0	0	0	0	0	0	$0	$0	$0	#N/A	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	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	$0	$141,025	$0.07	14%	2.5	2.2	289,767	$0.066	$0.004	48.1	11.2	$35,302.58	$0.00	22%	68	68	100%	100%	100%	761	21,096,503	1,295,665	9,589,695
Lighting	Optimized System	139	5,042	0	194	5,042	16	$23	$10	$90	$0.07	26%	4.6	3.4	278	$0.083	$0.005	0.1	0.0	$0.00	-$0.73	65%	19	19,500	100%	100%	100%	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	$2	$5,198	$0.08	29%	4.2	3.0	16,639	$0.089	$0.006	3.5	3.0	$0.00	$0.00	78%	63	569	100%	100%	100%	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	$0	$13,512	$0.06	30%	1.1	0.7	190,143	$0.022	$0.003	32.2	17.7	$1,365.94	$0.00	51%	1	1	100%	100%	100%	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	$7,017	$2,275	$0.08	43%	10.3	5.9	2,918	$0.334	$0.017	1.5	1.4	$0.00	$0.00	90%	20	843	100%	100%	100%	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	$2,901	$9,751	$0.07	35%	3.6	2.4	39,501	$0.086	$0.005	6.7	5.1	$0.00	$0.00	71%	13	72	100%	100%	100%	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	$0	$116,752	$0.07	28%	5.6	4.0	295,453	$0.112	$0.006	63.4	49.7	-$46.02	$0.00	73%	9	9	100%	100%	100%	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	$0	$0.06	#DIV/0!	0.0	0.0	545,921	$0.000	$0.000	62.3	34.2	$0.00	$0.00	51%	2	2	100%	100%	100%	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	$0	$0.06	#DIV/0!	0.0	0.0	-363,947	$0.000	$0.000	-41.5	-40.0	$0.00	$0.00	90%	2	2	100%	100%	100%	-80	-779,330	0	0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
Recommissioning	0	0	0	0	0	0	0	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	0	0	0	0
Recommissioning Implementation	Post-Recommissioned Building	290,028	5,900	Pre-Recommissioned Building	322,254	5,900	7	$4,105	$0	$13,512	$0.06	30%	1.1	0.7	190,143	$0.022	$0.003	32.2	17.7	$1,365.94	$0.00	51%	30	30	100%	100%	100%	531	6,107,379	123,146	405,363
Recommissioning Studies	Study Cost and Rebate	0	0	0	0	0	0	$8,053	$0	$12,108	$0.06	67%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	40	40	100%	100%	100%	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	$0	$646	$0.06	49%	0.4	0.2	25,498	$0.012	$0.002	2.9	1.6	$0.00	$0.00	51%	19	19	100%	100%	100%	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	$0	$0.06	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	51%	0	0	100%	100%	100%	0	0	0	0
Turn Key Services	0	0	0	0	0	0	0	$0	$0	$0	#N/A	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	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	$0	$2,275	$0.08	76%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	145	145	100%	100%	100%	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	$0	$13,712	$0.08	41%	4.2	2.5	41,913	$0.134	$0.008	9.5	5.6	-$22.01	$0.00	55%	131	131	100%	100%	100%	738	5,878,532	737,516	1,796,232
Electric Rate Savings	0	0	0	0	0	0	0	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	3,532	$0.000	$0.000	200.0	102.1	$0.00	$0.00	47%	45	45	100%	100%	100%	4,593	170,174	0	0
Saver's Switch For Business	0	0	0	0	0	0	0	$0	$0	$0	#N/A	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	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	$0	$0.11	#DIV/0!	0.0	0.0	3	$0.000	$0.000	4.562	1.094	$0.00	$0.00	22%	747	2,240	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	6	$0.000	$0.000	14.023	2.449	$0.00	$0.00	16%	187	560	100%	100%	100%	1,372	3,393	0	0
Residential Demand Response	0	0	0	0	0	0	0	$0	$0	$0	#N/A	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.000	0.000	$0.00	$0.00	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	$0	$0.11	#DIV/0!	0.0	0.0	2	$0.000	$0.000	2.402	0.749	$0.00	$0.00	28%	20,000	20,000	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	3	$0.000	$0.000	4.500	0.219	$0.00	$0.00	4%	25	25	100%	100%	100%	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	$0	$215	$0.11	58%	1059.4	443.5	2	$69.926	$6.993	2.4	1.2	$0.00	$0.00	47%	10,500	10,500	100%	100%	100%	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	$0	$225	$0.11	100%	1108.7	0.0	2	$125.866	$12.587	2.4	1.2	$0.00	$0.00	47%	1,500	1,500	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	-369.6	2	$41.955	$4.196	2.4	1.2	$0.00	$0.00	47%	3,000	3,000	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	54	$0.000	$0.000	0.0	0.0	$0.00	$52.19	90%	2,394	2,394	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	18	$0.000	$0.000	0.0	0.0	$0.00	$17.40	90%	1,830	1,830	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	89	$0.000	$0.000	0.0	0.0	$0.00	$86.02	90%	2,394	2,394	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	53	$0.000	$0.000	0.0	0.0	$0.00	$51.22	90%	1,830	1,830	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	54	$0.000	$0.000	0.0	0.0	$0.00	$0.00	90%	1,007	1,007	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	18	$0.000	$0.000	0.0	0.0	$0.00	$0.00	90%	769	769	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	89	$0.000	$0.000	0.0	0.0	$0.00	$0.00	90%	1,007	1,007	100%	100%	100%	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	$0	$0.11	#DIV/0!	0.0	0.0	53	$0.000	$0.000	0.0	0.0	$0.00	$0.00	90%	769	769	100%	100%	100%	0	44,465	0	0
Home Energy Savings Program	0	0	0	0	0	0	0	$0	$0	$0	#N/A	#DIV/0!	#N/A	#N/A	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	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	$0	$617	$0.11	100%	9.4	0.0	595	$1.036	$0.058	0.1	0.1	$0.00	$0.00	64%	483	650	100%	100%	100%	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	$0	$320	$0.11	100%	5.7	0.0	508	$0.629	$0.035	0.1	0.1	$0.00	$0.00	64%	201	270	100%	100%	100%	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	$0	$47	$0.11	100%	0.4	0.0	1,133	$0.041	$0.005	0.2	0.1	$0.00	$0.00	64%	4	5	100%	100%	100%	1	6,184	235	235
Freezer Recycling	Removal of freezer	0	0	Existing primary unit - age mostly >10 years	206	5,592	6	$43	$0	$43	$0.11	100%	0.3	0.0	1,155	$0.037	$0.006	0.2	0.1	$0.00	$0.00	64%	1	2	100%	100%	100%	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	$0	$409	$0.11	100%	173.2	0.0	21	$19.044	$2.116	0.0	0.0	$0.00	$0.00	90%	334	450	100%	100%	100%	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	$0	$63	$0.11	100%	0.9	0.0	607	$0.103	$0.023	0.9	0.9	$0.00	$0.00	90%	0	0	100%	100%	100%	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	$0	$525	$0.11	100%	10.9	0.0	565	$0.929	$0.052	0.2	0.1	-$14.06	$0.00	27%	82	110	100%	100%	100%	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	$0	$24	$0.11	100%	5.1	0.0	42	$0.567	$0.028	0.1	0.0	$0.00	$0.00	0%	85	114	100%	100%	100%	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	$0	$1,524	$0.11	100%	9.6	0.0	1,443	$1.056	$0.053	1.1	0.0	$0.00	$0.00	0%	4	5	100%	100%	100%	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	$0	$1,524	$0.11	100%	9.3	0.0	1,484	$1.027	$0.051	0.8	0.0	$0.00	$0.00	0%	0	0	100%	100%	100%	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	$0	$77	$0.11	100%	23.3	0.0	30	$2.573	$0.257	0.1	0.1	$0.00	$0.00	100%	85	114	100%	100%	100%	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	$0	$880	$0.11	100%	5.5	0.0	1,445	$0.609	$0.061	1.1	0.0	$0.00	$0.00	0%	4	5	100%	100%	100%	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	$0	$880	$0.11	100%	5.4	0.0	1,475	$0.597	$0.060	0.8	0.1	$0.00	$0.00	10%	0	0	100%	100%	100%	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	$0	$103	$0.11	100%	10.0	0.0	93	$1.105	$0.055	0.2	0.2	$0.00	$0.00	100%	13	18	100%	100%	100%	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	$0	$1,295	$0.11	100%	3.6	0.0	3,230	$0.401	$0.020	2.6	0.0	$0.00	$0.00	0%	5	7	100%	100%	100%	0	24,686	9,065	9,065
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	$0	$1,295	$0.11	100%	3.5	0.0	3,324	$0.390	$0.019	1.9	0.2	$0.00	$0.00	10%	0	0	100%	100%	100%	0	0	0	0
LEDs - 2017	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	7	$3	$0	$3	$0.11	100%	0.9	0.0	34	$0.099	$0.014	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
LEDs - 2018	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	6	$3	$0	$3	$0.11	100%	0.9	0.0	34	$0.101	$0.016	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
LEDs - 2019	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	5	$4	$0	$4	$0.11	100%	0.9	0.0	34	$0.102	$0.020	0.0	0.0	$0.00	$0.00	8%	752	2,400	100%	100%	100%	8	89,965	8,413	8,413
Multi-Family Energy Savings Program																												**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	$0	$520	$0.11	100%	7.9	0.0	595	$0.874	$0.049	0.1	0.1	$0.00	$0.00	64%	89	697	100%	100%	100%	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	$0	$244	$0.11	100%	4.4	0.0	508	$0.480	$0.027	0.1	0.1	$0.00	$0.00	64%	3	22	100%	100%	100%	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	$0	$33	$0.11	100%	0.3	0.0	1,133	$0.029	$0.004	0.2	0.1	$0.00	$0.00	64%	1	11	100%	100%	100%	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	$0	$33	$0.11	100%	0.3	0.0	1,155	$0.029	$0.005	0.2	0.1	$0.00	$0.00	64%	1	11	100%	100%	100%	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	$0	$409	$0.11	100%	180.2	0.0	21	$19.044	$2.116	0.0	0.0	$0.00	$0.00	55%	53	414	100%	100%	100%	8	9,717	169,504	169,504

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
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	$0	$33	$0.11	100%	0.5	0.0	607	$0.054	$0.012	0.9	0.6	$0.00	$0.00	55%	0	0	100%	100%	100%	0	0	0	0
Value LED Bulbs - 2017	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	7	$5	$0	$5	$0.11	100%	1.4	0.0	34	$0.151	$0.021	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Value LED Bulbs - 2018	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	6	$5	$0	$5	$0.11	100%	1.4	0.0	34	$0.151	$0.025	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Value LED Bulbs - 2019	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	5	$5	$0	$5	$0.11	100%	1.4	0.0	34	$0.151	$0.030	0.0	0.0	$0.00	$0.00	8%	1,619	12,702	100%	100%	100%	42	476,139	66,050	66,050
Energy Efficient Showerhead	0	0	0	0	0	0	0	$0	$0	$0	$0.11	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	100%	0	0	100%	100%	100%	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	$0	$3	$0.11	100%	0.0	0.0	510	$0.006	$0.001	0.1	0.0	$33.37	$0.00	64%	0	0	100%	60%	100%	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	$0	$3	$0.11	100%	0.1	0.0	343	$0.009	$0.001	0.0	0.0	$22.44	$0.00	64%	0	0	100%	50%	100%	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	$0	$2	$0.11	100%	0.1	0.0	74	$0.020	$0.002	0.0	0.0	$4.17	$0.00	124%	0	0	100%	40%	100%	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	$0	$0.11	100%	0.0	0.0	64	$0.007	$0.001	0.0	0.0	$4.19	$0.00	124%	0	0	100%	40%	100%	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	$0	$0.11	100%	0.0	0.0	64	$0.007	$0.001	0.0	0.0	$4.19	$0.00	124%	0	0	100%	30%	100%	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	$0	$3	$0.11	100%	0.0	0.0	510	$0.006	$0.001	0.1	0.0	$33.37	$0.00	64%	0	0	100%	60%	100%	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	$0	$3	$0.11	100%	0.1	0.0	343	$0.009	$0.001	0.0	0.0	$22.44	$0.00	64%	0	0	100%	50%	100%	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	$0	$2	$0.11	100%	0.1	0.0	74	$0.021	$0.002	0.0	0.0	$4.17	$0.00	124%	0	0	100%	40%	100%	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	$0	$2	$0.11	100%	0.1	0.0	91	$0.018	$0.002	0.0	0.0	$5.93	$0.00	124%	0	0	100%	40%	100%	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	$0	$2	$0.11	100%	0.1	0.0	91	$0.018	$0.002	0.0	0.0	$5.93	$0.00	124%	0	0	100%	30%	100%	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	$0	$3	$0.11	100%	0.0	0.0	510	$0.007	$0.001	0.1	0.0	$33.37	$0.00	64%	427	1,920	100%	60%	100%	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	$0	$3	$0.11	100%	0.1	0.0	343	$0.010	$0.001	0.0	0.0	$22.44	$0.00	64%	320	1,440	100%	50%	100%	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	$0	$2	$0.11	100%	0.1	0.0	74	$0.022	$0.002	0.0	0.0	$4.17	$0.00	124%	427	1,920	100%	40%	100%	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	$0	$1	$0.11	100%	0.0	0.0	64	$0.009	$0.001	0.0	0.0	$4.19	$0.00	124%	427	1,920	100%	40%	100%	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	$0	$1	$0.11	100%	0.0	0.0	64	$0.009	$0.001	0.0	0.0	$4.19	$0.00	124%	320	1,440	100%	30%	100%	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	$0	$2	$0.11	100%	0.1	0.0	91	$0.019	$0.002	0.0	0.0	$5.93	$0.00	124%	427	1,920	100%	40%	100%	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	$0	$2	$0.11	100%	0.1	0.0	91	$0.019	$0.002	0.0	0.0	$5.93	$0.00	124%	320	1,440	100%	30%	100%	6	42,784	2,475	2,475
Energy Feedback Residential		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**#N/A**	**#DIV/0!**	**#N/A**	**#N/A**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	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	$0	$0.11	#DIV/0!	0.0	0.0	19	$0.000	$0.000	0.0	0.0	$0.00	$0.00	85%	26,220	26,220	100%	100%	100%	55	538,606	0	0
Rollup: Existing Participant 2017 Savings	Treatment	1,215	4,108	Control	1,267	4,106	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	212	$0.000	$0.000	0.1	0.1	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Rollup: New Participant 2017 Savings	Treatment	1,073	4,156	Control	1,098	4,155	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	105	$0.000	$0.000	0.0	0.0	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Rollup: Existing Participant 2018 Savings	Treatment	1,116	4,120	Control	1,166	4,119	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	204	$0.000	$0.000	0.1	0.1	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Rollup: New Participant 2018 Savings	Treatment	1,028	4,170	Control	1,053	4,169	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	104	$0.000	$0.000	0.0	0.0	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Rollup: Existing Participant 2019 Savings	Treatment	1,055	4,121	Control	1,105	4,120	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	207	$0.000	$0.000	0.1	0.1	$0.00	$0.00	96%	210,100	210,100	100%	100%	100%	11,208	47,379,913	0	0
Rollup: New Participant 2019 Savings	Treatment	974	4,164	Control	999	4,163	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	103	$0.000	$0.000	0.0	0.0	$0.00	$0.00	96%	20,000	20,000	100%	100%	100%	527	2,248,908	0	0
Behavioral Adjustment-Online Group Savings	Treatment	-539	8,426	Control	-541	8,426	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-13	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	85%	0	26,220	100%	100%	100%	-36	-359,071	0	0
Behavioral Adjustments Rollup: Existing Participants 2017 Savings	Treatment	-810	4,108	Control	-845	4,106	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-141	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Behavioral Adjustments Rollup: New Participant 2017 Savings	Treatment	-715	4,156	Control	-732	4,155	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-70	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Behavioral Adjustments Rollup: Existing Participants 2018 Savings	Treatment	-744	4,120	Control	-777	4,119	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-136	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Behavioral Adjustments Rollup: New Participant 2018 Savings	Treatment	-685	4,170	Control	-702	4,169	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-69	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	96%	0	0	100%	100%	100%	0	0	0	0
Behavioral Adjustments Rollup: Existing Participants 2019 Savings	Treatment	-703	4,121	Control	-737	4,120	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-138	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	96%	0	210,100	100%	100%	100%	-7,472	-31,586,608	0	0
Behavioral Adjustments Rollup: New Participant 2019 Savings	Treatment	-649	4,164	Control	-666	4,163	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-69	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	96%	0	20,000	100%	100%	100%	-351	-1,499,272	0	0
Efficient New Home Construction		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.11**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	$0	$80	$0.12	42%	10.0	5.8	68	$0.494	$0.025	0.1	0.1	$0.00	$0.00	72%	14	25	100%	100%	100%	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	$0	$157	$0.12	19%	15.1	12.2	88	$0.346	$0.017	0.3	0.3	$0.00	$0.00	90%	112	200	100%	100%	100%	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	$0	$258	$0.12	22%	15.7	12.2	139	$0.409	$0.020	0.4	0.4	$0.00	$0.00	90%	210	376	100%	100%	100%	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	$0	$417	$0.12	29%	11.3	8.0	312	$0.391	$0.020	0.6	0.5	$0.00	$0.00	90%	80	144	100%	100%	100%	79	49,060	17,568	60,098
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	$0	$630	$0.12	25%	15.3	11.4	349	$0.458	$0.023	1.0	1.0	$0.00	$0.00	90%	22	40	100%	100%	100%	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	$0	$4,054	$0.12	19%	3.9	3.1	8,866	$0.087	$0.004	3.3	1.1	$0.00	$0.00	30%	22	40	100%	100%	100%	43	387,180	30,960	162,168

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
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	$0	$2,184	$0.12	20%	5.1	4.1	3,629	$0.119	$0.006	1.5	0.6	$0.00	$0.00	38%	1	1	100%	100%	100%	1	1	1	1
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	$0	$158	$0.12	63%	5.3	2.0	254	$0.394	$0.020	0.4	0.4	$0.00	$0.00	90%	112	201	100%	100%	100%	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	$0	$259	$0.12	39%	8.4	5.2	261	$0.384	$0.019	0.5	0.5	$0.00	$0.00	90%	400	717	100%	100%	100%	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	$0	$419	$0.12	24%	10.6	8.0	336	$0.298	$0.015	0.5	0.5	$0.00	$0.00	90%	123	220	100%	100%	100%	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	$0	$630	$0.12	16%	15.3	12.9	349	$0.287	$0.014	1.0	1.0	$0.00	$0.00	90%	34	61	100%	100%	100%	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	$0	$4,054	$0.12	2%	3.9	3.8	8,866	$0.011	$0.001	3.3	1.1	$0.00	$0.00	30%	1	1	100%	100%	100%	1	1	1	1
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	$0	$2,184	$0.12	5%	5.1	4.9	3,629	$0.028	$0.001	1.5	0.6	$0.00	$0.00	38%	1	1	100%	100%	100%	1	1	1	1
Energy Star Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Clothes Washer	370	295	Standard Clothes Washer	477	295	11	$10	$677	$30	$0.12	33%	2.2	1.5	32	$0.316	$0.029	0.1	0.0	$10.00	$0.00	3%	1	1	100%	100%	100%	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	$677	$30	$0.12	33%	2.2	1.5	32	$0.316	$0.029	0.1	0.0	$10.00	$0.00	3%	193	345	100%	100%	100%	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	$677	$10	$0.12	33%	0.9	0.6	6	$0.514	$0.047	0.0	0.0	$10.00	$0.00	3%	143	256	100%	100%	100%	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	$677	$10	$0.12	103%	0.9	0.0	6	$1.582	$0.144	0.0	0.0	$10.00	$0.00	3%	1	1	100%	100%	100%	0	7	10	10
Energy Star Refrigerator	Top Mounted Freezer 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	$663	$26	$0.12	58%	5.4	2.3	41	$0.364	$0.020	0.0	0.0	$0.00	$0.00	64%	558	1,000	100%	100%	100%	5	45,000	15,000	26,040
Residential Heating		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.11**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	$236	$212	$0.11	47%	4.3	2.3	539	$0.186	$0.027	0.2	0.1	-$9.50	$0.00	63%	50	50	100%	100%	100%	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	$236	$212	$0.11	47%	5.6	2.9	433	$0.231	$0.033	0.2	0.1	-$9.50	$0.00	27%	50	50	100%	100%	100%	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	$236	$212	$0.11	47%	3.5	1.9	672	$0.149	$0.008	0.2	0.1	-$14.06	$0.00	71%	8,900	8,900	100%	100%	100%	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	$236	$212	$0.11	47%	4.4	2.3	565	$0.177	$0.010	0.2	0.1	-$14.06	$0.00	27%	1,000	1,000	100%	100%	100%	60	616,812	100,000	212,000
Home Energy Squad		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**#N/A**	**#DIV/0!**	**#N/A**	**#N/A**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	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		$0	$3	$0.12	0%	0.5	0.5	40	$0.000	$0.000	0.0	0.0	$0.07	$0.87	10%	0	0	100%	100%	100%	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		$0	$3	$0.12	0%	0.5	0.5	40	$0.000	$0.000	0.0	0.0	$0.07	$0.87	10%	0	0	100%	100%	100%	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		$0	$3	$0.12	0%	0.5	0.5	40	$0.000	$0.000	0.0	0.0	$0.07	$0.87	10%	2,199	50,831	100%	100%	100%	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	$0	$20	$0.12	0%	1.5	1.5	115	$0.000	$0.000	0.0	0.0	$0.00	$0.00	19%	0	1	100%	100%	100%	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	$0	$30	$0.12	0%	1.0	1.0	38	$0.000	$0.000	0.1	0.1	$0.00	$25.17	90%	1	17	100%	100%	100%	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	$0.12	0%	0.1	0.1	41	$0.000	$0.000	0.0	0.0	$0.09	$0.00	11%	0	0	100%	100%	100%	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	$0.12	0%	0.1	0.1	41	$0.000	$0.000	0.0	0.0	$0.09	$0.00	11%	0	0	100%	100%	100%	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	$0.12	0%	0.1	0.1	41	$0.000	$0.000	0.0	0.0	$0.09	$0.00	11%	2,499	41,688	100%	100%	100%	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	$0	$20	$0.12	0%	1.5	1.5	115	$0.000	$0.000	0.0	0.0	$0.00	$0.00	19%	0	1	100%	100%	100%	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	$0	$9	$0.12	0%	2.0	2.0	38	$0.000	$0.000	0.1	0.1	$0.00	$0.00	76%	1	20	100%	100%	100%	1	821	0	181
Home Lighting																												**0**	**0**	**0**	**0**
Average CFL	Average CFL	15	854	Average EISA Standard Halogen A-Style Bulb	48	854	7	$1	$1	$1	$0.11	119%	0.3	-0.1	29	$0.044	$0.006	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Average CFL	Average CFL	15	5,649	Average EISA Standard Halogen A-Style Bulb	48	5,649	2	$1	$1	$1	$0.11	119%	0.0	0.0	206	$0.006	$0.004	0.0	0.0	$0.00	$0.00	82%	0	0	100%	100%	100%	0	0	0	0
Average LED Bulb	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	7	$3	$2	$7	$0.11	38%	1.9	1.2	34	$0.080	$0.011	0.03777	0.00331	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Average LED Bulb	Average LED Bulb	10	5,649	Average EISA Standard Halogen A-Style Bulb	48	5,649	3	$3	$2	$7	$0.11	38%	0.3	0.2	232	$0.012	$0.004	0.0	0.0	$0.00	$0.00	82%	0	0	100%	100%	100%	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	$1	$2	$0.11	68%	0.7	0.2	30	$0.049	$0.007	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Average Value LED Bulb	Average Value LED Bulb	10	5,649	Average EISA Standard Halogen A-Style Bulb	43	5,649	2	$2	$1	$2	$0.11	68%	0.1	0.0	205	$0.007	$0.004	0.0	0.0	$0.00	$0.00	82%	0	0	100%	100%	100%	0	0	0	0
Average CFL	Average CFL	15	854	Average EISA Standard Halogen A-Style Bulb	48	854	6	$1	$1	$1	$0.11	119%	0.3	-0.1	29	$0.044	$0.007	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Average CFL	Average CFL	15	5,649	Average EISA Standard Halogen A-Style Bulb	48	5,649	2	$1	$1	$1	$0.11	119%	0.0	0.0	206	$0.006	$0.004	0.0	0.0	$0.00	$0.00	82%	0	0	100%	100%	100%	0	0	0	0
Average LED Bulb	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	6	$3	$2	$6	$0.11	44%	1.7	0.9	34	$0.080	$0.013	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Average LED Bulb	Average LED Bulb	10	5,649	Average EISA Standard Halogen A-Style Bulb	48	5,649	3	$3	$2	$6	$0.11	44%	0.2	0.1	232	$0.012	$0.004	0.0	0.0	$0.00	$0.00	82%	0	0	100%	100%	100%	0	0	0	0
Average Value LED Bulb	Average Value LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	43	909	6	$2	$1	$2	$0.11	80%	0.6	0.1	30	$0.049	$0.008	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Average Value LED Bulb	Average Value LED Bulb	10	5,649	Average EISA Standard Halogen A-Style Bulb	43	5,649	2	$2	$1	$2	$0.11	80%	0.1	0.0	205	$0.007	$0.004	0.0	0.0	$0.00	$0.00	82%	0	0	100%	100%	100%	0	0	0	0
Average CFL	Average CFL	15	854	Average EISA Standard Halogen A-Style Bulb	48	854	5	$1	$1	$1	$0.11	119%	0.3	-0.1	29	$0.044	$0.009	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	0	0	0	0
Average CFL	Average CFL	15	5,649	Average EISA Standard Halogen A-Style Bulb	48	5,649	2	$1	$1	$1	$0.11	119%	0.0	0.0	206	$0.006	$0.004	0.0	0.0	$0.00	$0.00	82%	0	0	100%	100%	100%	0	0	0	0
Average LED Bulb	Average LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	48	909	5	$3	$1	$6	$0.11	47%	1.6	0.8	34	$0.080	$0.016	0.0	0.0	$0.00	$0.00	8%	72,308	940,000	100%	100%	100%	3,115	35,236,230	2,566,200	5,505,050

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
Average LED Bulb	Average LED Bulb	10	5,649	Average EISA Standard Halogen A-Style Bulb	48	5,649	3	$3	$1	$6	$0.11	47%	0.2	0.1	232	$0.012	$0.004	0.0	0.0	$0.00	$0.00	82%	2,308	60,000	100%	100%	100%	1,814	15,211,877	163,800	351,386
Average Value LED Bulb	Average Value LED Bulb	10	909	Average EISA Standard Halogen A-Style Bulb	43	909	5	$2	$1	$2	$0.11	96%	0.5	0.0	30	$0.049	$0.010	0.0	0.0	$0.00	$0.00	8%	69,242	900,144	100%	100%	100%	2,633	29,790,393	1,350,216	1,405,008
Average Value LED Bulb	Average Value LED Bulb	10	5,649	Average EISA Standard Halogen A-Style Bulb	43	5,649	2	$2	$1	$2	$0.11	96%	0.1	0.0	205	$0.007	$0.004	0.0	0.0	$0.00	$0.00	82%	2,210	57,456	100%	100%	100%	1,534	12,860,848	86,184	89,681
Whole Home Efficiency		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**#N/A**	**#DIV/0!**	**#N/A**	**#N/A**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	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	$236	$212	$0.11	59%	3.5	1.5	672	$0.186	$0.010	0.2	0.1	-$14.06	$0.00	71%	3	30	100%	100%	100%	4	22,009	3,750	6,360
EC Fan Motor on new Residential Furnace no AC	ECM Furnace Fan	301	2,783	Non-ECM Fan	504	2,783	18	$125	$236	$212	$0.11	59%	4.4	1.8	565	$0.221	$0.012	0.2	0.1	-$14.06	$0.00	27%	1	10	100%	100%	100%	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	$236	$212	$0.11	59%	4.3	1.7	539	$0.232	$0.033	0.2	0.1	-$9.50	$0.00	63%	2	20	100%	100%	100%	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	$236	$212	$0.11	59%	5.6	2.3	433	$0.289	$0.041	0.2	0.1	-$9.50	$0.00	27%	0	5	100%	100%	100%	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	$1,057	$461	$0.11	43%	25.2	14.3	166	$1.205	$0.080	0.3	0.2	$0.00	$0.00	90%	0	2	100%	100%	100%	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	$1,057	$691	$0.11	43%	26.9	15.2	233	$1.286	$0.086	0.4	0.3	$0.00	$0.00	90%	1	10	100%	100%	100%	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	$0	$152	$0.11	115%	7.1	-1.1	196	$0.894	$0.060	0.3	0.3	$0.00	$0.00	90%	0	5	100%	100%	100%	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	$0	$121	$0.11	144%	6.1	-2.7	180	$0.971	$0.065	0.3	0.3	$0.00	$0.00	90%	0	2	100%	100%	100%	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	$0	$98	$0.11	178%	5.3	-4.1	169	$1.036	$0.069	0.3	0.3	$0.00	$0.00	90%	1	10	100%	100%	100%	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	$677	$7	$0.11	33%	2.3	1.5	6	$0.363	$0.033	0.0	0.0	$2.30	$0.00	3%	1	15	100%	100%	100%	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	$663	$26	$0.11	58%	5.7	2.4	41	$0.364	$0.020	0.0	0.0	$0.00	$0.00	64%	2	20	100%	100%	100%	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	$0	$263	$0.11	15%	40.7	34.7	59	$0.664	$0.033	0.1	0.1	$0.00	$0.00	100%	9	100	100%	100%	100%	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	$0	$249	$0.11	14%	14.5	12.6	156	$0.217	$0.011	0.3	0.3	$0.00	$0.00	100%	11	120	100%	100%	100%	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	$0	$163	$0.11	17%	14.2	11.8	104	$0.268	$0.027	0.2	0.2	$0.00	$0.00	100%	4	40	100%	100%	100%	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	$0	$131	$0.11	15%	5.1	4.4	233	$0.083	$0.008	0.5	0.5	$0.00	$0.00	100%	6	70	100%	100%	100%	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	$0	$8	$0.11	31%	0.9	0.6	75	$0.031	$0.003	0.1	0.1	$0.00	$0.00	76%	4	40	100%	100%	100%	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	$0	$4	$0.11	100%	0.0	0.0	510	$0.007	$0.001	0.1	0.0	$33.37	$0.00	64%	1	12	100%	100%	100%	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	$0	$1	$0.11	100%	0.1	0.0	74	$0.014	$0.001	0.0	0.0	$4.17	$0.00	124%	2	18	100%	100%	100%	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	$0	$2	$0.11	100%	0.2	0.0	64	$0.031	$0.003	0.0	0.0	$4.19	$0.00	124%	1	12	100%	100%	100%	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	$0	$1	$0.11	0%	0.1	0.1	91	$0.000	$0.000	0.0	0.0	$5.93	$0.00	124%	1	4	100%	100%	100%	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	$0	$23	$0.11	100%	0.8	0.0	254	$0.092	$0.014	0.0	0.0	$0.00	$0.00	100%	2	25	100%	100%	100%	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	$0	$3	$0.11	100%	0.8	0.0	30	$0.091	$0.013	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	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	$0	$3	$0.11	100%	0.8	0.0	30	$0.091	$0.015	0.0	0.0	$0.00	$0.00	8%	0	0	100%	100%	100%	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	$0	$3	$0.11	100%	0.8	0.0	30	$0.091	$0.018	0.0	0.0	$0.00	$0.00	8%	147	1,600	100%	100%	100%	5	52,952	4,400	4,400
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	$3,440	$512	$0.11	39%	6.9	4.2	680	$0.294	$0.016	0.6	0.6	$0.00	$0.00	90%	150	150	100%	100%	100%	83	111,276	30,000	76,854
≤ 50 pints/day dehumidifier	ENERGY STAR Dehumidifier - low capacity	389	1,620	Standard efficiency dehumidifier (Current Federal Standard)	519	1,620	12	$25	$224	$50	$0.11	50%	2.2	1.1	211	$0.119	$0.010	0.1	0.1	$0.00	$0.00	100%	16	16	100%	100%	100%	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	$220	$48	$0.11	52%	2.5	1.2	178	$0.140	$0.012	0.1	0.1	$0.00	$0.00	100%	13	13	100%	100%	100%	2	2,534	326	631
Insulation Rebate		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**#N/A**	**#DIV/0!**	**#N/A**	**#N/A**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	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	$0	$2,077	$0.11	14%	7.3	6.2	2,602	$0.114	$0.006	2.1	0.0	$0.00	$0.00	0%	17	23	100%	100%	100%	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	$0	$1,682	$0.11	17%	6.7	5.5	2,299	$0.125	$0.006	1.3	0.1	$0.00	$0.00	10%	25	35	100%	100%	100%	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	$0	$1,966	$0.11	15%	22.5	19.1	59	$4.971	$0.249	0.1	0.1	$0.00	$81.07	100%	254	350	100%	100%	100%	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	$0	$3,935	$0.11	7%	3.7	3.5	9,594	$0.029	$0.001	7.6	0.0	$0.00	$0.00	0%	62	85	100%	100%	100%	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	$0	$1,751	$0.11	17%	1.0	0.9	15,173	$0.020	$0.001	8.7	1.0	$0.00	$0.00	10%	21	29	100%	100%	100%	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	$0	$1,865	$0.11	14%	8.0	6.9	156	$1.623	$0.081	0.3	0.3	$0.00	$215.52	100%	87	120	100%	100%	100%	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	$0	$2,338	$0.11	6%	3.7	3.5	5,699	$0.023	$0.002	4.5	0.0	$0.00	$0.00	0%	11	15	100%	100%	100%	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	$0	$635	$0.11	21%	1.1	0.9	5,289	$0.026	$0.003	3.0	0.2	$0.00	$0.00	7%	8	11	100%	100%	100%	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	$0	$874	$0.11	16%	4.0	3.3	107	$1.330	$0.133	0.2	0.2	$0.00	$208.54	100%	108	149	100%	100%	100%	36	17,438	21,247	130,173
Refrigerator Recycling		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.11**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	$0	$0.12	#DIV/0!	0.0	-0.3	953	$0.037	$0.004	0.2	0.1	$0.00	$0.00	64%	6,000	6,000	100%	100%	100%	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	$0	$0.12	#DIV/0!	0.0	-0.3	1,155	$0.030	$0.005	0.2	0.1	$0.00	$0.00	64%	900	900	100%	100%	100%	130	1,134,437	31,500	0
Room AC Recycling	removal of room ac	0	0	Existing 10,000 BTU/h Room Air Conditioner	582	536	3	$0	$0	$0	$0.12	#DIV/0!	0.0	0.0	312	$0.000	$0.000	0.6	0.6	$0.00	$0.00	90%	90	90	100%	100%	100%	52	30,631	0	0
Dehumidifier Recycling	removal of dehumidifier	0	0	Existing dehumidifier	355	2,160	5	$0	$0	$0	$0.12	#DIV/0!	0.0	0.0	766	$0.000	$0.000	0.4	0.4	$0.00	$0.00	100%	110	110	100%	100%	100%	43	92,034	0	0
Residential Cooling		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.11**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	$1,057	$461	$0.11	43%	27.1	15.3	155	$1.294	$0.086	0.2	0.24112	$0.00	$0.00	90%	5	10	100%	100%	100%	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	$1,057	$691	$0.11	43%	28.9	16.4	217	$1.380	$0.092	0.3	0.33514	$0.00	$0.00	90%	12	24	100%	100%	100%	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	$0	$117	$0.11	128%	10.8	-3.1	98	$1.527	$0.102	0.0	0.00000	$0.00	$0.00	90%	37	37	100%	100%	100%	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	$0	$117	$0.11	128%	11.8	-3.3	90	$1.659	$0.111	0.0	0.00000	$0.00	$0.00	90%	5	10	100%	100%	100%	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	$0	$117	$0.11	128%	12.5	-3.5	85	$1.769	$0.118	0.0	0.00000	$0.00	$0.00	90%	12	24	100%	100%	100%	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	$1,057	$461	$0.11	43%	25.2	14.3	166	$1.205	$0.080	0.3	0.24931	$0.00	$0.00	90%	868	1,736	100%	100%	100%	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	$1,057	$691	$0.11	43%	26.9	15.2	233	$1.286	$0.086	0.4	0.34685	$0.00	$0.00	90%	2,389	4,778	100%	100%	100%	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	$0	$152	$0.11	99%	7.1	0.1	196	$0.766	$0.051	0.3021	0.29817	$0.00	$0.00	90%	4,727	4,727	100%	100%	100%	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	$0	$121	$0.11	124%	6.1	-1.4	180	$0.832	$0.055	0.2838	0.28003	$0.00	$0.00	90%	868	1,736	100%	100%	100%	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	$0	$98	$0.11	152%	5.3	-2.8	169	$0.888	$0.059	0.2707	0.26711	$0.00	$0.00	90%	2,389	4,778	100%	100%	100%	1,276	881,456	716,700	470,072

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 ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	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)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2019 Participants (-)	2019 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Gen kW (kW)	2019 NET Gen kWh (kWh)	2019 Rebate Budget ($)	2019 Incremental Costs ($)
TOTAL																														
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	$1,944	$457	$0.11	44%	57.9	32.6	72	$2.787	$0.186	0.1120	0.11052	$0.00	$0.00	90%	1	1	100%	100%	100%	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	$1,944	$914	$0.11	33%	61.8	41.5	135	$2.229	$0.149	0.2073	0.20454	$0.00	$0.00	90%	1	1	100%	100%	100%	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	$0	$117	$0.11	128%	11.0	-3.1	97	$1.548	$0.103	0.0000	0.00000	$0.00	$0.00	90%	1	1	100%	100%	100%	0	106	150	117
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	$0	$117	$0.11	128%	11.8	-3.3	90	$1.659	$0.111	0.0000	0.00000	$0.00	$0.00	90%	1	1	100%	100%	100%	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	$0	$117	$0.11	128%	12.5	-3.5	85	$1.769	$0.118	0.0	0.00000	$0.00	$0.00	90%	1	1	100%	100%	100%	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	$1,944	$457	$0.11	44%	53.9	30.3	77	$2.596	$0.173	0.1	0.11439	$0.00	$0.00	90%	7	14	100%	100%	100%	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	$1,944	$914	$0.11	33%	57.5	38.6	144	$2.077	$0.138	0.2	0.21194	$0.00	$0.00	90%	25	25	100%	100%	100%	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	$0	$79	$0.11	190%	3.7	-3.4	193	$0.777	$0.052	0.3	0.29496	$0.00	$0.00	90%	4	4	100%	100%	100%	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	$0	$75	$0.11	200%	3.8	-3.8	180	$0.832	$0.055	0.3	0.28003	$0.00	$0.00	90%	1	3	100%	100%	100%	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	$0	$75	$0.11	200%	4.0	-4.0	169	$0.888	$0.059	0.3	0.26711	$0.00	$0.00	90%	12	25	100%	100%	100%	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	$846	$1,168	$0.11	26%	24.2	18.0	440	$0.682	$0.034	0.5	0.47673	$0.00	$0.00	90%	66	66	100%	100%	100%	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	$3,440	$512	$0.11	39%	6.9	4.2	680	$0.294	$0.016	0.6	0.55159	$0.00	$0.00	90%	150	150	100%	100%	100%	83	111,276	30,000	76,854
School Education Kits		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**#N/A**	**#DIV/0!**	**#N/A**	**#N/A**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	0%	**0**	**0**	**0%**	**0%**	**0%**	**0**	**0**	**0**	**0**
9 Watt LED Bulbs - 2019	High efficiency LED lighting (2 at 9W)	18	909	Incandescent light bulb	86	909	5	$6	$0	$6	$0.11	100%	0.9	0.0	62	$0.103	$0.020	0.1	0.0	$0.00	$0.00	8%	2,800	14,000	100%	55%	100%	46	519,599	89,320	89,320
11 Watt LED Bulbs - 2019	High efficiency LED lighting (2 at 11W)	22	909	Incandescent light bulb	106	909	5	$10	$0	$10	$0.11	100%	1.1	0.0	76	$0.126	$0.025	0.1	0.0	$0.00	$0.00	8%	2,800	14,000	100%	55%	100%	57	641,857	134,680	134,680
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with Unknown DHW heater - 2019	1.5 GPM Showerhead	87	8,760	2.5 GPM Showerhead	146	8,760	10	$3	$0	$3	$0.11	100%	0.0	0.0	510	$0.007	$0.001	0.1	0.0	$33.37	$0.00	64%	2,800	1,680	100%	35%	100%	24	327,645	5,746	5,746
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2019	1.5 GPM Kitchen Faucet Aerator	18	8,760	2.2 GPM Kitchen Faucet Aerator	26	8,760	10	$1	$0	$1	$0.11	100%	0.1	0.0	74	$0.017	$0.002	0.0	0.0	$4.17	$0.00	124%	2,800	1,680	100%	30%	100%	6	40,600	2,166	2,166
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2019	1.0 GPM Bathroom Faucet Aerator	6	8,760	2.2 GPM Bathroom Faucet Aerator	13	8,760	10	$1	$0	$1	$0.11	100%	0.0	0.0	64	$0.008	$0.001	0.0	0.0	$4.19	$0.00	124%	2,800	1,680	100%	25%	100%	4	29,361	863	863
Self Direct		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.11**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	$0	$503,145	$0.08	35%	6.9	4.5	926,303	$0.187	$0.011	322.0	217.2	$0.00	$0.00	63%	1	1	100%	100%	100%	217	991,759	1	1
LI Home Energy Squad		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.07**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	$0	$0.11	#DIV/0!	0.0	0.0	39	$0.000	$0.000	0.0	0.0	$0.00	$0.00	11%	0	0	100%	100%	100%	0	0	0	0
Total Energy Squad Service 2018	Weighted Average of 2018 LI Squad Services	63	965	Existing Home	104	965	6	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	39	$0.000	$0.000	0.0	0.0	$0.00	$0.00	11%	0	0	100%	100%	100%	0	0	0	0
Total Energy Squad Service 2019	Weighted Average of 2019 LI Squad Services	63	965	Existing Home	104	965	5	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	39	$0.000	$0.000	0.0	0.0	$0.00	$0.00	11%	1,900	31,942	100%	100%	100%	152	1,374,942	0	0
Energy Star Retail Products		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.07**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**0**	**0**	**0**	**0**
Sound Bars	ENERGY STAR ® + 50%	3	8,760	Industry Standard	10	8,760	7	$15	$0	$0	$0.11	#DIV/0!	0.0	-2.1	66	$0.227	$0.032	0.0	0.0	$0.00	$0.00	100%	4,706	4,706	100%	100%	100%	39	339,079	70,590	0
Freezers	ENERGY STAR ®	58	4,818	Industry Standard	65	4,818	11	$20	$0	$10	$0.11	198%	3.0	-2.9	31	$0.640	$0.058	0.0	0.0	$0.00	$0.00	55%	2,088	2,088	100%	100%	100%	8	71,232	41,760	21,114
Gas Clothes Dryers	ENERGY STAR ®	121	283	Industry Standard	149	283	12	$5	$0	$26	$0.11	19%	30.2	24.6	8	$0.614	$0.051	0.0	0.0	$0.00	$0.00	2%	1,048	1,048	100%	100%	100%	1	8,859	4,983	26,925
Electric Clothes Dryers	ENERGY STAR ®	2,150	283	Industry Standard	2,717	283	12	$50	$0	$225	$0.11	22%	12.8	9.9	160	$0.312	$0.026	0.6	0.0	$0.00	$0.00	2%	8,933	8,933	100%	100%	100%	91	1,564,609	446,650	2,009,121
Air Cleaners	ENERGY STAR ®	54	5,840	Industry Standard	91	5,840	9	$20	$0	$56	$0.11	36%	2.4	1.5	214	$0.094	$0.010	0.0	0.0	$0.00	$0.00	100%	4,039	4,039	100%	100%	100%	162	943,101	80,780	226,184
Room Air Conditioners (MN)	ENERGY STAR ®	848	662	Industry Standard	922	662	9	$10	$0	$114	$0.10	9%	22.9	20.9	49	$0.205	$0.023	0.1	0.1	$0.00	$0.00	90%	13,569	13,569	100%	100%	100%	986	721,950	135,690	1,552,972
Clothes Washer	Clothes Washer	0	0	0	0	0	11	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	286	#DIV/0!	#DIV/0!	0.0	0.032	$0.00	$0.00	100%	0	0	100%	100%	100%	0	0	0	0
Refrigerators	Refrigerators	0	0	0	0	0	18	$0	$0	$0	$0.07	#DIV/0!	#DIV/0!	#DIV/0!	67	#DIV/0!	#DIV/0!	0.0	0.008	$0.00	$0.00	100%	0	0	100%	100%	100%	0	0	0	0
Energy Information Systems		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.07**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**0**	**0**	**0**	**0**
Energy Information System	New Energy Information System	0	0	No EIS	0	0	5	$9,720	$0	$32,400	$0.08	30%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.0	0.0	$0.00	$0.00	0%	5	5	100%	100%	100%	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	$0	$0.06	#DIV/0!	0.0	0.3	191,804	$0.009	$0.009	21.9	12.0	-$18,000.00	$0.00	51%	20	20	100%	100%	100%	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	$0	$0.06	#DIV/0!	0.0	0.0	-153,443	$0.000	$0.000	-17.5	-9.6	$14,400.00	$0.00	51%		20	100%	100%	100%	-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	$0	$821	$0.06	80%	0.1	0.0	38,029	$0.017	$0.002	6.4	3.5	$273.19	$11,355.85	51%	20	52	100%	100%	100%	184	2,117,225	34,138	42,691
Heating Efficiency		**0**	**0**	**0**	**0**	**0**	**0**	**$0**	**$0**	**$0**	**$0.12**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0**	**#DIV/0!**	**#DIV/0!**	**0.0**	**0.0**	**$0.00**	**$0.00**	100%	**0**	**0**	**100%**	**100%**	**100%**	**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	Average Baseline Product Cost	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	Non-Fuel O&M Savings	Electric or Natural Gas O&M Savings	Participants 2019	Units 2019	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Dth (Dth)	2019 Rebate Budget ($)	2019 Incremental Cost ($)	Total Dth Saved for All Units Installed in 2019
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	$	$	#	#							
Business New Construction																									
Average EDA Project - 2017	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Average EDA Project - 2018	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Average EDA Project - 2019	More Efficient than Code Building	0	Code-Compliant Building	2,554	20	$12,768	$0	$187,424	7%	8.5	7.9	2,554	$5.000	$0.250	$0.000	$0.000	9	23	100.0%	100.0%	100.0%	58,732	293,660	4,310,744	58,732
Average EEB Project - 2017	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Average EEB Project - 2018	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Average EEB Project - 2019	More Efficient than Code Building	0	Code-Compliant Building	12	20	$198	$0	$886	22%	8.4	6.5	12	$16.304	$0.815	-$5.932	$0.000	16	118	100.0%	100.0%	100.5%	1,441	23,374	104,574	1,441
Commercial Efficiency																									
Custom Gas Project	New Equipment	0	Less Efficient Product/Systems	0	15	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	43	0	100.0%	100.0%	100.0%	0	0	0	0
Phase 2 Customer Contribution	0	0	0	56	15	$93	$0	$926	10%	1.9	1.7	56	$1.647	$0.110	$9.313	$0.000	43	291	100.0%	100.0%	100.0%	16,403	27,007	269,547	16,403
Behavioral Changes	ehavior changes that reduce energy us	0	No change in behavior	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	43	0	100.0%	100.0%	100.0%	0	0	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	$0.000	$0.000	$0.000	$0.000	43	0	100.0%	100.0%	100.0%	0	0	0	0
Cooling Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									939
EC Motors - Walk in cooler	EC Motors - Walk in cooler	0		0	15	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	3	0	100.0%	100.0%	100.0%	0	0	0	0
ERV Install on RTU/AHU for reduced heating load	iveness Heat Recovery on 11193 CFM	0	No heat recovery on 11193 CFM OA	626	15	$4,017	$0	$13,839	29%	2.5	1.8	626	$6.415	$0.428	$0.000	$0.000	3	2	100.0%	100.0%	100.0%	939	6,026	20,758	939
Custom Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									21,269
Custom Efficiency Gas	High Efficiency Product/system	0	Less Efficient Product/Systems	2,659	19	$5,028	$0	$44,834	11%	1.9	1.7	2,659	$1.891	$0.097	$1,777.500	$0.000	19	8	100.0%	100.0%	100.0%	21,269	40,225	358,675	21,269
Custom Studies Gas	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Efficiency Controls						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									5,704
Efficiency Controls - Gas	New Digital Controls System	0	Non Digital or Obsolete Digital System	1,141	15	$7,709	$0	$103,270	7%	10.4	9.7	1,141	$6.757	$0.450	$2,581.800	$0.000	15	5	100.0%	100.0%	100.0%	5,704	38,543	516,352	5,704
Efficiency Controls - Study Allocation	Study Allocation	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Food Service						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									14,714
Convection Oven	Convection Oven	0	Deck Oven	175	11	$500	$0	$3,474	14%	2.3	2.0	175	$2.850	$0.259	$0.000	$0.000	18	23	100.0%	100.0%	100.0%	4,036	11,500	79,891	4,036
Conveyor Oven	Conveyor Oven	0	Pizza Deck Oven	241	11	$750	$0	$9,219	8%	4.4	4.1	241	$3.113	$0.283	$0.000	$0.000	3	12	100.0%	100.0%	100.0%	2,891	9,000	110,625	2,891
Combi-Oven	Combination Oven	0	Steamer	182	11	$1,000	$0	$5,487	18%	3.5	2.8	182	$5.485	$0.499	$0.000	$0.000	4	16	100.0%	100.0%	100.0%	2,917	16,000	87,790	2,917
Rotisserie Oven	Rotisserie Oven - Infrared	0	Open Flame Rotisserie Oven	108	11	$500	$0	$5,197	10%	5.6	5.0	108	$4.630	$0.421	$0.000	$0.000	4	1	100.0%	100.0%	100.0%	108	500	5,197	108
Rotating Rack Oven	Rotating Rack Oven	0	Deck Oven	119	11	$500	$0	$2,067	24%	2.0	1.5	119	$4.219	$0.384	$0.000	$0.000	3	1	100.0%	100.0%	100.0%	119	500	2,067	119
Commercial Gas Fryer	High Efficiency Unit	0	Standard Efficiency Unit	67	11	$250	$0	$2,662	9%	4.6	4.2	67	$3.733	$0.339	$0.000	$0.000	7	29	100.0%	100.0%	100.0%	1,942	7,250	77,208	1,942
Upright Broiler	Upright Broiler	0	Standard Radiant Broiler	0	11	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
High Efficiency Charbroiler	High Efficiency Charbroiler	0	Standard Charbroiler	129	11	$300	$0	$3,725	8%	3.3	3.1	129	$2.319	$0.211	$0.000	$0.000	1	2	100.0%	100.0%	100.0%	259	600	7,450	259
High Efficiency Salamander Broiler	High Efficiency Salamander Broiler	0	Standard Salamander Broiler	30	11	$150	$0	$1,267	12%	4.9	4.3	30	$4.990	$0.454	$0.000	$0.000	1	5	100.0%	100.0%	100.0%	150	750	6,334	150
Pasta Cooker	Pasta Cooker	0	Gas Range	203	11	$200	$0	$3,542	6%	2.0	1.9	203	$0.987	$0.090	$0.000	$0.000	4	3	100.0%	100.0%	100.0%	608	600	10,626	608
Commercial Dishwasher - Under Counter, Gas Only or Combo Customer	ENERGY STAR qualified unit	0	ventional unit as defined by ENERGY S	10	10	$250	$0	$55	452%	0.6	-2.2	10	$24.834	$2.483	$43.560	$0.000	10	2	100.0%	100.0%	100.0%	15	375	83	15
Commercial Dishwasher - Door Type, Gas Only or Combo Customer	ENERGY STAR qualified unit	0	ventional unit as defined by ENERGY S	42	15	$173	$0	$311	56%	0.9	0.4	42	$4.116	$0.274	$122.609	$0.000	8	7	100.0%	100.0%	100.0%	273	1,125	2,023	273
Demand Controlled Ventilation - Gas Only or Combo Customer	tion hoods with Demand Controlled Ver	0	tion hoods with Demand Controlled Ver	164	20	$967	$0	$6,759	14%	4.8	4.1	164	$5.908	$0.295	$0.000	$0.000	2	9	100.0%	100.0%	100.0%	1,397	8,250	57,653	1,397
Multi Family Building Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									6,340
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in natural gas DHW unit	1.5 GPM Showerhead	0	2.5 GPM Showerhead	3	10	$6	$0	$6	100%	0.3	0.0	3	$2.432	$0.243	$39.464	$0.000	737	1,776	100.0%	100.0%	100.0%	4,571	11,117	11,117	4,571
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$3	$0	$3	100%	0.8	0.0	0	$6.855	$0.685	$5.399	$0.000	757	1,160	100.0%	100.0%	100.0%	484	3,318	3,318	484
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$4	$0	$4	100%	1.1	0.0	0	$9.105	$0.911	$6.730	$0.000	757	2,221	100.0%	100.0%	100.0%	976	8,884	8,884	976
Water Heater Blanket on Gas Water Heater	rcial Insulation wrap R8 around Water H	0	No External Insulation on water heater	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	23	0	100.0%	100.0%	100.0%	0	0	0	0
Holistic efficiency projects totaling either 15%, 20%, or 25% whole-building savings	Average Performance Building	0	nultifamily building after Direct Install me	26	20	$1,627	$0	$4,566	36%	20.5	13.2	26	$63.172	$3.159	$0.000	$0.000	14	12	100.0%	100.0%	100.0%	309	19,527	54,794	309
Process Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									34,668
Custom	New System	0	Old System	10,755	4	$18,921	$0	$337,452	6%	3.6	3.4	10,755	$1.759	$0.500	$1,735.000	$0.000	24	3	100.0%	100.0%	100.0%	32,264	56,764	1,012,357	32,264
Commercial Heating	New System	0	Old System	23	10	$36	$0	$97	37%	0.5	0.3	23	$1.571	$0.160	$0.000	$0.000	9	105	100.0%	100.0%	100.0%	2,404	3,776	10,185	2,404
Recommissioning	Optimized Building Systems	0	ng Building System - Not Tuned or Opti	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	4	0	100.0%	100.0%	100.0%	0	0	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	$0.000	$0.000	$0.000	$0.000	4	0	100.0%	100.0%	100.0%	0	0	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	$0.000	$0.000	$0.000	$0.000	4	0	100.0%	100.0%	100.0%	0	0	0	0
Energy Design Assistance	High Efficiency Building	0	Code Level Efficiency Building	-2	20	$16	$0	$227	7%	-16.0	-14.9	-2	-$10.100	-$0.505	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	-1	8	111	-1
Phase 2 customer contribution	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	28	0	100.0%	100.0%	100.0%	0	0	0	0
Recommissioning						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									20,258
Recommissioning Implementation	Post-Recommissioned Building	0	Pre-Recommissioned Building	2,849	7	$3,266	$0	$17,896	18%	0.7	0.6	2,849	$1.146	$0.164	$0.000	$0.000	14	7	100.0%	100.0%	100.0%	20,258	23,220	127,240	20,258
Recommissioning Studies	Study Cost and Rebate	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	19	0	100.0%	100.0%	100.0%	0	0	0	0
BOC Program Attributable Savings	After BOC Training	0	Before BOC Training	0	5	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	16	0	100.0%	100.0%	100.0%	0	0	0	0
Turn Key Services						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									5,560
Identification ¬ On site audit	Perform Study + Low Cost No Cost	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	60	0	100.0%	100.0%	100.0%	0	0	0	0
Implementation	High Eff Project	0	Less Efficient System	81	13	$255	$0	$1,759	15%	2.5	2.1	81	$3.140	$0.250	$46.136	$0.000	8	59	100.0%	100.0%	100.0%	4,794	15,051	103,801	4,794
Building Tune-up Implementation	mplemented Recommissioning measure	6,892	Existing systems	7,657	7	$1,085	$0	$5,987	18%	0.9	0.7	766	$1.417	$0.202	$0.000	$0.000	2	0	1	1	1	0	0	0	0
Home Energy Savings Program											0.0	0	$0.000	$0.000	$0.000										5,915
Attic Insulation and Bypass Air Sealing - Gas Heated & Non-Cooled Home	e the attic to R-48 & perform Bypass air	0	vith average attic area of 823 sq. ft. and	7	20	$1,688	$0	$1,741	97%	28.2	0.9	7	$248.803	$12.440	$0.000	$0.000	47	31	100.0%	100.0%	100.0%	210	52,323	53,985	210
Attic Insulation and Bypass Air Sealing - Gas Heated & Electrically Cooled Home	e the attic to R-48 & perform Bypass air	0	vith average attic area of 823 sq. ft. and	8	20	$2,090	$0	$2,085	100%	27.7	-0.1	8	$253.170	$12.658	$0.000	$0.000	71	97	100.0%	100.0%	100.0%	804	203,422	202,918	804
Air Sealing - Gas Heated & Non-Cooled Home	n Bypass air sealing along with Attic Ins	0	g home with average home size of 140	17	10	$226	$0	$230	98%	1.5	0.0	17	$13.354	$1.335	$0.000	$0.000	47	32	100.0%	100.0%	100.0%	543	7,246	7,372	543
Air Sealing - Gas Heated & Electrically Cooled Home	n Bypass air sealing along with Attic Ins	0	g home with average home size of 140	16	10	$196	$0	$195	101%	1.3	0.0	16	$12.188	$1.219	$0.000	$0.000	71	92	100.0%	100.0%	100.0%	1,486	18,105	17,996	1,486
Wall Insulation - Gas Heated and Non-Cooled Home	R-11 insulation	0	vith average attic area of 823 sq. ft. and	34	20	$1,846	$0	$1,846	100%	5.9	0.0	34	$53.636	$2.682	$0.000	$0.000	7	14	100.0%	100.0%	100.0%	482	25,847	25,847	482
Wall Insulation - Gas Heated and Electrically Cooled Home	R-11 insulation	0	vith average attic area of 823 sq. ft. and	28	20	$1,805	$0	$1,786	101%	6.9	-0.1	28	$63.719	$3.186	$0.000	$0.000	11	25	100.0%	100.0%	100.0%	717	45,699	45,220	717
0.67 EF Hot Water Heater (SF)	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$1,730	$0	$1,739	99%	109.2	0.6	2	$990.560	$76.197	$0.000	$0.000	102	182	100.0%	100.0%	100.0%	318	314,800	316,550	318
New 84% boiler (SF)	84% Efficient Boiler	0	82% Efficient Boiler	4	20	$4,466	$0	$4,748	94%	147.8	8.8	4	$1,267.310	$63.365	$0.000	$0.000	35	25	100.0%	100.0%	100.0%	88	111,650	118,700	88
Replace Furnace AFUE 80 to 95 (SF)	95% Efficient Furnace	0	80% Efficient Furnace	14	18	$3,000	$0	$3,000	100%	24.1	0.0	14	$219.997	$12.222	$0.000	$0.000	7	93	100.0%	100.0%	100.0%	1,268	279,000	279,000	1,268
Energy Efficient Showerhead						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									30,896
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in natural gas DHW unit	1.5 GPM Showerhead	0	2.5 GPM Showerhead	2	10	$3	$0	$3	98%	0.2	0.0	2	$1.472	$0.147	$33.309	$0.000	3,129	11,992	100.0%	83.1%	100.0%	21,836	38,687	39,575	21,836
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in nat	1.5 GPM Showerhead	0	2.5 GPM Showerhead	1	10	$3	$0	$3	98%	0.2	0.0	1	$2.157	$0.216	$22.402	$0.000	2,347	9,473	100.0%	54.2%	100.0%	7,682	30,550	31,234	7,682
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$2	$0	$2	100%	0.6	0.0	0	$5.419	$0.542	$4.160	$0.000	3,129	11,945	100.0%	38.1%	100.0%	1,379	19,588	19,540	1,379
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home	0.5 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$2	$0	$2	100%	0.2	0.0	0	$4.442	$0.444	$5.931	$0.000	3,129	11,981	100.0%	44.6%	100.0%	1,565	6,232	6,218	1,565
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home	0.5 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$2	$0	$2	100%	0.2	0.0	0	$4.442	$0.444	$5.931	$0.000	2,347	9,469	100.0%	32.4%	100.0%	903	4,925	4,915	903
Energy Feedback						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									50,829
Rollup: Online Group Savings	Treatment	0	Control	0	1	$0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	10,898	10,898	100.0%	100.0%	100.0%	1,787	0	0	1,787
Rollup: Existing Participant 2019 Savings	Treatment	0	Control	1	1	$0	$0	$0	#DIV/0!	0.0	0.0	1	$0.000	$0.000	$0.000	$0.000	147,000	147,000	100.0%	100.0%	100.0%	150,123	0	0	150,123
Rollup: New Participant 2019 Savings	Treatment	0	Control	0	1	$0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	13,000	13,000	100.0%	100.0%	100.0%	577	0	0	577
Behavioral Adjustments Rollup: Online Group Savings	Treatment	0	Control	0	0	$0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	#DIV/0!	$0.000	$0.000	0	10,898	100.0%	100.0%	100.0%	-1,191	0	0	-1,191
Behavioral Adjustments Rollup: Existing Participants 2019 Savings	Treatment	0	Control	-1	0	$0	$0	$0	#DIV/0!	0.0	0.0	-1	$0.000	#DIV/0!	$0.000	$0.000	0	147,000	100.0%	100.0%	100.0%	-100,082	0	0	-100,082
Behavioral Adjustments Rollup: New Participant 2019 Savings	Treatment	0	Control	0	0	$0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	#DIV/0!	$0.000	$0.000	0	13,000	100.0%	100.0%	100.0%	-385	0	0	-385
Efficient New Home Construction						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									37,457
Low Income Envelope Improvements - Combo Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	19	0	100.0%	100.0%	100.0%	0	0	0	0
10% to 15% improvement over local code - Combo Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	15	20	$249	$0	$1,159	22%	8.6	6.7	15	$16.882	$0.844	$0.000	$0.000	149	151	100.0%	100.0%	100.0%	2,236	37,754	175,385	2,236
15% to 20% improvement over local code - Combo Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	24	20	$498	$0	$2,183	23%	9.9	7.7	24	$20.645	$1.032	$0.000	$0.000	281	415	100.0%	100.0%	100.0%	9,999	206,438	905,351	9,999
20% to 25% improvement over local code - Combo Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	35	20	$997	$0	$3,634	27%	11.3	8.2	35	$28.309	$1.415	$0.000	$0.000	108	436	100.0%	100.0%	100.0%	15,337	434,175	1,583,212	15,337
25% to 30% improvement over local code - Combo Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	49	20	$1,196	$0	$5,335	22%	12.0	9.3	49	$24.458	$1.223	$0.000	$0.000	30	57	100.0%	100.0%	100.0%	2,808	68,666	306,336	2,808
30% to 35% improvement over local code - Combo Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	123	20	$1,513	$0	$7,091	21%	6.3	5.0	123	$12.281	$0.614	$0.000	$0.000	30	3	100.0%	100.0%	100.0%	355	4,356	20,422	355
35% and greater improvement over local code - Combo Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	47	20	$2,010	$0	$12,092	17%	28.1	23.4	47	$42.598	$2.130	$0.000	$0.000	0	2	100.0%	100.0%	100.0%	74	3,135	18,863	74
Low Income Envelope Improvements - Gas Only Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	7	0	100.0%	100.0%	100.0%	0	0	0	0
10% to 15% improvement over local code - Gas Only Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	11	20	$250	$0	$983	25%	9.5	7.1	11	$22.015	$1.101	$0.000	$0.000	47	43	100.0%	100.0%	100.0%	488	10,750	42,266	488
15% to 20% improvement over local code - Gas Only Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	20	20	$500	$0	$1,933	26%	10.7	8.0	20	$25.299	$1.265	$0.000	$0.000	24	111	100.0%	100.0%	100.0%	2,194	55,500	214,532	2,194
20% to 25% improvement over local code - Gas Only Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	30	20	$1,000	$0	$3,113	32%	11.3	7.7	30	$33.223	$1.661	$0.000	$0.000	13	104	100.0%	100.0%	100.0%	3,130	104,000	323,757	3,130
25% to 30% improvement over local code - Gas Only Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	44	20	$1,200	$0	$4,539	26%	11.4	8.4	44	$27.378	$1.369	$0.000	$0.000	4	16	100.0%	100.0%	100.0%	701	19,200	72,616	701
30% to 35% improvement over local code - Gas Only Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	37	20	$1,500	$0	$3,375	44%	9.9	5.5	37	$40.286	$2.014	$0.000	$0.000	4	3	100.0%	100.0%	100.0%	112	4,500	10,126	112
35% and greater improvement over local code - Gas Only Customers	model by House Rater with Average Siz	0	eference Home Based upon Local Cod	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	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	Average Baseline Product Cost	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	Non-Fuel O&M Savings	Electric or Natural Gas O&M Savings	Participants 2019	Units 2019	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Dth (Dth)	2019 Rebate Budget ($)	2019 Incremental Cost ($)	Total Dth Saved for All Units Installed in 2019
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	$	$	#	#							
Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$10	$0	$30	33%	22.2	14.8	0	$67.500	$6.136	$9.926	$0.000	187	127	100.0%	100.0%	100.0%	19	1,262	3,787	19
Energy Star Clothes Washer - Gas Only Customers w/ Gas DHW	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$10	$0	$20	49%	22.2	11.2	0	$100.000	$9.091	$6.750	$0.000	56	41	100.0%	100.0%	100.0%	4	410	830	4
Residential Heating							$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									139,767
95% Efficient Furnace in New Home	95% Efficient Furnace	0	90% Efficient Furnace	3	18	$100	$0	$165	61%	5.2	2.1	3	$28.839	$1.602	$0.000	$0.000	100	40	100.0%	100.0%	100.1%	139	4,000	6,597	139
96% Efficient Furnace in New Home	96% Efficient Furnace	0	90% Efficient Furnace	5	18	$150	$0	$379	$0	8.7	5.2	5	$31.228	$1.735	$0.000	$0.000	186	58	100.0%	100.0%	100.1%	279	8,700	21,973	279
97% Efficient Furnace in New Home	97% Efficient Furnace	0	90% Efficient Furnace	6	18	$200	$0	$477	42%	9.0	5.2	6	$34.237	$1.902	$0.000	$0.000	30	12	100.0%	100.0%	100.1%	70	2,400	5,722	70
95% Efficient Furnace in Existing Home	95% Efficient Furnace	0	80% Efficient Furnace	16	18	$200	$0	$736	27%	5.2	3.7	16	$12.788	$0.710	$0.000	$0.000	850	418	100.0%	100.0%	100.1%	6,559	83,800	307,786	6,559
96% Efficient Furnace in Existing Home	96% Efficient Furnace	0	80% Efficient Furnace	18	18	$300	$0	$950	32%	5.8	4.0	18	$16.779	$0.932	$0.000	$0.000	3,956	5,394	100.0%	100.0%	100.1%	96,554	1,618,500	5,125,869	96,554
97% Efficient Furnace in Existing Home	97% Efficient Furnace	0	80% Efficient Furnace	20	18	$400	$0	$1,048	38%	5.7	3.5	20	$19.909	$1.106	$0.000	$0.000	1,500	1,306	100.0%	100.0%	100.1%	26,265	522,400	1,369,001	26,265
84% Efficient Boiler	84% Efficient Boiler	0	82% Efficient Boiler	3	20	$100	$0	$1,446	7%	47.0	43.7	3	$29.640	$1.482	$0.000	$0.000	275	390	100.0%	100.0%	100.1%	1,317	39,000	563,815	1,317
90% Efficient Boiler	90% Efficient Boiler	0	82% Efficient Boiler	19	20	$300	$0	$2,379	13%	14.0	12.2	19	$16.043	$0.802	$0.000	$0.000	75	14	100.0%	100.0%	100.1%	262	4,200	33,308	262
95% Efficient Boiler	95% Efficient Boiler	0	82% Efficient Boiler	23	20	$399	$0	$3,004	13%	14.2	12.3	23	$17.146	$0.857	$0.000	$0.000	200	356	100.0%	100.0%	100.1%	8,296	142,100	1,069,504	8,296
New 92% AFUE Furnace Gas Only Customers Post new DOE Install Standards	E 70.545 mbh Furnace w/ 4.9% oversi	0	90% AFUE Furnace w/o ECM	13	18	$50	$0	$954	5%	8.3	7.9	13	$3.968	$0.220	$0.000	$0.000	0	2	100.0%	100.0%	100.1%	25	100	1,908	25
Home Energy Squad							$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									9,324
NEC Energy Squad Service 2019	erage Energy Efficient Gas measures t	0	average Baseline Gas measures by p	4	10	$0	$0	$1	0%	0.0	0.0	4	$0.000	$0.000	$25.783	$0.000	2,186	2,186	100.0%	100.0%	100.0%	9,324	0	2,660	9,324
Weatherstrip 1 additional door	ial 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	$0.000	$0.000	$0.000	$0.000	10	0	100.0%	100.0%	100.0%	0	0	0	0
Install Second Programmable Thermostat	T-stat and Auto setback thermostat by 2	0	Existing non-programmable thermostat	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	4	0	100.0%	100.0%	100.0%	0	0	0	0
Whole Home Efficiency							$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									1,860
Attic Insulation - Gas Heated Homes Without Cooling	Home with additional insulation	0	Home with R20 or less existing Insulatio	4	20	$300	$0	$1,851	16%	56.4	47.3	4	$83.333	$4.167	$0.000	$0.000	2	1	100.0%	100.0%	100.0%	4	300	1,851	4
Attic Insulation - Gas Heat Homes With Cooling, Combo Customer	Home with additional insulation	0	Home with R20 or less existing Insulatio	11	20	$297	$0	$2,179	14%	21.8	18.8	11	$27.114	$1.356	$0.000	$0.000	20	24	100.0%	100.0%	100.0%	267	7,237	53,072	267
Attic Insulation - Gas Heat Homes With Cooling, Gas Only Customer	Home with additional insulation	0	Home with R20 or less existing Insulatio	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Wall Insulation - Gas Heat Homes Without Cooling	R-11 insulation	0	e assumes R-0 in wall cavities as existi	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Wall Insulation - Gas Heat Homes With Cooling, Combo Customer	R-11 insulation	0	e assumes R-0 in wall cavities as existi	33	20	$265	$0	$2,206	12%	7.4	6.5	33	$8.127	$0.406	$0.000	$0.000	25	26	100.0%	100.0%	100.0%	850	6,908	57,581	850
Wall Insulation - Gas Heat Homes With Cooling, Gas Only Customer	R-11 insulation	0	e assumes R-0 in wall cavities as existi	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Air Sealing T2 - 25% reduction - Gas Heat Homes Without Cooling	with Tier 2 Air Sealing - Average 27% re	0	Existing Home Without Air Sealing	11	10	$150	$0	$1,851	8%	19.2	17.6	11	$14.151	$1.415	$0.000	$0.000	2	1	100.0%	100.0%	100.0%	11	150	1,851	11
Air Sealing T2 - 25% reduction - Gas Heat Homes With Cooling, Combo Customer	with Tier 2 Air Sealing - Average 27% re	0	Existing Home Without Air Sealing	13	10	$151	$0	$508	30%	4.2	2.9	13	$11.296	$1.130	$0.000	$0.000	5	2	100.0%	100.0%	100.0%	32	366	1,235	32
Air Sealing T2 - 25% reduction - Gas Heat Homes With Cooling, Gas Only Customer	with Tier 2 Air Sealing - Average 27% re	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Air Sealing T3 - 30% reduction - Gas Heat Homes Without Cooling	with Tier 3 Air Sealing - average 42% re	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Air Sealing T3 - 30% reduction - Gas Heat Homes With Cooling, Combo Customer	with Tier 3 Air Sealing - average 42% re	0	Existing Home Without Air Sealing	28	10	$201	$0	$882	23%	3.4	2.6	28	$7.058	$0.706	$0.000	$0.000	12	15	100.0%	100.0%	100.0%	435	3,072	13,490	435
Air Sealing T3 - 30% reduction - Gas Heat Homes With Cooling, Gas Only Customer	with Tier 3 Air Sealing - average 42% re	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
0.64 EF Storage Water Heater	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	3	13	$100	$0	$127	79%	4.9	1.0	3	$35.088	$2.699	$0.000	$0.000	2	4	100.0%	100.0%	100.0%	11	400	508	11
0.67 EF Storage Water Heater	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$100	$0	$178	56%	10.4	4.6	2	$53.254	$4.096	$0.000	$0.000	2	9	100.0%	100.0%	100.0%	17	900	1,604	17
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	$0.000	$0.000	$0.000	$0.000	5	0	100.0%	100.0%	100.0%	0	0	0	0
0.9 EF Tankless Water Heater	0.9 EF Tankless Water Heater	0	0.62 EF Storage Water Heater	10	20	$263	$0	$575	46%	6.5	3.5	10	$27.202	$1.360	$0.000	$0.000	0	2	100.0%	100.0%	100.0%	19	525	1,150	19
95% Efficient Furnace in Existing Home	95% Efficient Furnace	0	80% Efficient Furnace	0	18	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1	0	100.0%	100.0%	100.0%	0	0	0	0
96% Efficient Furnace in Existing Home	96% Efficient Furnace	0	80% Efficient Furnace	15	18	$325	$0	$950	34%	7.0	4.6	15	$21.759	$1.209	$0.000	$0.000	5	11	100.0%	100.0%	100.0%	164	3,575	10,453	164
97% Efficient Furnace in Existing Home	97% Efficient Furnace	0	80% Efficient Furnace	0	18	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
84% Efficient Boiler	84% Efficient Boiler	0	82% Efficient Boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
90% Efficient Boiler	90% Efficient Boiler	0	82% Efficient Boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
95% Efficient Boiler	95% Efficient Boiler	0	82% Efficient Boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Programmable Thermostat (Install and Program)	T-state w/ Auto setback by 2.6 F for he	0	Existing non-programmable thermostat	6	10	$10	$0	$29	34%	0.5	0.3	6	$1.558	$0.156	$0.000	$0.000	10	7	100.0%	100.0%	100.0%	47	73	211	47
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	$0.000	$0.000	$0.000	$0.000	4	0	100.0%	100.0%	100.0%	0	0	0	0
Energy Efficient Showerhead (Direct Install)	1.5 GPM Showerhead	0	2.5 GPM Showerhead	2	10	$0	$0	$4	0%	0.2	0.2	2	$0.000	$0.000	$33.390	$0.000	22	1	100.0%	100.0%	100.0%	2	0	4	2
Energy Efficient Bathroom Aerator (Direct Install	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	1	10	$0	$0	$2	0%	0.4	0.4	1	$0.000	$0.000	$8.380	$0.000	33	1	100.0%	100.0%	100.0%	1	0	2	1
Energy Efficient Kitchen Aerator (Direct Install)	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	$2	0%	0.7	0.7	0	$0.000	$0.000	$4.170	$0.000	22	1	100.0%	100.0%	100.0%	0	0	2	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	$0.000	$0.000	$0.000	$0.000	7	0	100.0%	100.0%	100.0%	0	0	0	0
Water Heater Blanket	rcial Insulation wrap R8 around Water I	0	No External Insulation on water heater	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	12	0	100.0%	100.0%	100.0%	0	0	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	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Insulation Rebate							$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									23,899
Gas Heat Homes Without Cooling	Home with additional insulation	0	Home with R20 or less existing Insulatio	10	20	$287	$0	$1,972	15%	21.0	17.9	10	$27.779	$1.389	$0.000	$0.000	39	18	100.0%	100.0%	100.0%	186	5,159	35,501	186
Gas Heat Homes With Cooling, Combo Customer	Home with additional insulation	0	Home with R20 or less existing Insulatio	13	20	$294	$0	$1,990	15%	16.2	13.9	13	$21.854	$1.093	$0.000	$0.000	194	508	100.0%	100.0%	100.0%	6,822	149,093	1,010,696	6,822
Gas Heat Homes With Cooling, Gas Only Customer	Home with additional insulation	0	Home with R20 or less existing Insulatio	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	71	0	100.0%	100.0%	100.0%	0	0	0	0
Gas Heat Homes Without Cooling	R-11 insulation	0	e assumes R-0 in wall cavities as existi	47	20	$291	$0	$2,830	10%	6.6	5.9	47	$6.151	$0.308	$0.000	$0.000	95	9	100.0%	100.0%	100.0%	426	2,621	25,470	426
Gas Heat Homes With Cooling, Combo Customer	R-11 insulation	0	e assumes R-0 in wall cavities as existi	46	20	$281	$0	$3,336	8%	8.0	7.3	46	$6.151	$0.308	$0.000	$0.000	197	43	100.0%	100.0%	100.0%	1,975	12,150	144,377	1,975
Gas Heat Homes With Cooling, Gas Only Customer	R-11 insulation	0	e assumes R-0 in wall cavities as existi	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	45	0	100.0%	100.0%	100.0%	0	0	0	0
Gas Heat Homes Without Cooling	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	24	10	$146	$0	$1,786	8%	8.1	7.4	24	$6.036	$0.604	$0.000	$0.000	23	28	100.0%	100.0%	100.0%	679	4,100	50,011	679
Gas Heat Homes With Cooling, Combo Customer	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	26	10	$147	$0	$1,091	13%	4.5	3.9	26	$5.563	$0.556	$0.000	$0.000	62	524	100.0%	100.0%	100.0%	13,810	76,819	571,828	13,810
Gas Heat Homes With Cooling, Gas Only Customer	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	47	0	100.0%	100.0%	100.0%	0	0	0	0
School Education Kits							$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									16,036
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with Unknown L	1.5 GPM Showerhead	0	leral Maximum Standard flow rate 2.5 G	2	10	$3	$0	$3	100%	0.2	0.0	2	$1.481	$0.148	$33.386	$0.000	4,667	12,371	100.0%	48.4%	100.0%	13,034	39,883	39,883	13,034
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with	1.5 GPM Kitchen Faucet Aerator	0	leral Maximum Standard flow rate 2.2 G	0	10	$1	$0	$1	100%	0.4	0.0	0	$3.860	$0.386	$4.172	$0.000	4,667	12,371	100.0%	40.2%	100.0%	1,566	15,036	15,036	1,566
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home	1.0 GPM Bathroom Faucet Aerator	0	leral Maximum Standard flow rate 2.2 G	0	10	$0	$0	$0	100%	0.2	0.0	0	$1.773	$0.177	$4.189	$0.000	4,667	12,371	100.0%	42.5%	100.0%	1,435	5,989	5,989	1,435
Water Heater Rebates							$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									4,339
0.67 EF Storage Water Heater	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	3	13	$75	$0	$223	34%	9.7	6.4	3	$29.703	$2.285	$0.000	$0.000	628	4	100.0%	100.0%	100.0%	10	300	891	10
0.7 EF Storage Water Heater	0.7 EF Storage Water Heater	0	0.62 EF Storage Water Heater	3	13	$150	$0	$402	37%	12.7	8.0	3	$43.388	$3.338	$0.000	$0.000	356	7	100.0%	100.0%	100.0%	24	1,050	2,812	24
0.9 EF Tankless Water Heater	0.9 EF Tankless Water Heater	0	0.62 EF Storage Water Heater	10	20	$250	$0	$608	41%	6.9	4.1	10	$25.880	$1.294	$0.000	$0.000	87	10	100.0%	100.0%	100.0%	97	2,500	6,076	97
0.62 EF Storage Water Heater	0.62 EF Storage Water Heater	0	0.62 EF Storage Water Heater	0	13	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
0.64 EF Storage Water Heater	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	4	13	$75	$0	$123	61%	3.2	1.3	4	$18.023	$1.386	$0.000	$0.000	0	160	100.0%	100.0%	100.0%	666	12,000	19,694	666
0.68 UEF Storage Water Heater (High Draw)	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$75	$0	$294	26%	14.0	10.4	2	$32.653	$2.512	$0.000	$0.000	0	548	100.0%	100.0%	100.0%	1,259	41,100	160,839	1,259
0.87 UEF Tankless Water Heater (High Draw)	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	8	20	$250	$0	$862	29%	11.1	7.9	8	$29.485	$1.474	$0.000	$0.000	0	243	100.0%	100.0%	100.0%	2,060	60,750	209,447	2,060
0.87 UEF Tankless Water Heater (Medium Draw)	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	11	20	$250	$0	$542	46%	5.3	2.9	11	$22.401	$1.120	$0.000	$0.000	0	20	100.0%	100.0%	100.0%	223	5,000	10,840	223
Self Direct											0.0	0	$0.000	$0.000	$0.000										0
Average Project	New Equipment	0	old or less efficient systems or equipmer	0	17	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Heating Efficiency							$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000									70,731
Hot Water Boiler - Non Condensing -Plan A	85% Efficient Boiler	0	80% Efficient Boiler	129	20	$1,000	$0	$2,843	35%	2.5	1.6	129	$7.732	$0.387	$0.000	$0.000	13	7	100.0%	100.0%	100.0%	905	6,998	19,900	905
Hot Water Boiler - Condensing - Plan A	92% Efficient Boiler	0	80% Efficient Boiler	101	20	$3,779	$0	$6,327	60%	7.3	2.9	101	$37.566	$1.878	$0.000	$0.000	16	49	100.0%	100.0%	100.0%	4,930	185,182	310,000	4,930
Hot Water Boiler - Condensing - Plan B	92% Efficient Boiler	0	78% Efficient Boiler	103	20	$4,376	$0	$7,800	56%	8.7	3.8	103	$42.317	$2.116	$0.000	$0.000	9	13	100.0%	100.0%	100.0%	1,344	56,882	101,400	1,344
Low Pressure Steam Boiler - Total	84% Efficient Boiler	0	80% Efficient Boiler	414	20	$4,155	$0	$16,500	25%	4.6	3.4	414	$10.046	$0.502	$0.000	$0.000	4	2	100.0%	100.0%	100.0%	827	8,310	33,000	827
High Pressure Steam Boiler - Total	83% Efficient Boiler	0	80% Efficient Boiler	30	20	$420	$0	$3,168	13%	12.2	10.6	30	$14.047	$0.702	$0.000	$0.000	1	1	100.0%	100.0%	100.0%	30	420	3,168	30
Commercial Water Heaters - Total	nt Storage or 95% Efficient Tankless W	0	80% Efficient Storage Water Heater	76	15	$816	$0	$4,084	20%	6.2	4.9	76	$10.699	$0.713	-$112.500	$0.000	33	48	100.0%	100.0%	100.0%	3,661	39,171	196,014	3,661
90% Efficient Furnaces	90% Efficient Furnaces	0	78% Eff Furnace	0	18	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1	0	100.0%	100.0%	100.0%	0	0	0	0
92% Efficient Furnaces	92% Efficient Furnaces	0	78% Eff Furnace	17	18	$200	$0	$1,342	15%	9.1	7.7	17	$11.730	$0.652	$0.000	$0.000	14	8	100.0%	100.0%	100.0%	136	1,600	10,735	136
94% Efficient Furnaces	94% Efficient Furnaces	0	78% Eff Furnace	18	18	$250	$0	$1,429	17%	9.4	7.7	18	$14.224	$0.790	$0.000	$0.000	21	29	100.0%	100.0%	100.0%	510	7,250	41,455	510
96% Efficient Furnaces	96% Efficient Furnaces	0	78% Eff Furnace	16	18	$300	$0	$1,517	20%	10.9	8.7	16	$18.608	$1.034	$0.000	$0.000	64	100	100.0%	100.0%	100.0%	1,612	30,000	151,707	1,612
Non-Condensing Power Vent (83% efficiency)	Non-condensing power vent unit heater	0	n-condensing standard forced-air unit he	7	20	$45	$0	$122	37%	2.1	1.3	7	$6.627	$0.331	$0.000	$0.000	3	8	100.0%	100.0%	100.0%	55	363	975	55
Condensing (>90% efficiency)	Condensing power vent unit heater	0	n-condensing standard forced-air unit he	54	20	$1,075	$0	$1,945	55%	4.1	1.8	54	$19.743	$0.987	$0.000	$0.000	7	4	100.0%	100.0%	100.0%	218	4,300	7,778	218
Infrared	Infrared heater	0	n-condensing standard forced-air unit he	42	15	$198	$0	$380	52%	1.0	0.5	42	$4.741	$0.316	$0.000	$0.000	9	7	100.0%	100.0%	100.0%	303	1,437	2,755	303
Custom Boiler - Total	Various	0	Various	862	18	$4,311	$0	$21,467	20%	2.9	2.3	862	$5.000	$0.278	-$717.600	$0.000	2	5	100.0%	100.0%	100.0%	4,311	21,555	107,335	4,311
Boiler Tune up - Total	non-condensing; 0.8% additive improve	0	oning at 78% efficiency for non-conden	46	2	$116	$0	$555	21%	1.4	1.1	46	$2.500	$1.250	$0.000	$0.000	213	414	100.0%	100.0%	100.4%	19,210	47,819	229,631	19,210
Outdoor Air Reset - Total	83% Efficient Boiler	0	80% Efficient existing boiler	38	20	$200	$0	$1,159	17%	3.5	2.9	38	$5.295	$0.265	$0.000	$0.000	18	19	100.0%	100.0%	100.0%	718	3,800	22,019	718
Stack Dampers - Total	81% Efficient Boiler	0	80% Efficient existing boiler	39	12	$73	$0	$291	25%	0.9	0.6	39	$1.869	$0.156	$0.000	$0.000	7	25	100.0%	100.0%	100.0%	972	1,816	7,263	972

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	Average Baseline Product Cost	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	Non-Fuel O&M Savings	Electric or Natural Gas O&M Savings	Participants 2019	Units 2019	NTG (%)	Installation Rate (%)	Realization Rate (%)	2019 NET Dth (Dth)	2019 Rebate Budget ($)	2019 Incremental Cost ($)	Total Dth Saved for All Units Installed in 2019
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	$	$	#	#							
Modulating Burners - Total	83% Efficient Boiler	0	80% Efficient existing boiler	415	20	$6,875	$0	$24,425	28%	6.8	4.9	415	$16.576	$0.829	$0.000	$0.000	9	2	100.0%	100.0%	100.0%	830	13,750	48,850	830
Turbulators - Totals	83% Efficient Boiler	0	80% Efficient existing boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1	0	100.0%	100.0%	100.0%	0	0	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	$0.000	$0.000	$0.000	$0.000	1	0	100.0%	100.0%	100.0%	0	0	0	0
Steam Traps - Total	New Steam Traps	0	xisting Boiler, malfunctioning steam trap	45	5	$30	$0	$3,249	1%	8.3	8.2	45	$0.666	$0.133	$0.000	$0.000	20	657	100.0%	100.0%	100.0%	101.1%	29,912	19,710	2,134,849	29,912
Pipe Insulation - Total	100 ft of pipe with new insulation	0	100 ft of pipe with no or old insulation	18	13	$1,185	$0	$1,885	63%	12.3	4.6	18	$66.978	$5.152	$0.000	$0.000	87	14	100.0%	100.0%	100.0%	248	16,591	26,391	248
Heating System Optimization Study - Total	implement recommended measures	0	Existing system	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2	0	100.0%	100.0%	100.0%	0	0	0	0
Recommissioning Study Allocation	quipment as identified in a recommissio	0	Existing equipment	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1	0	100.0%	100.0%	100.0%	0	0	0	0
Ozone Washer Extractor	n) is added-on to new or existing comm	55	rcial washing machine using hot water	287	10	$2,652	$0	$9,777	27%	3.1	2.3	233	$11.401	$1.140	$1,113.998	$0.000	18	0	100.0%	100.0%	100.0%	0	0	0	0
LI Home Energy Squad											0.0	0	$0.000	$0.000	$0.000										2,404
Total LI Energy Squad Service 2017	ighted Average of 2017 LI Squad Servi	0	Existing Home	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
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	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Total LI Energy Squad Service 2019	ighted Average of 2019 LI Squad Servi	0	Existing Home	2	10	$0	$0	$0	#DIV/0!	0.0	0.0	2	$0.000	$0.000	$7.745	$0.000	1,500	1,500	100.0%	100.0%	100.0%	2,404	0	0	2,404
Energy Star Retail Products	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000						0	0	0	0
Gas Clothes Dryers	ENERGY STAR ®	0	Industry Standard	0	12	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1,048	0	100.0%	100.0%	100.0%	0	0	0	0
Clothes Washers	ENERGY STAR ®	0	Industry Standard	0	11	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000		0	100.0%	100.0%	100.0%	0	0	0	0
Energy Information Systems	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000						0	0	0	0
Energy Information System	New Energy Information System	0	No EIS	0	5	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	3	0	100.0%	100.0%	100.0%	0	0	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	$0.000	$0.000	$0.000	$0.000	5	0	100.0%	100.0%	100.0%	0	0	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	$0.000	$0.000	$0.000	$0.000		0	100.0%	100.0%	100.0%	0	0	0	0
Retrocommissioning Measures	Optimized Building Systems	0	Non-optimized Building Systems	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	5	0	100.0%	100.0%	100.0%	0	0	0	0
Residential Demand Response	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000						0	0	0	0
Residential Smart Thermostat	New tier II Thermostat	0	tandard manual or Non Utilized Tier I TI	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2,513	0	1.00	1.00	1.00	0	0	0	0
Residential Smart Thermostat	New tier II Thermostat	0	Utilized Tier I Thermostat	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1,711	0	1	1	1	0	0	0	0
Residential Smart Thermostat	New tier III Thermostat	0	tandard manual or Non Utilized Tier I TI	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	2,513	0	1	1	1	0	0	0	0
Residential Smart Thermostat	New tier III Thermostat	0	Utilized Tier I Thermostat	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1,711	0	1	1	1	0	0	0	0
Commercial Refrigeration	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000						0	0	0	91
Faucet Aerator (Restroom), gas water heating	gallons per minute restroom faucet aera	0	2.2 gallons per minute faucet	9	10	$7	$0	$7	100%	0.1	0.0	9	$0.730	$0.073	$65.670	$0.000	11	6	100.0%	100.0%	100.0%	55	40	40	55
Faucet Aerator (Kitchen), gas water heating	5 gallons per minute kitchen faucet aera	0	2.2 gallons per minute faucet	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	1	0	100.0%	100.0%	100.0%	0	0	0	0
CHW Pre-Rinse Sprayer - gas water heating	1.28 gallons per minute sprayer	0	1.60 gallons per minute sprayer	3	5	$45	$0	$45	100%	1.6	0.0	3	$13.904	$2.781	$16.774	$0.000	1	11	100.0%	100.0%	100.0%	36	495	495	36
Retrofit of open multi-deck cooler cases with solid glass doors (per linear foot of case)	Closed Case with Doors	0	Open Case with No Doors	0	12	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	19	0	100.0%	100.0%	100.0%	0	0	0	0
Retrofit of open multi-deck freezer cases with solid glass doors (per linear foot of case)	Closed Case with Doors	0	Open Case with No Doors	0	12	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	19	0	100.0%	100.0%	100.0%	0	0	0	0
Demand Controlled Ventilation - Gas Only or Combo Customer	ition hoods with Demand Controlled Ver	0	ition hoods with Demand Controlled Ver	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	$0.000	$0.000	0	0	100.0%	100.0%	100.0%	0	0	0	0
Thermostat Optimization																									
Install Energy Star certified smart thermostat - AC & GAS	gle Family House with EnergyStar Smar	0	Single Family House with Standard Th	11	10	$0	$0	$0	0%	0.0	0.0	11	$7.159	$0.716	$0.000	$0.000	6,883	324	100.0%	100.0%	100.0%	3,486	16,308	62,301	3,486
Install Energy Star certified smart thermostat - GAS ONLY	gle Family House with EnergyStar Smar	0	Single Family House with Standard Th	0	10	$0	$0	$0	0%	0.0	0.0	0	$7.159	$0.716	$0.000	$0.000	936	0	100.0%	100.0%	100.0%	0	0	0	0