

2023 STATUS REPORT AND ASSOCIATED COMPLIANCE FILINGS

MINNESOTA ELECTRIC & NATURAL GAS
CONSERVATION IMPROVEMENT PROGRAM
DOCKET NO. E,G002/CIP-20-473





414 Nicollet Mall
Minneapolis, MN 55401

April 1, 2024

—Via Electronic Filing—

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

RE: 2023 STATUS REPORT & ASSOCIATED COMPLIANCE FILINGS
MINNESOTA ELECTRIC AND NATURAL GAS CONSERVATION IMPROVEMENT PROGRAM
DOCKET No. E,G002/CIP-20-473

Dear Deputy Commissioner Gransee:

Pursuant to Minnesota R.7690.0550, Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Department of Commerce this 2023 Status Report and Associated Compliance Filings for its Minnesota Electric and Natural Gas Conservation Improvement Program.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact Angela Smelser at 612-370-3447 or Angela.R.Smelser@xcelenergy.com or contact me at 612-216-7972 or Jessica.K.Peterson@xcelenergy.com if you have any questions regarding this filing.

Parties wishing to access our 2023 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-20-473. We provide a direct link to the eDockets website: [MN DOC Efiling \(state.mn.us\)](https://mn.doc.efiling.state.mn.us)

Sincerely,

/s/

JESSICA PETERSON
MANAGER
PROGRAM POLICY, NORTH

Enclosures
cc: Service Lists

CERTIFICATE OF SERVICE

I, , 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

xx electronic filing

DOCKET No. E,G002/CIP-20-473

Dated this 1st day of April 2024

/s/

Christine Schwartz
Regulatory Administrator

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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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OVERVIEW OF COMPLIANCE REPORTS

Northern States Power Company doing business as Xcel Energy submits its 2023 Conservation Improvement Program (CIP) Status Report and associated compliance reports. The purpose of this filing is to report 2023 CIP project activity, to request approval to allocate the 2023 Financial Incentive to our CIP Tracker, to update CIP Tracker activity from January 1, 2023 through December 31, 2023 to request approval of the CIP Tracker balance, and to request approval of the Company's proposed Conservation Cost Recovery Adjustment.

This filing is an aggregation of four compliance reports. The filing is divided into six sections consisting of the following compliance reports and their corresponding attachments:

- Section 1: Compliance with Rules and Statutes;
- Section 2: 2023 Conservation Improvement Program Status Report;
- Section 3: 2023 Demand-Side Management Financial Incentive Report;
- Section 4: Conservation Improvement Program Tracker Report;
- Section 5: Conservation Cost Recovery Adjustment proposal; and
- Section 6: Attachments.

SECTION 1: 2023 COMPLIANCE REPORT

Northern States Power Company, doing business as Xcel Energy submits this 2023 Compliance Report in compliance with the Minnesota Department of Commerce Rules and the Commissioner's Decisions. This report covers all of 2023, January 1 through December 31. This section provides information to satisfy provisions in Minnesota Statutes sections 216B.2401, 216B.241, and 216B.2411, including spending requirements and caps. This section also includes all other ordered compliance requirements, including those required by the Commissioner's November 25, 2020 Decision and subsequent Decisions in this docket.

EXECUTIVE SUMMARY

Northern States Power Company, doing business as Xcel Energy, respectfully submits the following comprehensive report of its electric and natural gas CIP achievements for 2023. This report addresses overall CIP achievements including participation, expenditures, energy conserved, and demand reduced by each segment and program and other compliance reports, as required by the Minnesota Department of Commerce, Division of Energy Resources (Department) and the Minnesota Public Utilities Commission (Commission).

For more than a decade, the Company has surpassed the energy savings targets established in Minnesota Statute 216B.241. In 2023, we once again met and exceeded these targets by achieving nearly 689 GWh of electric savings or 2.48 percent of sales. Our natural gas achievement also surpassed the state's energy savings goal for natural gas in 2023; achieving 1,007,922 Dth of total natural gas savings, which is 1.32 percent of sales.

Although these savings achievements exceed the statutory minimum goals, they fell slightly short of the more ambitious energy savings goals approved by the Deputy Commissioner for Xcel Energy. Electric and natural gas energy savings were 95 percent of the approved targets. This was generally a result of a lower than anticipated business participation. Disrupted supply chains continue to affect installation schedules and lead times for certain equipment increased by several months or more. Additionally, tight labor markets, inflation, and growing macroeconomic uncertainty all combined to limit business customers' investments in energy efficiency.

Despite these challenges the Company has had several successes in 2023 including:

- The Business New Construction program saw completion of several projects that began prior to the 2020 pandemic, exceeding established targets and creating efficient buildings – often before anyone moved in;
- Commercial Streamlined Assessments completed 150 business assessments, many for public schools to help assess energy efficient options to lower operational costs;
- Partnerships with foodbanks as well as direct mail promotions helped provide energy efficient showerheads to residential customers who may not have known of the option beforehand;
- The School Kit program put several energy efficient options in the hands of customers and continued to educate children and families regarding the importance of conservation; and
- Home Lighting continued to grow as customers choose efficient options at local retailers.

Additionally, the Company is proud to continue to be part of the solution to lowering energy bills for our income qualified customers while improving the homes and spaces they live in. The Company successfully met the increased minimum spending requirement for our low-income segment, set at 0.4 percent of the Company's electric gross operating revenues (GOR) and one percent of the Company's natural gas GOR. In fact, the Company continues to grow our low-income segment and while achieved savings were less than target, we believe the traction the Company has made will provide continued success into the future.

Achievement

In 2023, the Company spent a total of \$135 million to achieve these savings results, including \$115 million on electric programs and approximately \$19.7 million on natural gas programs. Electric and natural gas spending was 79 percent of the approved regulatory budget.

The Company's CIP portfolio remains highly cost effective, driving \$631 million in societal net benefits (\$450 million electric and \$181 million natural gas). The electric programs will result in more than \$261 million and the natural gas programs will provide more than \$38 million in avoided revenue requirements, as measured by the utility cost test. The Company's 2023 CIP achievements are summarized in Table 1.

Table 1: 2023 CIP Expenditures and Energy Savings

	Expenditures	Energy Savings (kWh or Dth)	Demand Savings (kW)
Total Electric CIP	\$115,173,263	689,113,977	238,423
Total Natural Gas CIP	\$19,782,422	1,007,922	
Total Expenditures	\$134,955,685		

The Company's cumulative achievements, since 1994, are nearly 12,500 GWh of annual electric energy saved, 20.9 million Dth of natural gas saved, and more than \$7.7 billion in utility net benefits achieved, with total spending of \$2.3 billion. Figures 1 and 2 highlight total achievements and spending for electric and natural gas programs from 2013 to 2023.

Figure 1: Xcel Energy's 2013-2023 Electric CIP Achievements

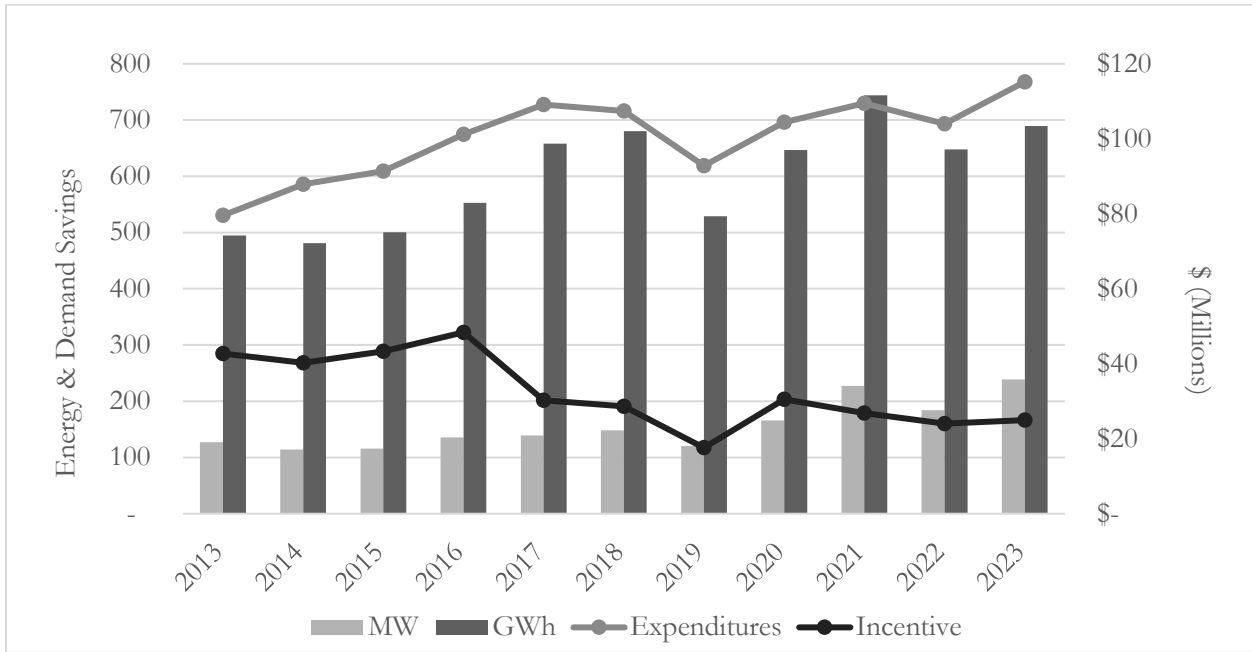


Figure 2: Xcel Energy's 2013-2023 Natural Gas CIP Achievements

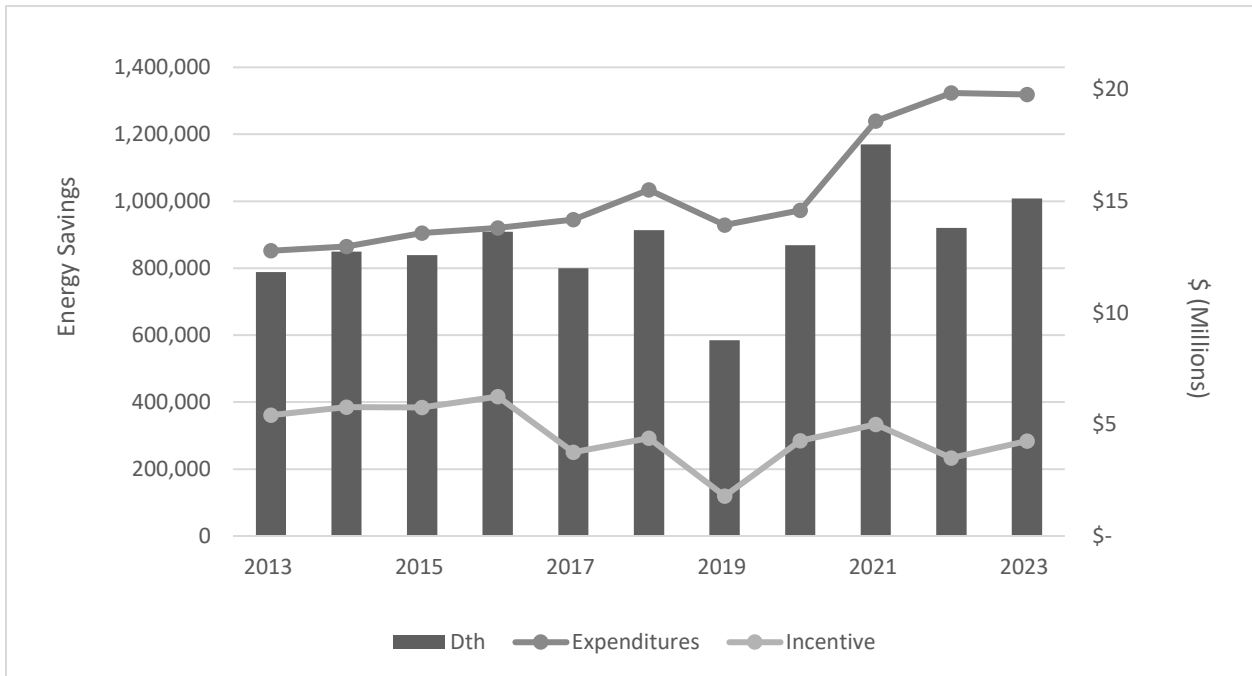


Table 2: Xcel Energy's 2023 Electric and Natural Gas Targets

Regulatory Name	Electric Participants	Electric Budget	DR Gen kW	EE Gen kW	Generator kWh	Electric Utility	Electric Societal	Gas Participants	Gas Budget	Dth Savings	Gas Utility	Gas Societal
Business Energy Assessments	323	\$2,379,473	186	1,725	19,714,087	2.76	1.45	28	\$287,527	10,667	2.95	4.06
Business New Construction	334	\$10,396,921	322	13,194	51,449,521	3.40	1.42	177	\$892,879	87,555	8.61	1.77
Commercial Efficiency	537	\$4,482,140	2,311	5,307	47,819,907	5.13	1.89	71	\$340,754	43,150	10.45	4.41
Commercial Streamlined Assessment	311	\$1,774,181	17	2,323	12,323,207	4.35	1.84	40	\$148,842	9,161	4.88	4.18
Compressed Air Efficiency	302	\$1,467,044	453	1,697	12,288,838	3.17	1.94	0	\$0	0	N/A	0.00
Custom Efficiency	30	\$1,004,508	0	681	4,852,951	2.59	4.30	7	\$147,061	15,389	8.88	6.60
Data Center Efficiency	44	\$478,775	280	341	6,386,988	6.02	1.74	0	\$0	0	N/A	0.00
Efficiency Controls	63	\$762,302	286	143	10,612,865	4.33	1.63	18	\$81,541	14,420	12.00	2.13
Energy Information Systems	42	\$819,077	0	539	4,962,424	2.16	1.69	6	\$41,359	5,816	5.55	4.70
Electric Rate Savings	36	\$580,087	6,433	0	12,688	3.30	3.45	0	\$0	0	N/A	0.00
Foodservice Equipment	74	\$60,820	5	92	637,843	5.39	3.49	163	\$129,904	11,672	5.45	2.71
HVAC+R	3,681	\$4,765,699	77	5,795	29,476,467	3.37	2.08	1,012	\$1,459,601	128,481	5.62	3.49
Lighting	15,762	\$13,801,434	0	22,108	145,965,574	4.99	1.81	0	\$0	0	N/A	0.00
Multi-Family Building Efficiency	7,947	\$1,692,376	78	621	3,982,103	1.12	1.17	2,649	\$701,958	22,886	1.59	3.29
Peak Day Partners	10	\$675,100	27,192	0	428,495	2.57	3.40	0	\$0	0	N/A	0.00
Peak Partner Rewards	60	\$2,392,782	57,774	0	341,425	1.53	2.25	0	\$0	0	N/A	0.00
Process Efficiency	383	\$7,287,050	1,922	12,708	74,453,491	5.47	3.92	46	\$1,065,251	227,111	11.87	4.54
Commercial AC Control	5,950	\$3,636,851	7,079	0	790,996	0.95	1.06	150	\$40,884	1,155	1.30	1.87
Self-Direct	0	\$5,304	0	0	0	N/A	0.00	0	\$1,980	0	N/A	0.00
Non-Profit Energy Savings Program	120	\$782,338	13	293	1,571,525	0.93	0.91	27	\$340,341	8,179	1.33	1.42
Business Segment EE and DR Total	36,009	\$59,244,262	104,428	67,568	428,071,394	3.82	2.19	4,394	\$5,679,881	585,642	6.78	3.19
Energy Benchmarking	0	\$136,272	0	0	0	N/A	0.00	0	\$34,068	0	N/A	0.00
Business Education	13,000	\$197,000	0	0	0	N/A	0.00	1,500	\$25,000	0	N/A	0.00
Small Business Lamp Recycling	55,000	\$42,904	0	0	0	N/A	0.00	0	\$0	0	N/A	0.00
Business Segment with Indirect Participants	104,009	\$59,620,438	104,428	67,568	428,071,394	3.80	2.19	5,894	\$5,738,949	585,642	6.71	3.18
Efficient New Homes Construction	6,001	\$1,027,794	5	1,891	4,505,632	3.69	1.63	3,628	\$1,665,465	49,384	2.54	1.23
Energy Efficient Showerhead	5,840	\$35,736	0	66	810,168	6.32	36.04	49,400	\$275,777	26,781	4.46	37.39
Home Energy Insights	235,000	\$1,431,021	0	6,984	21,028,930	1.98	2.44	124,000	\$170,920	45,678	2.61	3.84
Home Energy Squad	10,293	\$2,562,983	1,284	1,712	9,905,319	2.25	2.79	3,782	\$845,700	24,184	1.31	6.65
Home Lighting	218,166	\$5,518,994	0	20,942	152,443,243	12.33	8.14	0	\$0	0	N/A	0.00
Insulation Rebate Program	1,381	\$90,678	25	231	221,301	3.13	0.33	996	\$249,954	19,689	4.79	1.21
Refrigerator Recycling	10,050	\$1,274,073	166	918	6,431,130	1.21	1.78	0	\$0	0	N/A	0.00
Residential Demand Response	487,565	\$12,050,717	38,377	1,000	546,729	1.23	1.43	14,650	\$317,978	29,999	4.33	4.39
Residential Heating and Cooling	18,510	\$4,579,275	123	6,796	8,676,822	1.29	1.21	19,540	\$2,992,607	120,130	3.23	1.74
School Education Kits	42,000	\$1,745,969	0	2,871	11,444,925	3.43	4.13	21,500	\$557,198	99,667	8.17	28.01
Whole Home Efficiency	268	\$51,964	9	40	145,814	1.60	1.09	234	\$131,340	3,475	1.95	1.17
Residential Segment EE and DR Total	1,035,074	\$30,369,203	39,988	43,450	216,160,012	3.60	3.38	237,730	\$7,206,938	418,987	3.34	3.16
Consumer Education	477,000	\$783,000	0	0	0	N/A	0.00	375,000	\$522,000	0	N/A	0.00
Home Energy Audit	3,200	\$733,487	0	0	0	N/A	0.00	2,600	\$606,040	0	N/A	0.00
Residential Lamp Recycling	495,000	\$374,343	0	0	0	N/A	0.00	0	\$0	0	N/A	0.00
Workforce Development	102	\$2,150,500	0	0	0	N/A	0.00	18	\$379,500	0	N/A	0.00
Residential Segment with Indirect Participants	2,010,376	\$34,410,533	39,988	43,450	216,160,012	3.18	3.11	615,348	\$8,714,478	418,987	2.76	2.96
Home Energy Savings Program	4,181	\$2,416,144	51	186	1,068,029	0.21	0.66	833	\$3,117,831	10,614	0.20	0.75
Low Income Home Energy Squad	2,017	\$803,124	491	382	1,385,395	1.12	1.67	756	\$395,748	6,619	0.77	4.30
Multi-Family Energy Savings Program	4,133	\$2,012,762	0	197	588,428	0.14	0.60	0	\$0	0	N/A	0.00
Affordable Efficient New Home Construction	329	\$292,708	2	84	536,607	1.08	0.98	196	\$1,025,622	26,751	2.31	2.28
Low Income Segment Total	10,660	\$5,524,738	544	850	3,578,459	0.36	0.77	1,785	\$4,539,201	43,983	0.73	1.37
Advertising & Promotion	0	\$6,389,040	0	0	0	N/A	0.00	0	\$1,584,264	0	N/A	0.00
Application Development & Maintenance	0	\$4,372,001	0	0	0	N/A	0.00	0	\$802,781	0	N/A	0.00
CIP Training	0	\$344,963	0	0	0	N/A	0.00	0	\$115,277	0	N/A	0.00
Partners in Energy	0	\$906,646	0	0	0	N/A	0.00	0	\$236,412	0	N/A	0.00
Regulatory Affairs	0	\$555,482	0	0	0	N/A	0.00	0	\$154,967	0	N/A	0.00
Planning Segment Total	0	\$12,568,132	0	0	0	N/A	0.00	0	\$2,893,701	0	N/A	0.00
Codes and Standards	0	\$80,000	0	0	0	N/A	0.00	0	\$20,000	0	N/A	0.00
Market Research	0	\$1,692,501	0	0	0	N/A	0.00	0	\$331,560	0	N/A	0.00
Product Development	0	\$5,265,357	20,453	0	80,577	0.25	0.25	0	\$150,061	0	N/A	0.00
Research, Evaluations, & Pilots Segment Total	0	\$7,037,858	20,453	0	80,577	0.18	0.18	0	\$501,621	0	N/A	0.00
Portfolio Total	2,125,045	\$119,161,699	165,412	111,869	647,890,442	2.84	2.16	623,027	\$22,387,951	1,048,613	2.94	2.66
Enerchange	0	\$530,100	0	0	0	N/A	0.00	0	\$58,900	0	N/A	0.00
Energy Smart	110	\$549,150	0	0	0	N/A	0.00	9	\$32,760	0	N/A	0.00
One-Stop Shop	2,742	\$18,789,160	0	14,767	80,035,589	2.17	1.49	155	\$100,915	7,750	3.37	5.87
Trillion Btu	0	\$174,600	0	0	0	N/A	0.00	0	\$19,400	0	N/A	0.00
Anticipated Alternative Filings Total	2,852	\$20,043,010	0	14,767	80,035,589	0.00	0.51	164	\$211,975	7,750	0.00	0.06
Assessments	0	\$4,608,716	0	0	0	N/A	0.00	0	\$724,544	0	N/A	0.00
Electric Utility Infrastructure	0	\$0	0	0	0	N/A	N/A	0	\$0	0	N/A	0.00
Portfolio Total w Alternative Filings	2,127,897	\$143,813,425	165,412	126,636	727,926,031	2.36	2.02	623,191	\$23,324,470	1,056,363	2.82	2.62

Table 3: Xcel Energy's 2023 Electric and Natural Gas Achievements

Regulatory Name	Electric Participants	Electric Spend	DR Gen kW	EE Gen kW	Generator kWh	Electric Utility	Electric Societal	Gas Participants	Gas Spend	Dth Savings	Gas Utility	Gas Societal
Business Energy Assessments	41	\$1,880,314	0	642	4,724,377	0.83	2.34	6	\$61,557	1,931	1.82	2.76
Business New Construction	173	\$9,454,578	0	11,605	62,919,329	4.23	1.80	48	\$840,290	65,328	6.58	1.87
Commercial Efficiency	307	\$3,558,979	0	5,425	35,215,534	4.01	1.95	85	\$189,368	41,741	6.47	1.82
Commercial Streamlined Assessment	139	\$1,979,717	0	2,755	13,076,956	3.67	2.56	12	\$97,506	7,758	3.62	3.65
Compressed Air Efficiency	77	\$698,543	0	647	4,246,399	2.60	1.52	0	\$0	0	N/A	0.00
Custom Efficiency	12	\$687,971	0	591	4,713,744	3.07	2.62	2	\$103,664	8,894	7.64	6.12
Data Center Efficiency	19	\$267,139	0	430	4,704,251	6.86	3.77	0	\$0	0	N/A	0.00
Efficiency Controls	19	\$304,511	0	73	1,495,063	1.44	1.05	3	\$45,911	4,776	7.06	5.67
Energy Information Systems	37	\$377,443	0	289	5,411,463	2.89	2.31	1	\$7,285	651	2.90	6.85
Electric Rate Savings	225	\$561,131	35,678	0	53,452	16.91	17.68	0	\$0	0	N/A	0.00
Foodservice Equipment	13	\$40,740	0	25	175,124	1.83	1.79	27	\$59,373	5,594	5.03	2.47
HVAC+R	876	\$3,446,678	0	3,767	18,731,337	2.85	1.72	410	\$979,124	76,012	3.72	1.67
Lighting	2,283	\$7,302,337	0	11,359	71,256,296	4.17	1.76	0	\$0	0	N/A	0.00
Multi-Family Building Efficiency	26,592	\$1,524,952	0	418	3,187,158	0.80	0.96	8,064	\$536,386	8,748	0.75	3.27
Peak Day Partners	0	\$504,519	0	0	0	N/A	0.00	0	\$0	0	N/A	0.00
Peak Partner Rewards	70	\$743,188	21,489	0	14,481	2.15	2.50	0	-\$871	0	N/A	0.00
Process Efficiency	368	\$6,183,451	0	8,231	51,207,058	4.01	3.44	40	\$599,110	190,911	12.01	5.97
Commercial AC Control	1,560	\$1,510,054	2,341	1,438	64,200	1.41	1.25	0	\$0	0	N/A	0.00
Self-Direct	13	\$369,996	0	511	3,790,371	5.14	2.20	0	\$0	0	N/A	0.00
Non-Profit Energy Savings Program	0	\$19,911	0	0	0	N/A	0.00	0	\$15,397	0	N/A	0.00
Business Segment EE and DR Total	32,824	\$41,416,152	59,507	48,205	284,986,591	3.67	2.42	8,698	\$3,534,100	412,344	5.63	2.68
Energy Benchmarking	0	\$150,580	0	0	0	N/A	0.00	0	\$50,298	0	N/A	0.00
Empower Facilities	0	\$1,791,464	0	0	0	N/A	0.00	0	\$215,546	0	N/A	0.00
Business Education	19,808	\$214,086	0	0	0	N/A	0.00	2,201	\$36,600	0	N/A	0.00
Small Business Lamp Recycling	66,537	\$42,173	0	0	0	N/A	0.00	0	\$0	0	N/A	0.00
Business Segment with Indirect Participants	119,169	\$43,614,456	59,507	48,205	284,986,591	3.48	2.38	10,899	\$3,836,544	412,344	5.19	2.63
Efficient New Homes Construction	3,029	\$851,393	0	1,552	5,351,533	4.38	1.39	1,789	\$1,795,701	47,583	2.33	1.21
Energy Efficient Showerhead	769	\$45,571	0	388	5,173,124	31.17	154.82	3,655	\$640,639	149,510	10.72	108.24
Home Energy Insights	646,235	\$989,940	0	2,445	19,395,340	1.57	1.60	534,481	\$250,825	43,320	2.40	3.40
Home Energy Squad	4,094	\$900,429	40	77	210,565	1.31	1.76	1,414	\$301,951	5,909	0.85	3.63
Home Lighting	446,762	\$11,535,278	0	40,838	301,994,408	12.43	10.30	0	\$0	0	N/A	0.00
Insulation Rebate Program	980	\$116,814	0	257	253,547	2.66	0.70	745	\$364,511	21,870	4.03	0.83
Refrigerator Recycling	2,763	\$782,501	0	326	2,352,651	0.65	0.95	0	\$0	0	N/A	0.00
Residential Demand Response	811,076	\$10,337,717	33,491	25,440	571,572	1.78	2.02	305	\$10,788	1,683	7.16	5.61
Residential Heating and Cooling	20,728	\$5,584,416	0	12,161	9,283,216	2.80	1.50	12,604	\$3,930,654	224,802	4.62	2.38
School Education Kits	41,863	\$1,647,834	0	3,516	12,123,698	3.99	5.51	21,505	\$412,533	78,883	8.78	55.13
Whole Home Efficiency	22	\$26,889	0	21	49,455	1.37	0.74	21	\$55,183	1,897	2.66	1.24
Residential Segment EE and DR Total	1,978,321	\$32,818,782	33,532	87,021	356,759,109	5.87	5.08	576,519	\$7,762,786	575,457	4.56	7.21
Consumer Education	673,753	\$941,271	0	0	0	N/A	0.00	449,168	\$574,576	0	N/A	0.00
Home Energy Audit	3,200	\$767,028	0	0	0	N/A	0.00	2,600	\$646,435	0	N/A	0.00
Residential Lamp Recycling	377,044	\$239,074	0	0	0	N/A	0.00	0	\$0	0	N/A	0.00
Workforce Development	102	\$1,544,548	0	0	0	N/A	0.30	18	\$269,375	0	N/A	0.31
Residential Segment with Indirect Participants	3,032,420	\$36,310,703	33,532	87,021	356,759,109	5.31	4.80	1,028,305	\$9,253,173	575,457	3.83	6.82
Home Energy Savings Program	2,079	\$1,947,678	0	234	1,224,979	0.33	0.65	389	\$3,182,836	10,213	0.23	0.64
Low Income Home Energy Squad	916	\$263,317	47	114	526,604	1.18	1.86	346	\$113,484	2,248	0.89	3.27
Multi-Family Energy Savings Program	1,822	\$2,649,828	0	165	597,918	0.11	0.60	0	\$0	0	N/A	0.00
Affordable Efficient New Home Construction	8	\$96,168	0	4	34,396	0.19	0.64	5	\$92,336	178	0.17	0.93
Low Income Segment Total	4,825	\$4,956,991	47	517	2,383,897	0.26	0.66	740	\$3,388,655	12,639	0.25	0.71
Advertising & Promotion	0	\$5,392,530	0	0	0	N/A	0.00	0	\$1,306,217	0	N/A	0.00
Application Development & Maintenance	0	\$510,725	0	0	0	N/A	0.00	0	\$146,902	0	N/A	0.00
CIP Training	0	\$87,716	0	0	0	N/A	0.00	0	\$29,722	0	N/A	0.00
Partners in Energy	537,000	\$960,919	0	0	0	N/A	0.00	214,800	\$191,593	0	N/A	0.00
Regulatory Affairs	0	\$523,216	0	0	0	N/A	0.00	0	\$184,777	0	N/A	0.00
Planning Segment Total	537,000	\$7,475,105	0	0	0	N/A	0.00	214,800	\$1,859,212	0	N/A	0.00
Codes and Standards	0	\$0	0	0	0	N/A	N/A	0	\$0	0	N/A	0.00
Market Research	0	\$1,553,757	0	0	0	N/A	0.00	0	\$406,032	0	N/A	0.00
Product Development	0	\$2,857,635	0	0	0	N/A	0.00	0	\$82,487	0	N/A	0.00
Research, Evaluations, & Pilots Segment Total	0	\$4,411,392	0	0	0	N/A	0.00	0	\$488,519	0	N/A	0.00
Portfolio Total	3,693,414	\$96,768,647	93,086	135,743	644,129,597	3.57	2.82	1,254,744	\$18,826,104	1,000,440	2.98	4.58
Enerchange	0	\$428,254	0	0	0	N/A	0.00	0	\$57,177	0	N/A	0.00
Energy Smart	3,200	\$539,104	0	0	0	N/A	0.00	2,600	\$24,694	0	N/A	0.00
One-Stop Shop	1,862	\$12,799,763	0	9,593	44,984,380	1.93	1.50	79	\$102,174	7,482	3.13	4.59
Trillion Btu	0	\$134,109	0	0	0	N/A	0.00	0	\$14,901	0	N/A	0.00
Anticipated Alternative Filings Total	5,062	\$13,901,230	0	9,593	44,984,380	1.78	1.44	2,679	\$198,946	7,482	1.61	2.55
Assessments	0	\$4,503,386	0	0	0	N/A	0.00	0	\$757,372	0	N/A	0.00
Electric Utility Infrastructure	0	\$0	0	0	0	N/A	N/A	0	\$0	0	N/A	0.00
Portfolio Total w Alternative Filings	3,698,476	\$115,173,263	93,086	145,336	689,113,977	3.22	2.63	1,257,423	\$19,782,422	1,007,922	2.86	4.50

COMPLIANCE REPORT

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

Achievements as a Percentage of Sales (Minn. Stat. § 216B.421, subd. 1c)

The table below shows our achievements as a percentage of our 2017-2019 weather-normalized retail sales, adjusted for exempt customers.

Table 4: Achievements as Percent of Sales

	Electric			Natural Gas		
	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
2023	689,114	27,807,302	2.48%	1,007,922	76,465,185	1.32%

Carry-Forward Provision (Minn. Stat. §216B.241, subd. 1c.)

The Carry-Forward Provision 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 percent electric savings goal¹, we meet the eligibility guidelines for use of the carry-forward provision. However, the Company is not using any carried-forward savings from previous years for our 2023 achievement.

R&D Spending Cap (Minn. Stat. § 216B.421, subd. 1e)

Minn. Stat. § 216B.241, subd. 2(e) allows public utilities to spend up to ten percent of total CIP spending on research and development projects that meet the definition of energy conservation improvements. Prior to 2021, the maximum was 10 percent of the minimum spending requirement.² The table below demonstrates compliance with the R&D spending cap by comparing actual R&D

¹ The Energy Conservation and Optimization Act of 2021 updated the minimum target to 1.75 percent; the Company has incorporated this as a part of the 2024-2026 ECO Triennial Plan under that requirement in 2023, Docket No. E,G002/CIP-23-92.

² Prior to passage of the Energy Conservation and Optimization (ECO) Act of 2021, utilities were required to spend a certain minimum percentage of their gross revenues on CIP; ECO removed this minimum spending requirement.

spending to the approved R&D budget in the Deputy Commissioner’s November 25, 2020 Decision and the annual maximum allowed by current statute (10% of spending).

Research and Development identifies, assesses, and develops new load management and energy efficiency products and services. This work allows the Company to identify and promote promising new energy saving opportunities for its customers. Consistent with the Deputy Commissioner’s Decision, a narrative summary of R&D activities and the corresponding dollar amounts is provided in the Product Development section of this report.

Table 5: Research & Development Spending Cap

	Annual Spending Cap	Approved Spend	Actual Spend³	Variance of Actual to Cap
Electric	\$11,517,326	\$5,265,357	\$3,533,252	(\$7,984,074)
Natural Gas	\$1,978,242	\$501,621	\$214,641	(\$1,763,601)
Total	\$13,495,568	\$5,766,978	\$3,747,893	(\$9,747,675)

Facilities Energy Efficiency (Minn. Stat. § 216B.241, subd. 1f)

Statute requires all utilities to include in their conservation plans programs that facilitate professional engineering verification to qualify a building as ENERGY STAR®, Leadership in Energy and Environmental Design (LEED) certified, or Green Globes-certified. The Company’s Business New Construction and Commercial Streamlined Assessment programs continue to satisfy this requirement.

Low Income Spending Requirement (Minn. Stat. § 216B.241, subd. 7a)

Minn. Stat. §216B.241 requires utilities to spend at least one percent of their residential natural gas gross operating revenues (GOR) on low-income gas programs and 0.4 percent of their residential electric GOR on low-income electric programs, unless otherwise approved by the Commissioner.⁴

The table below shows a comparison of the actual low-income spending to the minimum spending requirement. After the initial 2021-2023 plan was filed and approved, the Company filed modifications that increased budgets within the Low-Income segment.⁵ The approved budgets below reflect those modifications as approved by the Deputy Commissioner.

³ Actual spend excludes activities related to evaluations or pilots for specific programs that are reported in the Market Research or Product Development programs.

⁴ ECO adjusted the minimum spending for low-income programs. While other portions of ECO will be implemented in the Company’s 2024-2026 ECO Triennial Plan, the increase in low-income spending included specific language regarding when it would take effect. The percentages given here thus match the new requirements of ECO that were in effect beginning in 2022.

⁵ The most significant modification approved by the Deputy Commissioner on January 31, 2022. Other modifications are cited in the “Program Modification & Courtesy Notification” section of this Status Report.

Table 6: Low-Income Spending Requirement

	Electric	Natural Gas	Total
Minimum Spending Requirement	\$4,767,230	\$2,834,971	\$7,602,201
Approved Low-Income Spend	\$5,524,738	\$4,539,201	\$10,063,939
2023 Spend (Direct Segment)	\$4,956,991	\$3,388,655	\$8,345,646
Home Lighting - Foodbank	\$1,382,699	-	\$1,382,699
Multi-Family Building Efficiency	\$310,874	\$109,347	\$420,221
Energy Efficient Showerheads	\$2,798	\$487,901	
Total Low-Income Spend	\$6,650,564	\$3,498,002	\$10,148,567
% of Minimum Spending Requirement	140%	123%	133%
% of Approved Spend	120%	77%	101%

In alignment with hybrid low-income program requirements established in the Deputy Commissioner’s November 25, 2020 Decision⁶ the Company has included a portion of the spending under three market rate programs in the table above. In the Home Lighting and Efficient Showerhead programs, a portion of spending was used to provide high-efficiency light bulbs for free distribution to food bank customers. In addition, spending in the Multifamily Building Efficiency program to support upgrades in buildings identified as meeting low-income multifamily eligibility criteria has also been included.

The Low-Income Segment section provides greater detail on low-income program achievements and results. Table 7 provides spending and energy savings information for low-income spending in hybrid programs outside the dedicated Low-Income Segment. Of note, both efficient showerheads and home lighting were distributed at foodbanks which is a measure as part of these programs.

⁶ Decision, “Xcel Energy’s 2021-2023 Conservation Improvement Program Triennial Plan”, Minnesota Department of Commerce, Docket No. E,G002/CIP-20-473, November 25, 2020, pg.12-14.

Table 7: 2023 Hybrid Program Achievement

	Electric			Natural Gas		
	Participants	Electric Savings (kwh)	Actual Spend	Participants	Natural Gas Savings (Dth)	Actual Spend
Energy Efficient Showerheads	13,808	4,882,588	\$2,798	101,243	140,549	\$487,901
Home Lighting	116,135	54,440,528	\$1,382,699			
LI MFBE	5,421	637,489	\$310,874	1,784	17,496	\$109,347
Total	135,364	59,960,605	\$1,696,371	103,027	158,045	\$597,248

Pre-weatherization Measures (Minn. Stat. § 216B.241, subd. 7f)

Statute allows utilities to spend up to 15 percent of their total low-income spending on pre-weatherization measures. In 2023, the Company spent \$583,277 on pre-weatherization measures or six percent of our low-income spending.

Assessments (Minn. Stat. § 216B.241, subd. 8)

Please see Assessments Segment for further details regarding assessments made under this subdivision.

SB2030 Standards (Minn. Stat. § 216B.241, subd. 9(e))

All utilities are required to develop CIP projects to support attainment of SB 2030 standards. The Business New Construction program supports the Sustainable Building 2030 performance standard in various ways. This includes providing design assistance (including the strategic planting of trees and shrubs around buildings)⁷, verification of equipment installation, and financial incentives for incorporating energy efficient design components. Additionally, projects that qualify for the Energy Design Assistance program receive whole-building energy modeling and each project includes a comparison to the SB2030 standard.

Lighting Use and Recycling Programs (Minn. Stat. § 216B.241, subd. 5)

Utilities are required to invest in projects that encourage the use of energy efficient lighting and reclamation or recycling of spent fluorescent and high intensity discharge lamps. The Company met this requirement through its business and residential lighting and lamp recycling programs.

⁷ Per the statute, “A utility's design assistance program must consider the strategic planting of trees and shrubs around buildings as an energy conservation strategy for the designed project.”

Employee Expenses (Minn. Stat. § 216B.16, subd. 1)

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 2023, the Company had a total of \$279,778 in employee expenses related to CIP. These expenses represent about 0.21 percent of our total CIP spending for 2023, which is below the Department's recommended cap of 0.5 percent of total annual budget for expenses.

Table 8: Miscellaneous Expenses

	Employee Expenses	Total CIP Spending	% of Total Spending
Electric	\$237,330	\$115,173,263	0.21%
Natural Gas	\$42,448	\$19,782,422	0.21%
Total	\$279,778	\$134,995,686	0.21%

Table 9: Summary of 2023 Employee Expenses

Employee Expense Category	Electric Amount	Natural Gas Amount	Total
Airfare	\$40,173	\$7,149	\$47,321
Car Rental	\$1,885	\$354	\$2,240
Taxi/Bus	\$7,751	\$1,524	\$9,275
Mileage	\$34,266	\$3,710	\$37,976
Conferences/Seminars/Training	\$35,725	\$9,741	\$45,466
Hotel	\$58,246	\$11,120	\$69,366
Business Meals- Employees Only	\$21,846	\$4,171	\$26,017
Business Meals- Including Non-Employees	\$ 17,270	\$1,867	\$19,137
Parking	\$ 7,238	\$1,264	\$8,502
Personal Communication	\$11,030	\$1,503	\$12,533
Other Employee Expenses	\$1,848	\$33	\$1,881
Safety Equipment	\$52	\$13	\$64
Total	\$237,330	\$42,448	\$279,778

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.

Distributed Energy Resources Spending Cap (Minn. Stat. §216B.2411)

Utilities may spend up to five percent of their total energy conservation improvement spending on distributed generation projects. In 2023, the Company did not have any distributed energy resources spending in CIP.

Program Modifications & Courtesy Notifications

Xcel Energy provides the following information regarding the formal and informal modifications to our 2023 Conservation Improvement Program that were made and approved in 2023 or went into effect in 2023.⁸

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%.

Formal Modifications

Critical Peak Pricing

The Company requested to add a new program called Critical Peak Pricing to the Research, Evaluations, & Pilots segment of its CIP portfolio in July of 2022. The CPP Pilot program design is meant to encourage business customers to voluntarily reduce their usage based on price signals. The Deputy Commissioner approved the pilot on January 19, 2023.

Multi-Program Adjustment

The Company submitted a modification to adjust eight programs on October 28, 2022: Home Energy Squad, Home Energy Savings, Multifamily Energy Savings, Low-Income Home Energy Squad, Residential Heating and Cooling, Whole Home Efficiency, Residential Demand Response and HVAC+R.

These changes were to add a behavior demand response option to Residential Demand Response and to update measures for dehumidifiers and air conditioners/heat pumps as a result of changes to the Technical Reference Manual or code. These changes were approved on January 18, 2023.

Peak Day Partners

The Company requested the addition of a new pilot to its business segment called Peak Day Partners for the remainder of the 2023 program year. This demand response program is intended to offer commercial and industrial customers an additional demand response option to meet conditions that are unique to their businesses and to provide the Company with an additional power purchase

⁸ The Deputy Commissioner requires utilities to include in their annual status reports a description of all program modifications and changes not requiring Deputy Commissioner approval in order to keep the Department and other interested parties informed of their activities. In the Matter of Xcel Energy's 2020 Conservation Improvement Program Triennial Plan, Docket No. E,G002/CIP-16-115, et al., Deputy Commissioner Decision, p. 41 (Nov. 26, 2020).

resource to manage system requirements more efficiently during exceptional periods. The Deputy Commissioner approved this pilot on October 27, 2023.

Courtesy Notifications

AC Rewards

The existing AC Rewards program within Residential Demand Response offers customers incentives for enrolling their eligible smart thermostats into the demand-response based offering. Customers receive a one-time incentive upon enrollment into the product as well as an annual incentive for continued participation. The Company increased the one-time enrollment incentive to \$100 effective May 1, 2023. The purpose of this change was to drive interest and enrollments into the product through a more alluring and competitive incentive for the customer. The Company submitted this courtesy notification on March 7.

Bonus Offers

The Company provided a courtesy notification to the Department regarding several bonus opportunities for customers to participate in our demand response programs. These bonus rebates were available to customers from October 1 to December 1, 2023, to help the Company reach participation goals within the 2021-2023 CIP Triennial. These included:

- **Electric Rate Savings:** Enrollment bonus incentive of \$15,000 for all customers to sign-up for the program or increase their commitment by 50 kW. Enrollment incentives for ERS customers were to encourage past program participants and new customers to use the bonus to make updates to back up generation to re-new eligibility and participate in demand response programs.
- **Peak Partner Rewards:** Enrollment bonus incentive of \$15,000 for all customers to sign-up for the program or increase their commitment by 50 kW. Peak Partner Rewards continues to offer a flexible demand management solution to customers of all sizes, the bonus for this program was to encourage program enrollment, as the uptake to program adoption has remained lower than expected over the last few years.
- **Business Saver Switch:** Enrollment bonus incentive of \$2,000 to new customers who sign up between October 1, 2023, through October 31, 2023. The bonus was used as enrollment incentive to reach new customers to an introductory program that can help customers manage their demand.
- **Residential AC Rewards:** Enrollment bonus incentive of \$50 to new customers. The eligible customer population has high participation rates, and the bonus was used to help encourage late adopters into the program.

The Company submitted this courtesy notification on September 29 and received notice by the Department on September 29.

Business Lighting Efficiency

The Business Lighting Efficiency program offers LED lamp discounts to customers in the Midstream Lighting program through participating distributors. To help to overcome the market challenges, the Company promoted the program by offering limited-time bonus rebates on fixtures and lamps to drive the purchase of energy-efficient lighting. The Company submitted this courtesy notification on March 17, 2023.

Empower Facilities

The Company had several customers request that any implementation services for the program be added to their Xcel Energy bill – this avoids internal contracting and budgeting concerns for the customer. This feature was part of the vision for the product but was not specifically called out in the filing proposing the program. As a result, the filing (and the subsequent Decision) did not address it. The Company reached out to the Department to provide a heads up regarding the Company's intention to allow this option to continue to encourage participation in Empower Facilities. The Company submitted this courtesy notification on April 7, 2023, and received notice by the Department on April 7, 2023.

Mobile Home Pilot

The Company provided the Department notification of a Product Development pilot reviewing the option of certain rebates to mobile home customers. The Company did not claim savings for these (unless it qualifies under HES or HESP under the approved 2021-2023 Triennial). Most of the product development effort were around implementation and engagement. The Company conducted the pilot targeting 2-4 manufactured home parks where there is a known energy burden concern and need for energy-efficiency improvements. A comprehensive offering will be delivered that tests several the concepts identified as solutions to barriers to program participation through recent research involving Xcel Energy's income qualified offerings. The Company submitted this courtesy notification on October 6 and received notice by the Department on October 20.

Trade Incentive Update

The Company provided notice to the Department that business Segment programs that currently offer trade incentives; Compressed Air Efficiency, Data Center Efficiency, HVAC+R Solutions, Multi-Family Building Efficiency and Custom Efficiency increased the percentage and dollar value of the trade incentives offered. The following programs increased the trade incentive percent from 10 percent to 15 percent up to \$5,000/per project for the following programs, Compressed Air Efficiency, Data Center Efficiency, HVAC+R Solutions, Multi-Family Building Efficiency and Custom Efficiency. The boiler tune-up trade incentive under HVAC+R Solutions are increased from \$25 to \$35 per tune-up of building boiler system (limit one per site, biannually).

The increase in trade incentives were needed to incentivize trade partners to promote and sell energy efficient equipment. Costs for trade partners associated with energy efficient equipment have increased due to supply chain issues, staffing shortages and increased labor costs. Trade incentives allow the Company to promote the program rebates to customers and the trade incentives do not impact the rebates paid to customers. The Company submitted this courtesy notification on February 13 and received notice by the Department on February 16.

Low-Income and Multi-Family Compliance

Low-Income and Renter Participation

In the November 25, 2020, Decision the Deputy Commissioner required utilities to clearly report the following metrics in their annual status reports:

- the estimate of anticipated and actual low-income residential customer participation levels for each program,
- the estimate of anticipated and actual residential rental customer participation levels for each program,
- for programs that make use of the low-income multifamily policy guidance, the number of buildings and units served by market-rate versus affordable housing through the program.

The Multi-Family Energy Savings Program (MESP) and Multi-Family Building Efficiency (MFBE) Program make use of the low-income multifamily policy guidance. The MESP program only serves income-qualified properties, therefore, 100 percent of the participants are income-qualified. The MFBE program serves both income-qualified and market rate customers. The Company reports on number of buildings and associated units of these programs in Table 10 below.

**Table 10: Number of Units/Buildings
Market-Rate versus Affordable Housing**

	Multi-Family Building Efficiency (Market Rate)	Multi-Family Energy Savings Program (Affordable Housing)
# of Buildings	164	64
# of Units	6,597	1,898

These remaining metrics are shown in Tables 11 through 14.

Table 11: Electric Program Low-Income Participation

2023	Anticipated			Actual		
	Participants	Low-Income Participants	Percent of Participation	Participants	Low-Income Participants	Percent of Participation
<u>Business Segment</u>						
Multi-Family Building Efficiency	7,947	6,827	86%	26,592	5,421	20.4%
<u>Residential Segment</u>						
Efficient New Home Construction	6,001	23	0%	3,029	25	0.8%
Energy Efficient Showerhead	5,840	510	9%	769	79	10.3%
Home Energy Insights	235,000	9,168	4%	646,235	Unable to track	
Home Energy Squad	10,293	207	2%	4,094	25	0.6%
Home Lighting	218,166	1,299	1%	446,762	Unable to track	
Insulation Rebate	1,381	36	3%	980	1	0.1%
Refrigerator Recycling	10,050	140	1%	2,763	96	3.5%
Residential DR	487,565	1,527	0%	811,076	432	0.1%
Residential Heating and Cooling	18,610	284	2%	20,728	257	1.2%
School Education Kits	42,000	15,960	38%	41,863	Unable to track	
Whole Home Efficiency	268	19	7%	22	1	4.5%
Consumer Education	477,000	52,470	11%	673,753	Unable to track	
Home Energy Audit	3,200	121	4%	3,200	288	9.0%
Residential Lamp Recycling	495,000	2,946	1%	377,044	Unable to track	
<u>Low Income Segment</u>						
Affordable Eff. New Home Construction	329	329	100%	8	8	100%
Home Energy Savings Program	4,182	4,182	100%	2,079	2,079	100%
LI Home Energy Squad	2,017	2,017	100%	916	916	100%
Multi-Family Energy Savings Program	4,133	4,133	100%	1,822	1,822	100%
Total	2,019,982	102,197	5%	3,063,735		

Table 12: Natural Gas Program Low-Income Participation

2023	Anticipated			Actual		
	Participants	Low-Income Participants	Percent of Participation	Participants	Low-Income Participants	Percent of Participation
<u>Business Segment</u>						
Multi-Family Building Efficiency	2,649	2,417	91%	8,064	1,784	22.1%
<u>Residential Segment</u>						
Efficient New Home Construction	3,628	15	0%	1,789	10	0.6%
Energy Efficient Showerhead	49,400	2,467	5%	3,655	178	4.9%
Home Energy Insights	124,000	5,801	5%	534,481	Unable to track	
Home Energy Squad	3,782	52	1%	1,414	9	0.6%
Home Lighting						
Insulation Rebate	996	25	3%	745	1	0.1%
Refrigerator Recycling						
Residential DR						
Residential Heating and Cooling	19,540	413	2%	12,604	304	2.4%
School Education Kits	21,500	8,235	38%	21,505	Unable to track	
Whole Home Efficiency	234	16	7%	21	0	0.0%
Consumer Education	375,000	41,250	11%	449,168	Unable to track	
Home Energy Audit	2,600	128	5%	2,600	124	4.8%
Residential Lamp Recycling						
<u>Low Income Segment</u>						
Affordable Efficient New Home Construction	196	196	100%	5	5	100%
Home Energy Savings Program	881	881	100%	389	389	100%
Low Income Home Energy Squad	756	756	100%	346	346	100%
Multi-Family Energy Savings Program						
Total	619,812	54,417	9%	1,037,091	3,150	0.3%

Table 13: Electric Program Renter Participation

2023	Anticipated			Actual		
	Participants	Renter Participants	Percent of Participation	Participants	Renter Participants	Percent of Participation
<u>Business Segment</u>						
Multi-Family Building Efficiency	7,947	6,847	86.2%	26,592	20,919	78.7%
<u>Residential Segment</u>						
Efficient New Home Construction	6,001	0	0.0%	3,029	0	0.0%
Energy Efficient Showerhead	5,840	204	3.5%	769	36	4.7%
Home Energy Insights	235,000	107,268	45.6%	646,235	Unable to track	
Home Energy Squad	10,293	844	8.2%	4,094	45	1.1%
Home Lighting	218,166	47,342	21.7%	446,762	Unable to track	
Insulation Rebate	1,381	25	1.8%	980	20	2.0%
Refrigerator Recycling	1,050	164	15.6%	2,763	42	1.5%
Residential DR	487,565	850	0.2%	811,076	265	0.0%
Residential Heating and Cooling	18,610	272	1.5%	20,728	275	1.3%
School Education Kits	42,000	9,114	21.7%	41,863	Unable to track	
Whole Home Efficiency	268	0	0.0%	22	1	4.5%
Consumer Education	477,000	52,470	11.0%	673,753	Unable to track	
Home Energy Audit	3,200	92	2.9%	3,200	119	3.7%
Residential Lamp Recycling	495,000	107,415	21.7%	377,044	Unable to track	
<u>Low Income Segment</u>						
Affordable Efficient New Home Construction	329	0	0.0%	8	0	0.0%
Home Energy Savings Program	4,182	198	4.7%	2,079	145	7.0%
Low Income Home Energy Squad	2,017	528	26.2%	916	47	5.1%
Multi-Family Energy Savings Program	4,133	2,058	49.8%	1,822	871	47.8%
Total	2,019,982	326,577	16.2%	3,063,735	11,450	0.4%

Table 14: Natural Gas Program Renter Participation

2023	Anticipated			Actual		
	Participants	Renter Participants	Percent of Participation	Participants	Renter Participants	Percent of Participation
Business Segment						
Multi-Family Building Efficiency	2,649	2,417	91.3%	8,064	6,538	81.1%
Residential Segment						
Efficient New Home Construction	3,628	0	0.0%	1,789	0	0.0%
Energy Efficient Showerhead	49,400	901	1.8%	3,655	70	1.9%
Home Energy Insights	124,000	57,070	46.0%	534,481	Unable to track	
Home Energy Squad	3,782	85	2.3%	1,414	0	0.0%
Home Lighting						
Insulation Rebate	996	22	2.2%	745	17	2.3%
Refrigerator Recycling						
Residential DR	14,650	0	0.0%	305	0	0.0%
Residential Heating and Cooling	19,540	258	1.3%	12,604	121	1.0%
School Education Kits	21,500	4,666	21.7%	21,505	Unable to track	
Whole Home Efficiency	234	0	0.0%	21	0	0.0%
Consumer Education	375,000	41,250	11.0%	449,168	Unable to track	
Home Energy Audit	2,600	73	2.8%	2,600	47	1.8%
Residential Lamp Recycling						
Low Income Segment						
Affordable Eff. New Home Construction	196	0	0.0%	5	0	0.0%
Home Energy Savings Program	881	9	1.0%	389	389	100.0%
Low Income Home Energy Squad	756	79	10.4%	346	346	100.0%
Multi-Family Energy Savings Program	0	0	-	0	0	100.0%
Total	619,812	102,164	16%	1,037,091	7,528	0.7%

Low-Income Spending and Energy Savings

In the November 25, 2020, Decision the Deputy Commissioner required utilities to clearly report: (1) the planned and actual low-income spending and energy savings for each program, including dedicated low-income programs; and (2) for programs that make use of the low-income multifamily policy guidance, the anticipated and actual spending and energy savings achieved for the program, and from market-rate versus affordable housing participants, through the program.

The anticipated and actual low-income spending and energy savings for each program in the Company's low-income segment is shown in Tables 2 and 3 in the Executive Summary. The MESP program only serves income-qualified properties, therefore, 100 percent of the spending and energy savings is associated with income-qualified customers. The MFBE program serves both income-qualified and market rate customers, but its budget and savings goals (in Table 2) were assumed to be entirely from market-rate participants. Table 15 shows the actual spending and energy savings from market-rate versus affordable multifamily housing participants from the MESP and MFBE programs.

Table 15: Market-Rate versus Affordable Multi-Family Energy Savings

	Electric			Gas	
	Spend (\$)	Gen kW	Generator kWh	Spend (\$)	Dth
Low-Income					
Multi-Family Building Efficiency	\$303,260	84	637,489	\$107,277	17,497
Multi-Family Energy Savings Program	\$2,649,828	165	597,918		
Total	\$2,953,088	248	1,235,407	\$107,277	17,497
Market-Rate					
Multi-Family Building Efficiency	\$1,213,040	334	2,549,957	\$429,109	69,986
Multi-Family Energy Savings Program					
Total	\$1,213,040	334	2,549,957	\$429,109	69,986
Multi-Family Energy Savings Total	\$1,516,299	418	3,187,446	\$536,386	87,483

Multi-Family Incentives

In the November 25, 2020, Decision the Deputy Commissioner required utilities to clearly report for programs that make use of the low-income multifamily policy guidance, the cumulative number and amount of incentives by measure type for market-rate versus affordable housing delivered through the program (e.g. total number and total value of incentives for boilers installed in market-rate and in affordable housing buildings through a multi-family program).

The MFBE incentives by measure type for market-rate versus affordable housing multifamily housing participants are shown in the below table.

Table 16: Multi-Family Housing Participants

	Number of Measures		Incentives	
	Market-Rate	Low-Income	Market-Rate	Low-Income
Boiler Tune-up	15	18	\$11,238	\$17,914
Building Envelope	0	0	\$ -	\$ -
Domestic Hot Water Upgrades	1	1	\$132	\$517
Furnace Upgrades	1	0	\$325	\$ -
HVAC Insulation	2	0	\$548	\$ -
Common Area Lighting	26	4	\$99,671	\$15,829
Pipe Insulation	2	0	\$72	\$ -
Efficiency Controls	2	0	\$1,562	\$ -

Diversity, Equity, & Inclusion

The Company also strives to provide our customers with safe, clean, reliable energy services while also promoting and employing diverse suppliers. The importance of including diverse vendors is not only important to the Company, but to the communities we serve and the merchants we partner with. Below is a table that shows the amount of dollars spent on retaining diverse⁹ businesses for CIP-related goods and services.

Table 17: 2023 Amount Spent on Retailing Diverse Businesses

Total 2023 MN Spend	\$ 34,282,097
2023 MN Diverse Spend	\$ 3,371,244
MN Diverse Spend %	10%

⁹ Xcel Energy defines a diverse business as a business that is at least 51% owned and operated by an individual or group that is part of a traditionally underrepresented or underserved group.

Other Regulatory Requirements

Compliance with Measurement and Verification (“M&V”) Protocols

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. In the November 25, 2020 Decision the Deputy Commissioner instructed the Company to continue to follow the Protocols. The Protocols apply to custom projects that have savings greater than 1 GWh or 20,000 Dth and are initiated after April 1, 2008. As required by the protocols, we submitted 10 projects that met these criteria and required monitoring. We submitted monitoring reports for the qualifying projects to the Department.

2023 Influenced Savings Projects

There is one influenced savings project to report for 2023. 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 payback period failed. For such projects, Xcel Energy denies the customer any rebate for their efficiency measure but claims Influenced Savings 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 influenced savings project in 2023. Table 18 summarizes the programs affected by these projects and the associated savings. To maintain customer anonymity, the projects will be referred using their random opportunity identification number (OID) number. As required for Influenced Savings, this project 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 18: Summary of Influenced Savings Projects

	Program	Customer kW	Customer kWh	Dth
OID3702677	Custom Efficiency	114	474,926	0

Influenced Project Savings Descriptions

The 2023 Influenced Savings Project summary trackers comprise the following page.

**2023 Influenced Savings
Supplementary Information Worksheet**

Project Number OID3702677
Program Name Custom Efficiency
Project Type Electric Only

Project Information

Pre-approval Date	Equipment Installed	Payback (years)
4/2/2019	VFD	0.42

Electric Cost-Benefit Test Results

Participant Test	Utility Test	Rate Impact Test	Societal Test
30.94	610.12	0.22	8.35

Gas Cost-Benefit Test Results

Participant Test	Utility Test	Rate Impact Test	Societal Test
N/A	N/A	N/A	N/A

Project Description

Customer installed a new VFD on trimmer motors to eliminate idle usage of the pump when the trimmer is not doing actual work. By installing the new components, the operator can ramp down the VFD to zero during setup.

Estimated Energy Savings

Customer kW	Customer kWh	Dth Natural Gas	Reason for Rebate Denial
114	474,926	N/A	Short payback period

Project History

Note: Please make sure there is no customer-identifying info in history

Date	Description
1/24/2019	Application received
4/2/2019	Pre- Approval
11/30/2018	Earliest Invoice
11/22/2022	Date Completed

Health and Safety Issues (Deputy Commissioner February 22, 2021 Decision)

In the December 2020 Home Energy Savings Program modification, the Company proposed to allocate 15 percent of the program’s rebate budget to fund necessary actions to remove barriers for energy efficiency improvements. In our reply to stakeholder comments filed on January 19, 2021, we agreed to include information on the type of health and safety measures funded in our status report. Table 19 provides a summary of the measures funded through HESP.

Table 19: Health and Safety Projects Funded through HESP

	Number of Buildings	Number of Units	\$ Spend	Type of Efficiency Project Enabled
Asbestos Removal	7	10	\$ 23,195	HVAC
Furnace Cover	2	3	\$ 1,500	Furnace
Debris Removal	1	1	\$ 124	Insulation
Gas Leak	2	3	\$ 889	Insulation
Bath Fan	2	6	\$ 9,168	Furnace
Exhaust Fan	108	108	\$ 176,100	Insulation
Dryer Vents	2	5	\$ 1,697	HVAC
H&S - Electrical Other	18	20	\$ 11,333	Insulation/HVAC
H&S - HVAC Exhaust/Ventilation	44	44	\$ 33,690	Insulation/HVAC
H&S - HVAC Plumbing	38	40	\$ 19,086	Insulation/HVAC
H&S - Misc - CO Det	31	32	\$ 2,380	Insulation
Mold Remediation	3	3	\$ 14,295	Insulation
H&S - Moisture Mitigation	32	37	\$ 10,267	Insulation/HVAC
Miscellaneous	15	15	\$ 4,975	HVAC
Pipe Wrap	1	4	\$ 282	Insulation/HVAC
CO Alarm	2	4	\$ 415	Furnace
Smoke Alarm	2	5	\$ 650	Furnace
Water Heater Repair	1	1	\$ 160	Water Heater
Knob & Tube	31	37	\$ 173,357	Insulation
Vermiculite Removal	23	25	\$ 99,715	Insulation
Total	365	403	\$ 583,277	

In comments filed on January 19, 2021, reviewers asked the Company to track health and safety issues that acted as barriers to participation in the MESP and MFBE programs. In 2023, there was no spending for health and safety dollars in the MESP and MFBE programs. According to our implementers, health and safety issues have not acted as barriers to participation for 5-unit+ buildings in either program.

Empower Facilities

On August 11, 2022, the Department issued a Decision on Xcel Energy's Empower Facilities Program Proposal that included an order that the Company report additional program performance metrics for the 2023 CIP Status Report. These metrics included:

- A breakdown of participation by number of participants that (1) received only assessment and project proposals and (2) contracted for implementation services and/or ongoing support.
- A list of non-CIP programs that benefited from the Empower Facilities Program
- A summary of the fees reported in the CIP Tracker as associated with the Empower Facilities program.
- A summary of the total costs billed to customers for Empower Facilities and the percentage of these costs reported in the CIP Tracker.

A breakdown of participation can be found in Table 20. In 2023, there were no non-CIP programs that benefited from the Empower Facilities Program. Additionally, no fees were reported in the CIP Tracker nor were costs billed to customers given the sales cycle of the program.

Table 20: Participation Breakdown

	Assessment & Proposals	Contracted for Implementation Services	Total Participants
Empower Facilities	28	1	28

Evaluations of Product Impact Measurement Methods

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, financial incentive mechanism filing. This information, suggested by the Department of Public Service (now the Division of Energy Resources), was required to provide a sound basis for Xcel Energy's DSM Financial Incentive. In 1999, 2010, 2012, 2016, and again in 2020, the Commission modified Xcel Energy's financial incentive mechanism 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;
- Effects of free-ridership, free-drivership, and spillover;
- Emerging policy or customer preferences that may significantly change the role or scope of a program or group of programs within the portfolio.

The Company’s process and/or impact analysis efforts since 2017 are shown in the table below.

Table 21: Xcel Energy’s Process and/or Impact Analysis Efforts Since 2017

Product	Type	Status
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 2020
Saver’s Switch	Process Evaluation	Completed in 2019
Saver’s Switch for Business	Process Evaluation	Completed in 2019
AC Rewards	Process Evaluation	Completed in 2020
Energy Efficient Showerheads	Process and Impact Evaluation	Completed in 2020
Home Lighting Baseline Research	Special Study ¹⁰	Completed in 2020
Compressed Air Efficiency	Process and Impact Evaluation	Completed in 2021
Commercial Efficiency/Process Efficiency (combined)	Process and Impact Evaluation	Completed in 2021
Low Income Segment	Process Evaluation	Completed in 2022
Home Energy Insights	Process Evaluation	Completed in 2022
Home Energy Squad	Process and Impact Evaluation	Completed in 2022
Lighting Efficiency	Process and Impact Evaluation	Completed in 2022
Residential Heating and Cooling	Process and Impact Evaluation	Completed in 2023

¹⁰ Home Lighting Baseline Research was a multi-state, multi-sponsor study that Xcel Energy participated in to examine the naturally occurring market transformation of the residential lighting market.

Product	Type	Status
Business Energy Assessments	Process and Impact Evaluation	Ongoing ¹¹
Custom Efficiency	Process and Impact Evaluation	Ongoing ¹¹

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 Measurement and Verification (M&V) Practices

In 2023, our prescriptive, custom, and product-specific M&V inspection processes aligned with the processes described on pages 117-122 of our 2021-2023 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. 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 in Docket No. E,G999/CIP-06-1591.

Specific to the midstream instant lighting channel of the Lighting Efficiency product, a special M&V circumstance arose in 2023. In late 2023, the standard M&V process uncovered inconsistencies with a new program partner. The Company conducted additional M&V focused on that partner while validating that the issue was not widespread by continuing to apply the overall M&V policy for the remaining partners in the program. This was an exceptional circumstance that the Company investigated further because the partner reported savings that would have comprised just over half of the total instant lighting savings. Based on the findings of the original audit and the scale of reported savings, the Company expanded the number of projects to be audited and elected to defer reporting of all savings from the partner until exhaustive inspections can be completed in 2024. In addition to deferring savings, recovery of any expenses related to achievements by this partner has been delayed and appropriate actions will be taken pending the results of final inspections.

¹¹ Business program evaluations in 2023 were delayed by extended primary data collection timelines.

SECTION 2: 2023 STATUS REPORT

DOCKET NO. E,G002/CIP-20-473

Northern States Power Company, doing business as Xcel Energy submits this Status Report on its Conservation Improvement Program (CIP) in compliance with the Minnesota Department of Commerce Rules and the Commissioner's Decisions. This report covers the 2023 CIP year, January 1 through December 31.

In compliance with Minn. R. 7690.0550, this Status Report includes the cost-effectiveness of the overall Xcel Energy CIP Plan based on 2023 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 labeled "Cost-Benefit Analysis".

PORTFOLIO SUMMARY

The 2023 CIP Status Report compares the actual achievements accomplished by Xcel Energy in 2023 to the forecasts that were approved in the 2021-2023 Triennial Plan. These comparisons focus on generator kWh and kW saved, 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 2023, the electric and natural gas portfolios both achieved significant energy savings but fell short of their approved savings goals. The Company achieved 689 GWh of electric savings, 238 MW of demand reduction, and 1,007,922 Dth of natural gas savings, while spending \$115 million on its electric programs and about \$20 million on its natural gas programs.

The following tables show final results of the portfolio as well as final segment-level cost-effectiveness. Cost-effectiveness at the program level is reported in Attachment C.

Table 22: 2023 Portfolio Summary of Achievements

	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
Budget	\$145,011,884	\$115,173,263	79%	\$25,030,350	\$19,782,422	79%
Generator kW	292,047	238,423	82%	-	-	-
kWh or Dth Saved	727,926,033	689,113,977	95%	1,056,363	1,007,922	95%
Participation	2,128,049	3,698,476	174%	623,397	1,257,423	200%

Table 23: Electric - Cost Effectiveness Results¹²

	Participant Test	Utility Test	Ratepayer Impact Test	Societal Test
Business Segment with Indirect Programs	4.74	3.48	0.35	2.38
Residential Segment with Indirect Programs	27.91	5.31	0.28	4.8
Low-Income Segment	2.36	0.26	0.13	0.66
Portfolio Total	8.74	3.57	0.30	2.82

Table 24: Natural Gas - Cost Effectiveness Results¹²

	Participant Test	Utility Test	Ratepayer Impact Test	Societal Test
Business Segment with Indirect Programs	2.64	5.19	0.66	2.63
Residential Segment with Indirect Programs	8.98	3.38	0.58	6.82
Low-Income Segment	1.71	0.25	0.18	0.71
Portfolio Total	6.24	2.98	0.57	4.58

¹² Cost Effectiveness Tables do not include One Stop Shop

BUSINESS SEGMENT

Xcel Energy's Business Segment encourages business customers to save energy by upgrading their equipment or systems to lower their energy needs resulting in a reduction to both carbon emissions and the customer's energy bill.

The Business Segment offers a variety of programs and rebates for customers, including:

- Prescriptive equipment rebate programs that lower the cost for customers to purchase and install energy-efficient equipment;
- Custom rebates that address equipment or process improvements not included in the prescriptive area;
- Studies and audits that help customers identify, prioritize, develop a plan 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 Response (Load 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 events that increase customer and trade awareness of conservation options, leading to future participation in programs.

Table 25: 2023 Business Segment Results

	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
Budget	\$60,818,896	\$43,614,456	72%	\$7,444,829	\$3,836,544	52%
Generator kW	171,996	107,713	63%	-	-	-
kWh or Dth Saved	428,071,395	284,986,591	67%	585,642	412,344	70%
Participation	104,033	119,169	115%	6,052	10,899	180%

BUSINESS SEGMENT – DIRECT PROGRAMS

Business Energy Assessment

The Business Energy Assessment program offers study funding and electric and natural gas implementation rebates to commercial and industrial customers who improve their building performance through an energy assessment. Free implementation services are also offered to facilitate customer action on energy-saving opportunities identified in the studies. Several assessment options are available to fit the needs of different types of commercial and industrial customers including Industrial Streamlined Assessments, Building Assessments, and Targeted Building Assessments. Rebates to offset the cost of Building Operator Certification training are also available through the program.

In 2023, the program continued to grow, achieving electric savings over previous years, and finishing its first completed natural gas project. The Company completed seventy-six studies among a wide range of customer types, including: offices, manufacturers, hospitals, hotels and primary and secondary schools. In addition, the Building Operator Certification measure had strong participation among municipalities.

Business New Construction

The Business New Construction program offers free consulting services as well as electric and natural gas rebates to customers that incorporate energy efficiency into their new construction project, building addition or major renovation. The program includes three offerings: Energy Design Assistance (EDA) is an integrated design approach that uses energy modeling to identify whole building energy savings opportunities and provides customized rebates; Energy Efficient Buildings (EEB) is typically for smaller, less complicated projects that utilize our existing custom and prescriptive rebates to develop a project-specific rebate offering for the customer; and Community Code Support is designed to improve code compliance via training and support for city code officials.

The Community Code Support program ended at the end of 2023; however, it was offered to three cities. In anticipation of broadening the scope of the program in 2024, we did not solicit additional participants.

As predicted, in 2023, the Business New Construction program began to show the effects of the pandemic, during which very little new construction began. Projects enrolled in 2021-2022 were the main driver of 2023 achievement and enrollments in those years were nearly half of the enrollments from 2019-2020. However, as a result of projects reaching conclusion earlier than planned, the Business New Construction program exceeded its electric savings target, but not natural gas in 2023. Achievements for 2024-2025 are expected to be considerably lower than recent history.

As part of its commitment to helping neighborhoods and businesses repair and rebuild following the widespread acts of property damage in the Twin Cities in 2020, Xcel Energy began offering help to businesses in mid-June 2020 by offering special rebates on equipment as part of the Business New Construction Program. These rebates were up to double the usual amount to help replace equipment that was damaged or destroyed. We also offered free energy consulting services.

Although originally planned to end in mid-2021, enrollment in this offer was extended to December 31, 2021. Two projects under the program were completed in 2023 under these special rebate options and a handful of projects are still under construction with completion expected through 2024 and potentially into 2025. The Code Compliance Support program is expected to offset some of this decline beginning in 2025.

Commercial AC Control

Commercial AC control consists of two products – Saver’s Switch for Business® and AC Rewards for Business. Both aim to reduce peak electric loads by controlling HVAC Cooling load.

Saver’s Switch for Business® is a prescriptive load management product 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, and account managers.

AC Rewards for Business is a demand response product that uses smart communicating thermostats for reducing air conditioning load during a control event. Participating customers receive incentives for enrolling eligible thermostats in AC Rewards. They also receive annual bill credits for their participation. Unlike Saver’s Switch®, participants can override a control event.

In 2023, despite streamlined marketing and advertising across our load management programs to make it easier for customers to choose what offering is best for them and to further drive participation, neither Saver’s Switch for Business nor AC Rewards for Business met their targeted savings goals. Additionally, bonus incentives offered at the end of 2023 had little impact on increasing participation.

With fewer switches than anticipated installed in the field, the Saver’s Switch for Business program costs were also below expectations. The majority of the participation for the year came through maintenance replacements of older switches. The Company did offer temporary bonus incentives for enrollments late in the year and while it saw positive engagement, it did not lead to a substantial increase in participation.

AC Rewards for Business continued to increase enrollments in 2023 over previous years but fell short of its forecasts due to a challenging recruiting and enrollment environment for new participants. With fewer thermostats than anticipated installed, the program costs were also below expectations.

Commercial Efficiency

The Commercial Efficiency program is a strategic energy management approach to creating persistent savings and continuous improvement. The program helps customers identify energy efficiency opportunities and implement long-term solutions to reduce energy costs. In addition to capital equipment improvements for energy efficiency and demand response opportunities, the program stresses system-level operational changes as well as cultural changes from customers’ senior management, mid-management, and other personnel. The program is targeted to large commercial

customers that have at least 300,000 kWh or 2,000 Dth of annual conservation potential and offers customized resources to develop a holistic, sustainable energy management plan.

This program provides funding for studies to identify and scope energy efficiency opportunities. Rebates are available to customers who implement qualifying energy efficiency recommendations. This program is marketed by Xcel Energy's account managers.

The Commercial Efficiency program continued to see the effects of the pandemic, as projects in the Commercial Efficiency program often have lead times of two to three years or more. During the pandemic, several projects were delayed or cancelled. Additionally, Commercial customers continued to downsize their building footprints due to the popularity of remote work. The Company continued to work across key segments to engage customers and identify potential solutions to increase participation. Overall, the program did not meet its electric and natural gas targets and spending fell in line with these results.

Commercial Streamlined Assessment

The Commercial Streamlined Assessment 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. We promote the program through the Company's account managers, energy efficiency specialists and advertising.

The Commercial Streamlined Assessment program grew substantially over previous years and successfully exceeded its electric savings targets in 2023. Natural gas savings were just short of target. Electric and natural gas spending was commensurate with program achievement. More than 150 assessments were completed across a broad range of customer segments. Almost a third of the studies and more than a third of the achievement was from public schools. Much of the success resulted from an all-out push to re-contact prior customers with information about the Company's end use bonuses.

Compressed Air Efficiency

The Compressed Air Efficiency program offers prescriptive and custom electric rebates as well as study funding to customers who make improvements in their compressed air systems. The program encourages repair and redesign of existing systems by offering rebates for measures that include cycling dryers, purge controls, mist eliminators, new VFD compressors, no loss air drains and supply side studies. The program is available to electric commercial and industrial customers within the Company's service area. The primary participants are mid-sized business customers with demand of more than 100 kW and/or operate in energy intensive industries.

Our Compressed Air studies continues to be a driving factor for implementation of energy efficiency projects for compressed air technologies in the Compressed Air program and other holistic programs such as Process Efficiency.

In 2023, the program continued to have challenges resulting from ongoing customer financial constraints and elongated equipment timelines resulting from supply chain issues and industry turnover. Higher equipment prices and much longer wait times to receive equipment were common issues which caused many customers to delay these capital-intensive projects. Therefore, the program did not meet targeted achievement levels.

Custom Efficiency

The Custom Efficiency program is designed to provide rebates on a wide variety of equipment and process improvements that do not fall within the Company's prescriptive rebates. Custom Efficiency projects require submission for pre-approval before equipment purchase and installation and must pass the Societal Test as part of that analysis. The program is an essential piece of our portfolio as it provides a place to evaluate unique savings opportunities and serves as a launchpad for new program or measures.

In 2023, the Custom Efficiency program came slightly under the electric achievement and did not meet its natural gas targeted achievements. The Company continues to work across key channels, including trade, to engage customers and identify potential solutions to increase participation.

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 focused program is tailored to the specialized needs of this unique segment.

In 2023, the Data Center Efficiency program did not reach its yearly targets. In existing data centers, staffing turnover, economic slowdown, and long sales cycles due to continuing supply chain challenges have impacted the ability for customers to implement improvements and gain business justifications within defined financial timelines. For new data centers, ramp-up time of IT load can take years, with spaces often underused and energy efficiency not fully optimized until IT loads are filled. Internal and external program training opportunities were available to support pipeline building. Free walkthroughs continued to be available for customers to identify energy savings opportunities. The Company continues to work across key channels to engage customers and identify potential solutions to increase participation.

Efficiency Controls

The Efficiency Controls program offers custom electric and gas rebates to businesses that install automated building control systems resulting in energy savings and load shifting. 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.

Achieving significant energy savings in 2023 continued to be challenging, especially during peak customer usage times. Many controls applications fail the cost-effectiveness test due to a variety of factors. The continued high vacancy rate in commercial real estate and economic inflation has resulted in a dearth of program applications; however, many of these projects fell off budget priority lists for 2023. Taken together, the program did not meet projected targets for 2023. The Company

believes changes made in future filings and trade partner and sales team trainings should improve the building control installation opportunities in the future.

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 being on-call to reduce their loads, customers receive a monthly discount on their demand charges that can potentially save up to 50 percent on their demand charges over the entire year. In 2023, the ERS program exceeded savings targets under budget because of bonus offerings provided in the fourth quarter.

Energy Information Systems

The Energy Information Systems (EIS) program offers consulting resources to identify and implement an EIS and uncover energy efficient opportunities that include a variety of behavioral, operational, and capital investment measures. The Energy Information Systems program has sunset as of the end of 2023.

In 2023, the program met its electric achievements under budget. The Company attributes this to the holistic approach and commitment to in-depth studies. Customers responded to incentives by reserving capital for energy efficiency upgrades. The program did not meet its natural gas targets.

Foodservice Equipment

The Foodservice Equipment program offers prescriptive electric and gas rebates to commercial businesses that purchase and install qualifying energy efficient foodservice equipment. The program's main objective is to influence energy savings by incentivizing customers to purchase higher efficiency equipment.

From March to December 2023, the Company implemented targeted advertisements which included onserts and bonus rebates for Foodservice, Lighting and HVAC+R programs. The Foodservice program's bonus allowed customers to earn an extra 10 percent bonus with 3 or more measures on the same application. The combined efforts led to an uplift in participation in the program. The Company also offers a trade incentive to stimulate greater interest in the program.

The Foodservice Equipment program did not meet its achievement targets. Although our advertising and promotion provided an opportunity to increase program participation, the continuous economic challenges within the market decreased demand for new equipment.

HVAC+R Solutions

The HVAC+R Solutions program combines the commercial technologies of Heating Efficiency, Motors & Drive Efficiency, Cooling Efficiency and Refrigeration into one program. HVAC+R Solutions program offers electric and gas rebates prescriptive and custom rebates to customers under the four technologies to ensure customers can improve their facility performance and buy down first costs through a variety of rebates, programs, and services.

The program launched a 25 percent customer bonus on variable frequency drives (VFDs) in April of 2022, that was extended through August of 2023 due to world-wide supply chain issues with VFDs. The extension of this customer bonus ensured that customers who wanted to take advantage of the bonus could do so, increasing program savings and participation. Despite these efforts, the program fell short of the savings targets in 2023. The spend for both fuels were in-line with the program savings.

Lighting Efficiency

The Lighting Efficiency program offers rebates to motivate business customers to purchase and install energy-efficient LED lighting. There are five rebate categories available with the Lighting program:

- Fixture replacements for retrofit projects with prescriptive rebate amounts;
- Fixture replacements for new construction projects with prescribed rebate amounts;
- Instant rebate discounts on lamps/bulbs with screw-in or pin bases at lighting distributors;
- Custom analyses for fixtures that do not fit into the other categories; and
- Study funding for customers who need to determine proper lighting levels for a facility.

In 2023, the program fell short of its targeted achievements. We believe a slowdown in sales has occurred due to market uncertainty and inflation. The economy, staffing shortages, supply chain issues, increases in labor prices and market saturation are some of the known issues that contributed to the shortfall. The Prescriptive Retrofit category had the largest gap in performance from previous years. In addition to issues related to the economy, the Company experienced increased saturation of LED lighting. The spending was less than the filed budget and aligned with achieved savings.

Lighting manufacturers reported a profound slowdown in lighting projects due to a downturn in the economy. The slowdown in sales was attributed to market uncertainty and inflation. Increases in labor prices presents overall higher prices for the customers. Saturation of lighting continues to grow in the market. Customers are uneasy about investing in significant capital projects. Distributors also reported equipment back orders, shipping delays, and staffing shortages.

To help to overcome the market challenges, the Company promoted the program by offering limited-time bonus rebates on fixtures and lamps to drive the purchase of energy-efficient lighting. Advertising and promotion were used to support the bonus rebates and drive customers to purchase LEDs. Marketing efforts also focused on developing and maintaining relationships with lighting trade partners. Trade partners continue to play a critical role in educating and motivating customers to purchase energy-efficient products. Communications focused on influencing trade partners to inform customers of the benefits of energy-efficient lighting. Despite these efforts, the program was still unable to hit the project savings for 2023.

Multi-Family Building Efficiency

The Multi-Family Building Efficiency (MFBE) program is a holistic approach for 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 higher incentives with the implementation of a cost-effective energy efficiency bundle. MFBE is focused on

the entire multi-family building, including resident spaces and common areas. Rebate levels are increased for properties that serve the low-income market.

In 2023, the program came in slightly below its filed electric budget and under energy savings targets as the implementer experienced diminished opportunities for direct installations and building owners were resistant to installing new equipment due to higher equipment costs, uncertainty in the economy and high interest rates.

Natural gas savings were also short of targeted savings and spending. The primary driver of reduced gas savings was a lower number of water-related measure direct installations. This was a result of buildings either already having efficient aerators and showerheads or participants declining to participate in that portion of the program. Additionally, there was a decline of boiler tune-ups, replacements, and other natural gas measure rebates.

As in previous years, program operations did not require any limits on participation and provided capacity to include all properties requesting to participate in the program.

Non-Profit Energy Savings Program

The Non-Profit Energy Savings program serves qualifying non-profits organized and operated primarily to serve low-to-middle-income customers and communities – shelters, safe houses, treatment centers, community food and housing, individual, family, emergency, and other relief services. The program offers free education, facility assessments, direct installation of energy efficient measures, and rebates for larger system upgrades.

The Non-Profit Energy Savings program is a new program in the Company's Business Segment proposed in December 2020 and approved in April 2021¹³ with the intention of providing additional benefits to customers whose lives and livelihoods have been disproportionately affected by COVID-19 and civil unrest. The program was launched late in 2023. Non-profits that do not meet the program guidelines of primarily serving low-income customers and communities are referred to other programs such as Commercial Streamlined Assessment and EnerChange.

The program incurred development and labor expense but had no committed opportunities in 2023. The program was delayed issuing of an RFP to secure a vendor to deliver the program. A request for information was sent out in December of 2022 and an RFP was issued in January 2023. The contract was signed in the third quarter of 2023 and the program contacted 273 leads, enrolled 50 buildings and continues to forge relationships with industry partners, creating a strong pipeline for future years.

Peak Partner Rewards

The Peak Partner Rewards program is offered to business customer that can reduce their electric loads during control periods by at least 25 kW between June and September. Customers can participate year-round but are only required to participate in the period listed above. With Peak Partner Rewards, customers can receive bill credits on their electric bill for agreeing to reduce

¹³ Decision, In the Matter of Xcel Energy's CIP Modification Request Filed December 23, 2020, Department of Commerce, April 20, 2021.

electric usage during periods of peak energy demand. Customers will receive an additional performance-based bill credit when they reduce their electric usage by their agreed upon amount or more during control periods.

The Peak Partner Rewards program had an increase in participation in 2023. Through partnering with the Process Efficiency program (another program under our DSM Program Portfolio) to create a pipeline, hosting customer events, and implementing various marketing tactics and bonuses, the program was able to increase participation through higher-than-usual customer sign-ups and load growth throughout the year.

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.

The program continued to face challenges in 2023, as customers continued to face staffing shortages, budget constraints, and supply chain disruptions. Manufacturing has been one of the industries most impacted by the ongoing labor shortage. High turnover at customer sites has resulted in the loss of many successful, long-standing relationships. Several large projects expected for 2023 ended up being pushed out due to long lead times for equipment and supply chain shortages. As a result, the program did not meet its electric or natural gas savings targets. Spend was in line with achievement.

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 and to conduct their own measurement and verification for their project(s). Some customers prefer to use their in-house experience and resources, while others may choose an energy service company or other energy partner to assist them with their efforts. Customers who implement and commission qualifying projects can receive rebates based upon the amount of energy savings achieved.

In 2023, there were several electric savings projects that were completed after multiple years of delay resulting in record achievement for the program.

BUSINESS SEGMENT – INDIRECT PROGRAMS

Business Education

The Business Education program creates awareness of energy conservation by providing business customers with information and resources to reduce their business' energy use. The Company provides customers with opportunities to actively learn about and engage in energy efficiency by offering product information at event sponsorships and other on-site outreach, along with print and digital communications to drive overall education.

Through the fourth quarter of 2023, the Business Education program overachieved the year-end target of consumer participation/engagement. The program has found success in driving education, awareness and engagement with local business customers via in-person events. Additionally, partnerships with local teams and organizations allow for greater business and relationship development opportunities. Digital and print advertising also offer great opportunities to get messaging in front of the right business audiences.

Energy Benchmarking

The Energy Benchmarking program offers a streamlined and consistent approach to access aggregated whole building energy data. The service relies upon the U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager to assist customers in benchmarking buildings.

The program is primarily marketed to those customers falling under a municipal or state benchmarking ordinance, such as Minneapolis' Commercial Building Energy Benchmarking and Transparency ordinance. This ordinance currently covers commercial and multifamily buildings 50,000 square feet and greater. Several other cities in Minnesota such as Edina, St. Paul, St. Louis Park and Bloomington have similar ordinances that plan to add new square footage requirements each year. Additionally, the Energy Benchmarking program encompasses the newly created Rental Usage Reporting program, which stemmed from the Minneapolis Time of Rent Ordinance that went into effect in September 2021. This program allows building owners and their authorized agents to obtain utility cost estimates at a dollar/square foot and dollar/bedroom level for their prospective tenants. As a result of continuously expanding and new ordinances, the Company expects program participation to expand continually over the next several years.

The Community Energy Reporting program also falls under the Energy Benchmarking program's umbrella. The focus of the Community Energy Reporting program is to provide aggregated data at the city, county, and state levels in the form of Community Energy Reports, which are published on the Company's website each year by June 1. These Community Energy Reports contain a variety of useful data tables such as: energy consumption, utility systems characteristics, renewable program participation, demand management program participation, energy efficiency program participation and EV program participation. These reports are automatically produced for cities with populations larger than 50,000 residents and counties with populations larger than 100,000 residents. Smaller cities and counties can be added to the annual production upon request, and the Company anticipates a significant growth in this program over the next several years.

The Company made effective improvements to customer satisfaction by increasing stakeholder engagement and improved customer inquiry response times in 2023. Upgrades were made to the Company's software platform that is utilized to send automated aggregated energy usage data to ENERGY STAR Portfolio Manager that focused on faster processing times and increased data accuracy. The Energy Benchmarking Team also made enhancements to the Company's Rental Usage Portal, which allowed customers to be better informed on the status of their data request and made processing for the Energy Benchmarking team more streamlined. The Community Energy Reporting team made additional enhancements to its business systems, which contributed to a significant increase in data accuracy and stakeholder satisfaction which were reflected in the 2023 Community Energy Reports.

The program exceeded its natural gas and electric budgets. This overage in spending was caused by increased participation in conjunction with extended reporting deadlines which strained the Company's resources. The addition of the Rental Usage Reporting program has also added increased workload to the Energy Benchmarking team which has necessitated the need for additional staff. The Community Energy Reporting team has made technology investments to streamline and automate the process of gathering data for the Community Energy Reports which additionally contributed to added costs in 2023.

Empower Facilities

Empower Facilities is designed to support the Company's current direct impact business programs by reducing barriers for customers and offering a comprehensive approach to realizing their energy efficiency needs. This turnkey service assesses energy consumption, current equipment and future plans. First recommendations are provided to the customer, then proposals and a scope of work is created before the customer can choose how to move forward. Customers may then choose to continue to work with the program, contracting for implementation services and/or ongoing support, under an agreed scope and financial arrangement or they may choose to implement projects independently. The program also aids in preparation and submission of any applicable rebate paperwork associated with other direct impact programs and identification of additional projects. Empower Facilities was a CIP modification approval issued August 11, 2023. The program was launched in October 2023.¹⁴

The program successfully engaged dozens of industrial and commercial customers. A robust customer pipeline greater than \$40 million of estimated customer projects has developed representing a broad spectrum of commercial and industrial customers, municipalities, and school districts. The sales cycle is long and iterative, as a result only one customer contract was signed in 2023. This project is scheduled to be completed in 2024 at which time we will begin to return funds from customer projects to the DSM Rider.

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's main offerings include free compact

¹⁴ Decision, *In the Matter of Xcel Energy's CIP Modification Request: Empower Facilities Program*, Department of Commerce, August 11, 2023.

fluorescent light 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 xcelenergy.com website. In 2023, the program exceeded participation but remained within the targeted budget.

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. The table below provides the 2023 Residential Segment Results.

Table 26: 2023 Residential Segment Results

Residential Segment	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
Budget	\$34,410,535	\$36,310,703	106%	\$8,714,479	\$9,253,173	106%
Generator kW	83,438	120,553	144%	-	-	-
kWh or Dth Saved	216,160,013	356,759,109	165%	418,987	575,457	137%
Participation	2,010,476	3,032,420	151%	615,348	1,028,305	167%

RESIDENTIAL SEGMENT – DIRECT 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 training and consulting services for builders to help them learn and employ better building practices.

In 2023, the program exceeded both the natural gas and electric customer participation targets. This results from a continued strong construction market for residential homes. Electric savings exceeded filed goals proportionally to participation; however, natural gas savings did not. Builders have continued to build homes that exceed the energy code. Due to improved building practices, some of the efficiency declines seen in 2022 began returning to historical norms in 2023. The new Heat Pump Water Heater offering saw strong participation, with 68 units receiving rebates.

Energy Efficient Showerheads

The Energy Efficient Showerheads program is designed to offer year-round natural gas and electric savings to customers. Residential natural gas and combination natural gas and electric customers are eligible to receive a free kit containing energy-efficient showerheads and aerators to help reduce their energy and water use costs. 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. Customers are provided with education, instructions for installing the units and thread sealing tape. Participants are later surveyed to determine the installation rates of each unit.

The Energy Efficient Showerhead program significantly exceeded its 2023 target achievement. Email and direct mail promotions were the primary communication drivers to promote showerhead kits. While direct mail had strong participation results late in the year, the email campaigns run throughout the year experienced lower-than-expected participation. Partnerships with local food banks helped the program reach achievement. Some of the program's spending is included as part of the "hybrid" programs that directly benefit low-income households and included in the total low-income spending towards the Company's statutory minimum. This is detailed further in our "Compliance Section".

Home Energy Insights

Home Energy Insights is a free service offered to residential customers designed to help them save energy and money. The report compares a customer's energy consumption to similar nearby households for benchmarking an individual household's performance. The program provides personalized tips to demonstrate how much customers can save by changing their behavior. Participants receive free monthly emails or quarterly printed reports. Customers also can log on to the My Energy website where they can take a home energy assessment, customize an action plan, and get energy efficiency tips. To administer the program, the Company works with a third-party company that helps utilities meet their efficiency goals through effective customer engagement.

The program's energy savings are derived by comparing the energy usage of a control group to a treatment group. The treatment group receives reports with tips and suggestions along with alerts, based on their actions, to speed up the adoption of energy saving opportunities. The control groups improve energy consumption more organically based on both Xcel Energy and other external influences. While equipment improvements provide longer and less volatile energy savings, behavioral savings require consistent support to the customer through reminders to act on energy savings tips. The goal of report delivery and improvement, alerts and the tools in the web portal is to improve the quality of the energy efficiency behavioral recommendations and the customer experience towards increased energy savings. Generally, realized energy savings increase gradually over time as behavior is affected by treatment, then begin a long slow decline as the control group efficiency catches up. Program savings are measured and reported to the Company each month by the third-party implementer.

In 2023, the program did not achieve the electric or natural gas savings targets. Additional customers were added to the program (as a new cohort) mid-year to bring participation levels back into alignment for achieving filed goals. The program was under the electric budget and minimally overbudget for natural gas.

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 homes as well as lower their utility usage. The program is a co-branded partnership with CenterPoint Energy and implemented by a contracted third-party. In addition, the program continues offering virtual visits to serve customers uncomfortable with in-person visits. The Company received approval in 2023 to modify the existing

measure for ENERGY STAR rated dehumidifiers. The modification more accurately accounts for energy savings for dehumidifiers.¹⁵

In 2023, the program increased participation from the prior year but did not achieve its electric or natural gas savings targets. Electric and gas spending also were below filed budgets. The shortfall in participation, savings, and spending is primarily due to staffing challenges for our third-party vendor as a result of the pandemic and labor market conditions. The emphasis in 2023 was rebuilding the program and hiring technical staff.

Home Lighting

The Home Lighting and Recycling program offers discounted prices, via upstream incentives to retailers and manufacturers, on ENERGY STAR LEDs. 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 publications, bill inserts and point-of purchase displays.

In 2023, the Home Lighting program exceeded its electric energy savings target and exceeded the budget target, which was in line with the extra savings achieved. Sales continued to remain steady throughout the year. Promotion plans focused on low-cost ways to save energy and money while at home by using LEDs. The program ran advertising campaigns at the beginning and end of the year to increase awareness of the program. Enhancements were made to our “bulb finder” tool online that allows customers to easily find participating stores near them and the discounted bulbs offered at each store.

The Company continued to have a presence at community events throughout the year. Community events give us an opportunity to drive one-on-one engagements with our customers and allows us to promote the benefits of LEDs via LED giveaways at these events. In addition, the Company continued to offer a deep discount promotion on LED multi-packs in select stores during the year, which continues to be well received by customers.

The Company also focused efforts on giving away free four-packs of LEDs at food banks/shelves within our territory. This continues to be an effective way to reach our income qualified customers to help them save energy and money. This spending is included as part of the “hybrid” programs that directly benefit low-income households and included in the total low-income spending towards the Company’s statutory minimum. This is detailed further in our “Compliance Section”.

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 has completed a utility-approved training course, to qualify for the rebate.

¹⁵ Decision, In the Matter of Xcel Energy’s CIP Modification Request DOCKET NO. E,G002/CIP-20-473 & CIP SPECIAL SERVICE LIST. Filed October 28, 2022, Department of Commerce, January 19, 2023.

The Insulation Rebate program exceeded its savings targets in 2023. Program spending was in line with achievement.

Refrigerator Recycling

The Refrigerator and Freezer Recycling program is designed to decrease the number of inefficient refrigerators, freezers, air conditioners, and dehumidifiers in the Company's service territory in an environmentally safe and compliant manner and, by doing so, achieve electric energy savings and peak demand reduction. Customers receive an incentive plus free pickup and disposal of their operable, inefficient refrigerator and freezer. In addition, air conditioners and dehumidifiers are picked up and recycled for free with no rebate. A third-party implementer administers the program, including customer scheduling, pickup, recycling and rebating.

In 2023, the program did not meet its electric savings target. This was mainly due to a major disruption in the appliance recycling industry, which affected not only the Company, but many utilities nationwide. The program had to be temporarily paused late in the year while the Company explored viable solutions and changed vendors. Before this disruption, the program was on track to meet electric savings targets. The program came in under budget due to lower-than-expected participation numbers.

Residential Demand Response

The Company offers four residential demand response products: Saver's Switch®, AC Rewards, Smart Water Heaters and Behavioral Demand Response. In 2023, the electric savings target was met. The AC Rewards program also captures the energy efficiency component, Thermostat Optimization, simplifying the customer experience. All products target central air conditioners or electric water heaters for reducing system load during times of peak demand, except Behavioral Demand Response which is more generalized.

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 2023 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. In 2023, the enrollment incentive for the AC Rewards product increased from \$75 to \$100. The purpose for this change was to drive participation in the product.

The Thermostat Optimization product is designed to provide residential customers year-round savings using smart thermostat technology. The product incentivizes residential customers to purchase and install smart thermostats that have earned the ENERGY STAR Connected Thermostat certification and are compatible with the Residential Demand Response product, resulting in year-round electric and natural gas savings. This product is available to combination

electric and natural gas service customers, natural gas service residential customers who have central gas heating or electric service customers who have central air conditioning.

The Smart Water Heating product will offer customers with qualifying heat pump water heaters bill savings in exchange for allowing the utility to adjust settings on the water heater. Unfortunately, supply chain difficulties with communication modules used to adjust water heating settings continued into 2023 delaying the launch of the product.

Behavioral Demand Response, also known as Energy Action Days, is a new product for 2023. It is a formalized way of asking customers to reduce electric consumption during times of peak demand. Most customers receive emails the day ahead of a control event asking them to reduce consumption during certain hours. Participation in events is voluntary and no incentives are offered for participation.

In 2023, Saver's Switch was slightly under its target for the year. Most of the deployed units were replacements of outdated switches in the field. The Company anticipates continuing the trend of robust volumes of switch upgrades.

The AC Rewards product saw solid participation in 2023, especially through the Bring Your Own Thermostat (BYOT) channel. Strong partnerships with multiple leading device manufacturers have resulted in continued growth and the product significantly exceeded its forecasted targets. Spend was slightly under the filed targets.

Thermostat Optimization did not achieve its savings targets; spending was in line with achievement. The online marketplace showed promising engagement with the pre-enrollment functionality that makes it easier for customers to purchase a qualifying device and enroll in the AC Rewards program at the time of checkout to help increase participation, but overall Thermostat Optimization participation was less than forecasted.

The Behavioral Demand Response Product worked with more than 500,000 customers who were included in the first year of summer operations, and the Company was able to verify additional savings opportunities as AMI was further deployed in our territory.

Residential Heating and Cooling

The Residential Heating and Cooling program offers prescriptive rebates to electric and natural gas customers in single-family homes that purchase new high efficiency cooling, heating, or water heating equipment. For centrally ducted air conditioners or heat pumps, this equipment must be installed using Quality Installation standards. Quality Installation specifications are based on the Air Conditioning Contractors of America Standard 5 which dictates proper sizing, airflow, duct sealing, and refrigeration charge. In 2023, the Company updated requirements to the new rating system of SEER2/EER2/HSPF2.¹⁶

¹⁶ Decision, In the Matter of Xcel Energy's CIP Modification Request Docket No. E,G002/CIP-20-473. Filed October 28, 2022, Department of Commerce, January 19, 2023.

The program gives flexibility to customers by offering incentives for air conditioners, heat pumps, furnaces, water heaters, and smart thermostats. Marketing is done through a variety of channels, including advertising, cross-promotions with other programs, bill inserts, and trade partners. As customers are required to use a participating contractor to ensure quality installation for most systems, customer awareness and participation rely heavily on trade relationships.

For the 2023 program year, the program exceeded the electric savings target and spending was in alignment with this increase. For natural gas, the energy savings were nearly double our target and spending was in alignment with this increase. The Company continues to have a strong network of participating trade partners.

School Education Kits

The School Education Kits program offers a multi-component kit that combines classroom activities and in-home projects for students and their parents to teach them about energy and water conservation. The curriculum is designed for 5th and 6th grade students or secondary students. 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 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. Program delivery, teacher training, marketing outreach are implemented by the third-party program vendor. Marketing outreach consists of email and direct mail to teachers at eligible schools.

The program exceeded its filed participation and electric savings targets while underachieving its natural gas savings in 2023. The program ended the year under the filed electric and natural gas budgets. The partnership with CenterPoint Energy continued and allowed the program to reach new customers who receive electric service from Xcel Energy and natural gas service from CenterPoint Energy. This partnership contributed to the program's electric savings achievement, as did strong installation rates of LED bulbs and water conservation measures. Students completed the Home Energy Worksheet and provided installation data for the program. Program materials encouraged students and parents to pass along or donate products not installed in the student's home.

Whole Home Efficiency

Whole Home Efficiency is a comprehensive “whole home” retrofit program available to 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 electric and natural gas rebates to customers who implement multiple insulation measures. Additionally, the program offers bonuses to prescriptive rebates for measures installed along with building envelope improvements. Participants have one year to implement required measures and have the option of receiving some free direct install measures during final inspection, provided the measures are not already installed. In 2023, the

Company added a cap to the insulation rebates for Whole Home Efficiency based on the project cost.¹⁷

The program did not meet its participation or savings targets in 2023 due to lower than forecasted participation. Program administrative costs reflect the lower achievement. Potential barriers to participation could be attributed to lack of customer awareness and restrictive program requirements. Program improvements were implemented in the 2024-2026 filing to overcome these potential barriers.

RESIDENTIAL SEGMENT – INDIRECT 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 by learning more about energy usage in their homes and ways they can save energy and money with Xcel Energy's tools, rebates, and programs. Awareness-driving tactics include sponsored community events with opportunities to engage customers face-to-face, larger sponsorships that provide highly visible in-person and digital messaging opportunities (such as events and sports games), social media, email, website advertising and newsletter outreach with the intention of empowering customers to act and participate in programs to help them save energy and money.

The Consumer Education product overachieved its target for customer participation/engagement in 2023. The product continues to find success in sponsoring local events and meeting customers directly at the places they love to visit. The team works closely with local organizations to ensure the Company is getting value in each partnership. On-site presence allows for face-to-face interactions with customers to answer questions and educate them on the energy-saving programs and rebates Xcel Energy offers. The intention is to reach as many customers as possible with creative and engaging messaging. Some key partnerships and events include: MN State Fair, Como Zoo, MN Timberwolves and Lynx, St. Paul Saints, Home Shows, Twin Cities Pride, and more.

The program was over budget for the year due to an increased focus and effort on showing up for customers in the community. With data and insights, the Company is aware that an increased effort is needed to show up for customers in person and show our support for the local community. These face-to-face engagement opportunities provide the Company with valuable ways to drive energy and money-saving educational messaging that support the Company's residential programs and resources.

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

¹⁷ Decision, In the Matter of Xcel Energy's CIP Modification Request Docket No. E,G002/CIP-20-473. Filed October 28, 2022, Department of Commerce, January 19, 2023.

influencing customer behavior through conservation education and encouraging identification and implementation of energy efficiency efforts. Considered a gateway program to the other residential programs, the Home Energy Audit program is cross promoted with other programs. This marketing strategy helps minimize promotional and advertising costs.

In 2023, the program saw significant increases in electric customer participation, exceeding the program targets with a large portion of the results coming from the shared territory with other natural gas utilities. Natural gas participation fell slightly short of the target because of capacity and the demand in the shared territory. Spending exceeded the electric and natural gas budgets. Contributing factors to the increased budgets were increased electric participation and higher labor costs resulting from a tight labor market.

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 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's website. In 2023, The program did not meet its participation targets and was under budget; likely a side effect of the decrease in availability for CFL bulbs in stores resulting in a lower number of bulbs being recycled.

CIP Workforce Development & Education

The CIP Workforce Development & Education (CIP-WDE) program creates numerous energy efficiency career pathways for unemployed and underemployed people living in historically underserved communities, Black, Indigenous, people of color, and women residing in Green Zones of Minneapolis and Areas of Concentrated Poverty (ACP) 50 zones of St. Paul. The CIP-WDE program is provided by Xcel Energy and administered by Center for Energy and Environment (CEE). The program also offers a CIP scholarship fund to support income-qualified participants pursuing energy efficiency-related education at two- and four-year institutions. CIP-WDE's mission is to train and employ individuals from historically underserved communities in the energy efficiency sector and build a more robust workforce that represents the communities Xcel Energy serves.

Since its launch in 2022, nearly 100 percent of graduates have reported having a household income that is at or below 60 percent of the Area Median Income after training and 69 percent of internship graduates have gone on to be employed in the energy efficiency sector. In 2023, 39 participants completed the training, and 38 participants earned the industry-recognized Building Science Principles (BSP) certification. Also in 2023, 27 percent of participants identified as female. In addition to the certification, participants receive hands-on air sealing and insulation training, using props designed in accordance with BPI standards. Additional topics cover low- and no-cost energy solutions, job-site safety guidelines, basic math for home insulation, and workplace readiness.

CIP-WDE seeks to train participants in the communities where they reside. For this reason, CEE held our workforce training in Green Zone areas of Minneapolis and St. Paul that were highly accessible by public transportation and central to the communities. In 2023, cohorts were held at

Sabathani Community Center. Sabathani Community Center is one of Minnesota's oldest African American founded nonprofits providing a wide range of community orientated, culturally tailored services in the heart of South Minneapolis. This location served well, as two-thirds of participants reside in the Green Zones of Minneapolis or ACP50 Zones of St. Paul. In addition to many participants residing in the targeted locations, 92 percent identify as Black, Indigenous, or people of color.

Of the 2023 program participants, 20 have been placed in training-related jobs. Two trainees were offered employment directly out of the paid internship in weatherization and residential insulation as a carpenter apprentice and an insulation installer, respectively. Additionally, two trainees were hired by CAPRW as energy auditors for their weatherization assistance program working on income-qualified households throughout the Twin Cities. One graduate was hired directly from the internship by CEE as a Community Outreach Specialist. Additionally, other graduates have entered union pathways in construction. One graduate has gone on to Xcel Energy's Energy Careers Academy and is currently working toward a career as a line worker.

Regarding the CIP scholarship fund, eleven colleges received CIP Workforce Development Scholarships totaling \$550,000. Scholarships were awarded to students in both two- and four-year programs pursuing Science, Technology, Engineering and Mathematics (STEM) fields. While the intent was to offer these scholarships to students pursuing energy efficiency careers, we continue to see a limited number of schools providing scholarships to students who are not pursuing energy-efficiency-related fields. We continue to inform schools of the importance of this requirement. The scholarship review process has been modified to ensure that students are pursuing the targeted fields of study and intend to explore careers related to energy efficiency.

About 85 percent of scholarship recipients self-identified as people of color. 70 percent of students receiving scholarships qualified as low income. Fields of study being pursued by the students include electrical engineering, integrated engineering mechanical engineering, computer science, electrical construction and maintenance, HVAC systems servicing, construction project management, computer science and biology.

In summary, the CIP-WDE program has increased the number of low-income, BIPOC, and female workers in the energy efficiency sector, workers who then bring their knowledge and experience back to their communities.

The program spent slightly over the budget expected for both the Workforce Development program and for the scholarships. The first five-week paid training cohort took place in the first quarter of 2023 and the second took place in the Summer of 2023. Costs associated with partner development and communication, recruitment, classroom curriculum, hands-on classroom and field training, certifications, equipment, training props, transportation and wrap-around services were realized as planned in 2023. The Company partnered with eleven local colleges and trade schools to launch the Scholarship Fund in 2023. The Company provides a full report of regarding the CIP-WDE 2023 Efforts in Appendix B.

LOW-INCOME SEGMENT

The Low-Income Segment program portfolio supports income-qualified customers by promoting energy savings that results in minimizing the impact utility bills have on their households while promoting improved comfort and performance from their appliances, HVAC and lighting.

In 2023, the Company’s work in the low-income segment continued to expand from 2022. Although the number of participants remained relatively constant, the services provided, and the education and outreach delivered expanded to incorporate additional opportunities around improving energy-efficiency. This included efforts to convert income qualified customers from electric heat to heat pump technologies. In addition to the four dedicated programs described below, spending under “hybrid” programs that directly benefitted low-income households is included in the total low-income spending for purposes of transparency and compliance with the statutory minimum low-income spending requirement (see the Compliance section of this filing). This section of the report discusses only the dedicated low-income programs listed above. The table below includes the total achievement for the Low-Income Segment.

Table 27: 2023 Low-Income Segment Results

Low Income Segment	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
Budget	\$5,524,738	\$4,956,991	90%	\$4,539,201	\$3,388,655	65%
Generator kW	1,392	564	41%	-	-	-
kWh or Dth Saved	3,578,459	2,383,897	67%	43,984	12,639	37%
Participation	10,661	2,746	26%	1,833	740	24%

Activity for this segment reflects the impacts of the Energy Conservation and Optimization Act (ECO). Passed in May of 2021, ECO increased the Company’s low-income spending requirement. With this opportunity, the Company filed to increase both savings targets and budgets for both 2022 and 2023. The Department approved these adjustments on January 31, 2023.¹⁸ We built on the momentum of 2022 and incorporated the findings of our Low-Income Study, which was completed in 2023, to use increased outreach and strategic program changes to support growing engagement and achievement.¹⁹

Like other program segments, Low-Income Segment participation, savings and spending continued to be affected by supply chain disruptions delaying deliveries, price increases for energy-efficient equipment being passed on to program implementers and staffing shortages limiting our ability to deliver services. This not only results in higher delivery cost per participant but requires aligning promotional and outreach activity with our ability to provide services. Economic uncertainty made

¹⁸ Decision, *In the Matter of Xcel Energy’s Program Modification Request Filed November 17, 2021*, Department of Commerce, January 31, 2023.

¹⁹ The Low-Income Study was provided in Docket No. G,E002/M-20-473 as part of the Company’s 2022 Conservation and Improvement Program Status Report.

building owners and property managers reluctant to invest in rental units in 2023. In addition, program awareness and trust continue to be a barrier to participation.

Affordable Efficient New Home Construction

The Affordable Efficient New Home Construction program helps local affordable housing builders and qualified market-rate builders construct energy efficient, affordable homes for residential customers. It provides incentives for installing a suite of advanced energy efficiency measures. Incentives are based on the sum of the incremental cost of the advanced measures plus incentives for the market-rate Efficient New Home Construction program using the same savings calculations. This program hopes to expand the supply of affordable, high-performance homes to people and communities in need.

In 2023, eight dwellings participated in the program. Three homes were all-electric, and five had combination natural gas & electric service. All participating homes were attributed to affordable housing builders, none to market-rate builders. Electric savings, natural gas savings, and gas spend did not meet targets, nor did gas or electric participation. In conversations with affordable housing builders, the lead time necessary to achieve the requirements of the program were longer than the Company anticipated when designing the program.

Home Energy Savings

The Home Energy Savings program (HESP) offers home energy assessments and educational 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 make their energy bills more manageable. HESP is marketed through various channels that include the Company's partner vendors, low-income service providers and traditional communications channels.

In 2023, HVAC equipment availability improved compared to 2022. Product availability continued to be an issue, but the situation did improve somewhat from the past year. The availability of qualified workforce willing to serve the low-income market continued to be a barrier to implementing projects.

Direct mail and search engine marketing outreach continue to provide additional visibility for the program. Telemarketing has yielded consistent results, but this effort is limited by the number of qualified contacts available. The Company continues to expand efforts to leverage relationships with social service agencies serving income qualified customers. The Company continued two pilot projects that are expected to help inform the value of emerging measures in serving the income qualified market, including cold climate heat pumps and energy efficient storm windows, and the Company initiated a Manufactured Home Pilot project to help address customer and contractor barriers to participation in the HESP program.

The program did not meet its natural savings target. However, the program achieved its electric savings targets because higher pricing enabled the Company to better engage wholesalers and suppliers to complete program work within the metro and these case-by-case approvals paved the way for more participation.

Health and Safety measures continue to enable implementers in the east metro to install additional energy efficient equipment. This increased implementation costs but helped increase participation and energy savings, especially in the east metro. Changes driven through the ECO Act enabled the Company to expand the outreach, increase qualifying health and safety measures and increase electric energy savings achievement while improving net benefits.

Low-Income Home Energy Squad

Low-Income Home Energy Squad is a direct install program provided at no cost for income-eligible customers who are searching for ways to improve the energy efficiency and comfort of their homes while also lowering their utility bills. 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 inserts, the web and cross-promotion with other Xcel Energy Low-Income programs.

In 2023, the Company focused its promotion budget on expanding interest in the program and increasing the number of home visits. These activities included adding information about free in-home visits for low-income customers into additional outreach and education channels including flyers, email, community events, and advertising. The Company also expanded distribution of translated materials to improve outreach to diverse customers.

The Low-Income Energy Squad did not achieve its electric or natural gas savings targets but did increase participation from the prior year's participation. Electric and gas spending was also lower than filed budgets. Participation was lower than filed targets partially as a result of the labor market limiting the number of visits that could be delivered. The Company addressed challenges with the implementer and worked to improve staffing to serve more customers and reduce lead time.

Multi-Family Energy Savings

The Multi-Family Energy Savings program (MESP) offered free energy-saving education and services to qualifying multi-family buildings. MESP provided electric services to income-qualifying buildings and was designed to reach renters and support low-income housing through electric energy efficient upgrades in resident units. MESP was primarily marketed through our vendor partner with additional support from Xcel Energy and targets building owners or property managers. In addition, income-qualified buildings participating in the Multi-Family Building Efficiency program were referred to MESP for the additional services available through this program. In 2023 the program exceeded its electric goal.

Increased promotional efforts included a direct mail campaign which generated a substantial number of leads including an increase in interest from outstate Minnesota. One of the goals was to help identify low income electrically heated buildings and offer mini split heat pumps as an alternative cooling and supplemental heating option. That effort along with some increased appliance availability at year end, helped significantly increase achievement and drove spend for this program.

While the program began to see an increase in availability of appliances, we acknowledge there was limited availability for the majority of 2023. This prevented our implementer from completing installations of refrigerators and air conditioning units in the first half of 2023.

Program achievement levels in 2023 were significantly higher than last year. The program met the achievement targets and budget primarily driven by end of the year activity when back-ordered equipment became available. Although the supply of energy efficient appliances begun to increase, especially refrigerators and window and through-the-wall air conditioners, some shortages were more impactful towards the end of the year (impacting the program savings) as suppliers continued to delay smaller orders and prioritized larger shipments.

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 2023 results for the Planning Segment.

Table 28: 2023 Planning Segment Results

	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
Advertising & Promotion	\$6,389,040	\$5,392,530	84%	\$1,584,264	\$1,306,217	82%
Application Development & Maintenance	\$4,372,001	\$510,725	12%	\$802,781	\$146,902	18%
CIP Training	\$344,963	\$87,716	25%	\$115,277	\$29,722	26%
Partners in Energy	\$906,646	\$960,919	106%	\$236,412	\$191,593	81%
Planning Regulatory Affairs	\$555,482	\$523,216	94%	\$154,967	\$184,777	119%
Total	\$12,568,132	\$7,475,105	59%	\$2,893,701	\$1,859,212	64%

Advertising and Promotion

The Advertising and Promotion budget provides the opportunity to create awareness and motivate residential and business customers to seek energy conservation offerings.

Business and residential advertising continues to play an essential part in building awareness and motivating customers to pursue energy efficiency opportunities. Strategies used to connect with business and residential customers in 2023 included advertising through various mediums, promotion of programs, segment campaigns, and a variety of promotions and sponsorships designed to enhance customer and trade partner engagement. Digital and interactive components targeting high-impact venues played a large part in reaching the goal of educating customers. Community partnerships created outreach opportunities providing mutually beneficial and longstanding relationships. The Company continued its strategy to reach Black, Indigenous, and People of Color (BIPOC) owned businesses and communities to build awareness of the Company's incentives and products. The Company underspent the budget for 2023.

Application, Development, and Maintenance

The Application, Development, and Maintenance (ADM) program provides funds for software purchases, enhancements and upgrades that support the Company's program 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 budget only and is not marketed to customers.

The Company underspent its ADM 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 were spent appropriately. Investments in software purchases were also done with prudence that reduced the overall budget spend.

The ADM budget will continue to be an important part of future filings as the Company seeks to proactively improve the systems and software packages used to improve the customer's experience in the DSM portfolio. The past year, the Company's technologies teams recognized it was imperative to put together an action plan and strategies to produce a long-term road map on how to implement the many changes associated with the ECO bill. For these reasons the funds for the ADM budgets for both fuels were underspent during this planning phase.

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 of the latest advances in demand side management to provide better service to our customers. As an indirect program in the Planning Segment, this program is an internal budget only and is not marketed to customers. In 2023, the Company implemented cost saving measures due to market inflation. As a result, the amount of travel and attendance of in-person conferences and meetings was reduced, leading to the Company underspending its CIP Training budget.

Partners in Energy

Partners in Energy works with communities served by the Company to support them in reaching their unique energy goals. The framework for the program is to provide resources to assist them in developing community-driven energy action plans and provide tools and resources for the initial launch and implementation of that plan as well as to support communities with existing goals and plans. This incorporates providing support for driving incremental energy savings in a community. Implementation support often includes leveraging programs and rebates offered by the Company, promoting, and creating educational materials and enhancing outreach opportunities with Company resources. Additional services are delivered to all participating communities to support networking and deeper learning about issues relevant to community-level energy management, energy planning, new technologies, marketing, and program delivery. These resources are delivered through in-person events, webinars, newsletters, and an online portal.

The program is primarily marketed to local government entities through direct outreach and word of mouth promotion. However, there has been recent interest from broader regions and city coalitions. In addition to supporting new communities, we continue to see strong participation from communities who extend their initial term of implementation support to pursue additional opportunities. This enables the program to continue to work with these engaged communities on driving additional energy savings to achieve their long-term goals. We are also seeing a growing

number of past participants interested in updating their energy plans to reflect current energy trends and opportunities.

Topics incorporated into program delivery to the communities include broader energy topics such as renewables, electric vehicles, efficient fuel switching and customer service options, but these were not funded through the Conservation Improvement Program.

The program was slightly under budget for 2023. This was driven by:

- Fewer communities entering the program than anticipated. We did see additional communities enter the program this year but not at the level expected. The volume of communities revising their plans or extending their implementation support was higher than expected, but the cost per community of these activities on average are lower.
- Continued virtual delivery program elements. Throughout the pandemic we offered Partners in Energy virtually and developed tools for delivering elements of the program remotely. In 2023, we continued to see a shift back to many in-person workshops and events, but the Company continued to leverage past learnings to deliver components of the program online at a lower cost. Through the pandemic, communities also became more adept at delivering education and outreach online and through social media. We continue to use these channels to provide a cost-effective means to distribute messaging to a large audience.

Regulatory Affairs

Regulatory Affairs manages all CIP 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 CIP regulatory process. These functions are needed to ensure a cohesive and high-quality portfolio that meets legal requirements as well as the expectations of Xcel Energy's customers, regulators and staff.

In addition, Regulatory Affairs supports the CIP 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 CIP, the quality of impact estimates, help generate ideas for future projects, establish programmatic consistency, and manage CIP-related marketing information. In 2023, the Regulatory Affairs spending was under budget for electric and slightly over the natural gas budget.

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 and energy-saving targets in this segment for 2023.

Table 29: 2023 Research, Evaluations & Pilots Results

	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
Codes and Standards	\$ 80,000	\$ 0	0%	\$ 20,000	\$ 0	0%
Market Research	\$ 1,692,501	\$ 1,553,757	92%	\$ 331,560	\$ 406,032	122%
Product Development	\$ 5,265,357	\$ 2,857,635	54%	\$ 150,061	\$ 82,487	55%
Total	\$ 7,037,858	\$ 4,411,392	63%	\$ 501,621	\$ 488,519	97%

Codes and Standards

The Codes and Standards budget within the Research, Evaluations, and Pilots Segment was intended for a pilot market transformation program that the Company expected to be filed during the 2021-2023 Triennium. The Company identified and engaged with other utilities on a collaborative program development project in 2023. Since the effort was not classified as program delivery, the expenses for code program development are included in Product Development and not in Codes and Standards.

Market Research

DSM Market Research conducts surveys and studies to understand customer needs that relate to DSM conservation efforts. In 2023, the Company conducted the following general research projects:

- Maintain a Xcel Energy-specific residential customer segmentation model (\$126,934);
- Support a Product Experience Survey that monitors customer satisfaction by surveying most participants after a rebate has been processed or program participation has completed (no external costs).
- Subscribe to E Source Consultative services and research (\$84,496);
- Purchase updated Dun & Bradstreet business customer classification information (\$118,010);
- Modeling changes in program participation and customer consumption due to residential adoption of LED lighting, beneficial electrification, and new commercial building energy code legislation (\$262,330).
- Continue Residential Campaign Effectiveness Tracking research (\$39,600).
- General labor and overhead (\$187,377)
- Employee expenses (\$6,062)

Market Research funds are also used to procure third-party services for comprehensive, process, and impact evaluations on individual programs. In 2023, the Company conducted research on the following programs (\$659,525):

- Business Energy Assessments
- Custom Efficiency
- Residential HVAC (focused on residential heating measures)

The Company conducted evaluability assessments and impact evaluation of new residential behavioral (Home Energy Insights) offerings. This was a follow-up research effort after the comprehensive evaluation for Home Energy Insights that was completed in 2022. (\$82,352)

Evaluation activities for the commercial & industrial Critical Peak Pricing & Time Of Use rate pilots ramped up in anticipation of customer recruitment. (\$352,000)

In addition, the Company completed the modified evaluation of the Community Code Support activities embedded within Business New Construction (\$43,104).

In 2023, the Market Research program spending was under budget for electric and over budget for natural gas. The primary driver of the natural gas spend exceeding the budget was assignment of a larger share of the Residential HVAC evaluation cost to natural gas in alignment with the focus on heating measures.

Product Development

Product Development identifies, assesses, and develops new energy efficiency and demand response products and services for eventual inclusion as new programs 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 programs. In 2023, Product Development remained under its electric and natural gas target due to lower than anticipated costs for research, outside services and association dues.

The Company provides a narrative summary of its product development activities, and the corresponding dollar amounts for each activity, as part of the Company's annual status report as required by the Deputy Commissioner's November 24, 2020 Decision in Docket No. G,E002/CIP-20-473. 2023 successes include:

- Additional measures into our Business Lighting Efficiency, HVAC+R, Home Energy Savings and Residential Heating and Cooling programs;
- Addition of Critical Peak Pricing into the CIP portfolio for 2023;
- Additional measures into our HVAC&R Solutions program;
- Addition of Empower Intelligence;
- Addition of Load Strategy Analysis;
- Addition of Building Codes;
- Pilot a new approach to mobile home parks;

- Pilot Critical Peak Pricing; and
- Pilot and support development of “Energy Action Days” a new residential demand response program.

The table on the following page is a record of product development spending to support our development efforts.

Table 30: Product Development Spending

		Total Spending by Category	
	Description	Electric	Natural Gas
Railroad Island Heat Pump Study	The Railroad Island Heat Pump Study in St. Paul was to add heat pump mini splits to previously unconditioned spaces converted to living spaces that had baseboard heating.	\$1,360	
Building Codes	Building Codes designed a delivery method to work with various market actors to increase code adoption.	\$4,581	\$7,482
Energy Action Days	Spending to complete the 2022 Energy Action Days behavioral demand response pilot activities.	\$764,287	
Air Source Heat Pump Studies	Air Source Heat Pump Studies investigated the performance of space and water heating in MN’s climate.	\$85,201	
Carbon Reporting	Carbon Reporting gathered customer feedback on a software prototype.	\$41,124	
Electric Heat Affordable Rental Program Pilot (EHARP)	Electric Heat Affordable Rental Program Pilot (EHARP) assists low-income renters who currently heat with electric resistance heating to install more efficient electric heating systems.	\$35,500	
Time of Rent Tool	Time of Rent tool was developed as a method for building owners and property managers to inform potential tenants of their expected electric bill.	\$123,800	
DERMS Requirements	Distributed Energy Resource Management System (DERMS) Requirements are necessary to acquire a new software system for demand management.	\$96,532	
Mobile Home Pilot	Develop manufactured home measures and a comprehensive marketing strategy for mobile homes	\$39,901	\$10,000
Storm Window Pilot	Test the efficacy of storm window retrofit measures	\$7,558	\$3,686
Critical Peak Pricing Pilot	Critical Peak Pricing is a rate structure designed to better reflect the cost of serving customers during system peak days. Customers on the rate receive notification in advance of anticipated peak system days.	\$33,685	
Power Quality Research	Explore whether efficiency opportunities can be found through power quality studies	\$2,500	
Labor	Expenses related to administration.	\$1,331,037	\$58,241
Employee Expenses		\$1,921	
Contract Labor		\$143,180	\$516
R&D Process and Tool Support		\$34,169	
R&D Data Subscriptions/ Dues		\$33,040	
Misc.		\$78,260	\$2,562
Total			\$2,857,635

ALTERNATIVE FILINGS

The Company has four alternative CIP programs that third parties have been operating within our portfolio for several years. These programs were approved by the Deputy Commissioner in his November 24, 2020, Decision.

Alternative filings generally are used to publicize and promote Xcel Energy CIP programs to specific customer segments that the program administrator has a strong relationship with and to support specific needs of that customer segment. Like indirect programs offered by utilities, such as energy audits and customer education programs, these alternative CIP programs drive participation in the utility programs that have direct energy savings. Since these programs are proposed and managed by third-parties, additional questions and requests regarding achievement should be directed to individual parties. The table below provides the 2023 results for the Alternative Filings.

Table 31: Alternative Filing Results

Alternative Filings Segment	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
EnerChange	\$ 530,100	\$ 428,254	81%	\$ 58,900	\$ 57,177	97%
Energy Smart	\$ 549,150	\$ 539,104	98%	\$ 32,760	\$ 24,694	75%
One-Stop Shop	\$ 18,789,160	\$ 12,799,763	68%	\$ 100,915	\$ 102,174	101%
Trillion Btu	\$ 174,600	\$ 134,109	77%	\$ 19,400	\$ 14,901	77%
Total	\$ 20,043,010	\$ 13,901,230	69%	\$ 211,975	\$ 198,946	94%

EnerChange

The EnerChange program was proposed for inclusion in the Company's 2021-2023 Triennial Plan by the National Initiative by Consumers of Energy (EnerChange) in Docket No. E,G002/CIP-20-483. EnerChange is an indirect impact program that provides nonprofit organizations with facility evaluations. These evaluations identify conservation project opportunities, review applicable electric and natural gas utility rebates availability, provide customer assistance to drive implementation of measures and help with implementation financing. EnerChange leverages referrals, networking, associations, organizations, community outreach and social media to market the program.

Energy Smart

The Energy Smart program was proposed for inclusion in the Company's 2021-2023 Triennial Plan by the Minnesota Waste Wise Foundation, a nonprofit affiliate of the Minnesota Chamber of Commerce, in Docket No. G7033, E7031/CIP-20-481. Energy Smart is an indirect impact energy efficiency assistance program. 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 several 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.

One-Stop Efficiency Shop®

Developed and implemented by Center for Energy and Environment (CEE), the 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. One-Stop serves small businesses with a 400-kW demand or less and is structured to address the specific needs of this sector by offering:

- a free assessment 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.

Due to limitations on financial resources, time, and knowledge of energy efficient products, small businesses are difficult to serve with traditional rebate programs. One-Stop addresses these challenges with a hands-on approach, delivering focused assistance to Xcel Energy's small business customers. Lighting and HVAC technical experts within One-Stop offer impartial recommendations personalized to meet participants' financial needs and space requirements. This combination of program services brings education, financial resources, and minimal time commitment directly to the business owner.

Trillion BTU

The Trillion BTU program was proposed for inclusion in the Company's 2021-2023 Triennial Plan by the St. Paul Port Authority in Docket No. E7030/CIP-20-485. Trillion BTU is an Alternative CIP program aimed at increasing participation in the Company's existing commercial and industrial energy efficiency programs. The program leverages funding awarded to the St. Paul Port Authority through resources from economic development agencies and municipalities in Xcel Energy's electric and natural 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 St. Paul Port Authority.

ASSESSMENTS SEGMENT

The Assessments Segment accounts for assessments from the DER to support state energy policy. This segment includes assessments authorized by Minnesota Statute, fees for the Department and the Public Utilities Commission filing review, and assessments for the Minnesota Efficient Technology Accelerator.²⁰ The table below provides the 2023 results.

Table 32: Assessments Results

	Electric Target	Electric Actual	% of Electric Target	Natural Gas Target	Natural Gas Actual	% of Natural Gas Target
Budget	\$ 4,608,716	\$ 4,503,386	98%	\$ 724,544	\$ 757,372	105%

Assessments from our regulators were slightly below the filed electric budget and above the natural gas budget.

²⁰ Assessments for the Minnesota Efficient Technology Assessment began in 2023 and followed the Compliance provided by CEE on November 17, 2022 in Docket E,G999/CIP-21-548.

SECTION 3: 2023 CONSERVATION COST RECOVERY REPORT

REFERENCE DOCKET NO. E002/GR-92-1185

Northern States Power Company, doing business as Xcel Energy, submits this Conservation Improvement Program (CIP) Cost Recovery Report.

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 2023 spending and cost recovery, as well as the electric tax and rate base factors and calculation of the cost of capital.

Electric Achievements

In 2023, Xcel Energy spent \$115,173,263 on its electric CIP efforts. Included within these costs are three adjustments to spend as outlined in Table 33.

- Adjustment of \$1.14 million dollars from 2023 to 2024 because of a business lighting audit. These funds are for several projects for which the Company has also removed associated savings until our final audit is completed. We anticipate that some of these funds will be verified in 2024 (in which we will claim the savings) while others may be reduced over the course of 2024;
- Adjustment of \$1,054 as a result of a reclass from natural gas to electric. (There is a corresponding adjustment in the natural gas spend as well); and
- Adjustment of \$40,584 for incorrectly allocated funds removed from our electric budget.

These expenditures provided an overall reduction of nearly 689 GWh. The Company requests recovery of \$115,173,263 in CIP expenditures, as well as recovery of \$26,478,641 in financial incentives earned for our 2023 electric CIP performance for total electric recovery of \$141,651,904.

Natural Gas Achievements

Xcel Energy conserved 1,007,922 Dth through its 2023 natural gas CIP. The Company requests recovery of \$19,782,422²¹ in CIP expenditures, as well as \$4,253,188 in financial incentive earned for our 2023 natural gas CIP performance for total natural gas recovery of \$24,035,609.

The tables on the following pages include:

- Xcel Energy's 2023 electric (Table 33) and natural gas (Table 34) CIP Trackers, which document monthly CIP expenditures and recovered costs;
- Summary of the electric tax and rate base factors for both 2023 and 2024²² (Tables 35A and 35B) used in the electric CIP Tracker; and

²¹ Total includes a decrease of \$1,054 as a result of a reclass from natural gas to electric.

²² The Company has included both 2023 and 2024 details to show the differences and change impacting future riders.

- Calculation of the Cost of Capital for both 2023 and 2024 (Tables 36A and 36B) 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
2023 Actuals

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
<u>EXPENSES</u>	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
1. Balance	(37,859,320)	(42,964,702)	(45,268,252)	(47,080,115)	(48,605,618)	(49,221,864)	(47,725,633)	(26,604,917)	(28,167,089)	(28,188,760)	(25,823,846)	(26,018,061)	
1a. Other Adjustments									(1,114,719)	(40,584)		1,054	
2. CIP Program Expenditures	4,863,879	6,408,169	7,655,050	6,885,231	8,514,352	12,521,736	7,796,917	10,270,929	10,890,459	13,985,312	10,827,899	15,707,580	116,327,513
3. 2022 Performance Incentive							24,271,202						24,271,202
4. Total Expenses + Incentive (Line 1 + 2 + 3)	(32,995,441)	(36,556,533)	(37,613,202)	(40,194,884)	(40,091,266)	(36,700,128)	(15,657,514)	(16,333,988)	(18,391,350)	(14,244,032)	(14,995,947)	(10,309,428)	
<u>RECOVERY</u>													
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	3.133
6. CCRC Cost Recovery (CCRC times Sales)	7,299,899	6,367,427	6,922,587	6,140,044	6,670,907	8,073,009	8,047,167	8,699,113	7,195,232	6,740,272	6,413,935	6,830,881	85,400,473
7. CIP Adjustment Factor Rate (\$/MWh)	1.108	1.108	1.108	1.108	1.108	1.108	1.108	1.108	1.108	2.225	2.225	2.225	
8. CIP Adjustment Factor Recovery (Factor times Sales)	2,581,643	2,251,870	2,448,205	2,171,455	2,359,197	2,855,057	2,845,918	3,076,482	2,544,627	4,786,819	4,555,061	4,851,169	37,327,503
9. Sub-Balance (Line 4 - 6 - 8)	(42,876,983)	(45,175,831)	(46,983,995)	(48,506,383)	(49,121,371)	(47,628,194)	(26,550,599)	(28,109,582)	(28,131,208)	(25,771,123)	(25,964,942)	(21,991,478)	
10. Accum Deferred Tax (Line 9 * 28.742%)	(12,323,703) 0	(12,984,437) 0	(13,504,140) 0	(13,941,704) 0	(14,118,464) 0	(13,689,296) 0	(7,631,173) 0	(8,079,256) 0	(8,085,472) 0	(7,407,136) 0	(7,462,844) 0	(6,320,790) 0	
11. Net Investment (Line 9 - 10)	(30,553,280)	(32,191,394)	(33,479,855)	(34,564,679)	(35,002,907)	(33,938,898)	(18,919,426)	(20,030,326)	(20,045,736)	(18,363,987)	(18,502,098)	(15,670,688)	
12. Carrying Charge (Line 11 * Carrying Charge Rate)	(87,718)	(92,421)	(96,121)	(99,235)	(100,493)	(97,439)	(54,318)	(57,507)	(57,551)	(52,723)	(53,120)	(44,991)	(893,637)
13. End of Month Balance (Line 9 + 12)	(42,964,702)	(45,268,252)	(47,080,115)	(48,605,618)	(49,221,864)	(47,725,633)	(26,604,917)	(28,167,089)	(28,188,760)	(25,823,846)	(26,018,061)	(22,036,468)	

Table 33: 2023 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 (\$)
2023 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	\$ (3,598,320)	(\$6,229,920)	(\$8,411,538)	(\$10,333,881)	(\$11,216,256)	(\$10,815,110)	(\$9,771,317)	(\$8,982,461)	(\$8,467,841)	(\$4,447,909)	(\$3,791,853)	(\$4,347,561)	(\$3,598,320)
1a. Other Adjustments													(\$1,054)
1b. Adj. Beginning Balance	(3,598,320)	(6,229,920)	(8,411,538)	(10,333,881)	(11,216,256)	(10,815,110)	(9,771,317)	(8,982,461)	(8,467,841)	(4,447,909)	(3,791,853)	(4,348,615)	
2. CIP Program Expenditures	1,568,452	1,521,599	1,558,098	1,206,075	1,370,084	1,702,901	1,425,709	1,553,901	1,581,175	2,068,982	2,131,831	2,094,667	19,783,475
3. 2022 Performance Incentive									3,578,029				3,578,029
4. Total Expenses (Line 1b. + 2 + 3)	(2,029,868)	(4,708,321)	(6,853,440)	(9,127,806)	(9,846,172)	(9,112,209)	(8,345,608)	(7,428,560)	(3,308,637)	(2,378,927)	(1,660,021)	(2,253,947)	19,763,184
<u>RECOVERY</u>													
5. CCRC Rate (\$/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.2395	0.2395	0.2395	0.2395	0.2395	
6. CCRC Cost Recovery	672,564	592,744	556,870	333,705	154,323	104,762	101,265	481,976	529,599	1,025,618	1,951,995	2,421,347	8,926,769
7. CIP Adjustment Factor Rate (\$/Dth)	0.27456	0.27456	0.27456	0.27456	0.27456	0.27456	0.27456	0.27456	0.27456	0.08994	0.08994	0.08994	
8. CIP Adjustment Factor Recovery	3,524,028	3,105,800	2,917,830	1,748,514	808,607	548,919	530,598	552,601	607,202	385,201	733,129	909,408	16,371,837
9. Total Recovery (Line 6 + 8)	4,196,591	3,698,544	3,474,701	2,082,219	962,930	653,680	631,863	1,034,577	1,136,801	1,410,820	2,685,124	3,330,755	25,298,606
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9+10)	(6,226,459)	(8,406,866)	(10,328,141)	(11,210,025)	(10,809,102)	(9,765,889)	(8,977,471)	(8,463,137)	(4,445,438)	(3,789,746)	(4,345,145)	(5,584,702)	
12. Accum Deferred Tax (Line 11 * 28.742%)	(1,789,609)	(2,416,301)	(2,968,514)	(3,221,986)	(3,106,752)	(2,806,912)	(2,580,305)	(2,432,475)	(1,277,708)	(1,089,249)	(1,248,882)	(1,605,155)	(26,543,847)
13. Net Investment (Line 11-12)	(4,436,850)	(5,990,564)	(7,359,626)	(7,988,040)	(7,702,350)	(6,958,977)	(6,397,166)	(6,030,662)	(3,167,730)	(2,700,498)	(3,096,264)	(3,979,547)	(65,808,275)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(3,460,743)	(4,672,640)	(5,740,509)	(6,230,671)	(6,007,833)	(5,428,002)	(4,989,790)	(4,703,917)	(2,470,830)	(2,106,388)	(2,415,086)	(3,104,047)	(51,330.45)
15. End of Month Balance (Line 11+14)	(6,229,920)	(8,411,538)	(10,333,881)	(11,216,256)	(10,815,110)	(9,771,317)	(8,982,461)	(8,467,841)	(4,447,909)	(3,791,853)	(4,347,561)	(5,587,806)	

Table 34: 2023 Gas CIP Tracker (DSM Cost Recovery)

Table 35A: 2023 Summary of Electric Tax and Rate Base Factors

The following variables are used in the electric CIP Tracker for 2023. These values were established in the Xcel Energy 2021 Multi-Year rate case (E002/GR-21-630) based off the 2023 test year.

Variables	2023	Tax Rates	2023
Number of Months	12	Tax Factor %	2.09%
Monthly Carrying Charge %	0.2871%		
Annual Amortization Factor %	20.00%	Accumulated Deferred Tax %	28.74%
		Tax Rate %	28.74%
Common Equity %	52.50%		
Preferred Equity %	0.00%	Rate Base Factor %	9.32%
Total Debt %	47.50%		
Weighted Cost Common Equity %	5.18%		
Weighted Cost Preferred Equity %	0.00%		
Weighted Cost Total Debt %	2.05%		
Normal ROI %	7.23%		
CCRC (\$/MWh)	\$3.133		

Table 35B: 2024 Summary of Electric Tax and Rate Base Factors

The following variables are used in the electric CIP Tracker for 2024. These values were established in the Xcel Energy 2021 Multi-Year rate case (E002/GR-21-630) based off the 2024 test year.

Variables	2024	Tax Rates	2024
Number of Months	12	Tax Factor %	2.09%
Monthly Carrying Charge %	0.3410%		
Annual Amortization Factor %	20.00%	Accumulated Deferred Tax %	28.74%
		Tax Rate %	28.74%
Common Equity %	52.50%		
Preferred Equity %	0.00%	Rate Base Factor %	9.36%
Total Debt %	47.50%		
Weighted Cost Common Equity %	5.18%		
Weighted Cost Preferred Equity %	0.00%		
Weighted Cost Total Debt %	2.05%		
Normal ROI %	7.27%		
CCRC (\$/MWh)	\$4.955		

Table 36A: Calculation of the 2023 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 Table 33 (2023 Electric CIP Tracker) and Tables 35A and 35B (Summary of Electric Tax and Rate Base Factors).

Capital Structure	Capitalization 2023 Test Year	Cost of Capital 2023 Test Year	Weighted Average 2023 Test Year
Long-Term Debt %	46.50%	4.33%	2.01%
Short-Term Debt %	1.00%	3.50%	0.04%
TOTAL DEBT %	47.50%		2.05%
Common Equity %	52.50%	9.87%	5.18%
TOTAL EQUITY	52.50%		5.18%
TOTAL CAPITAL	100.00%		7.23%
MN Tax Rate %			28.74%
Normal Return %			7.23%
Rate Base Factor %	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)		9.32%
Tax Factor %	(Rate Base Factor – ROI)		2.09%
Monthly carrying Charge Rate Calculation			
Annual Revenue Requirements Factor %	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)		9.32%
Monthly Revenue Requirements Factor %	{(1 + short term debt) to the 1/12 Power} -1		0.2871%
CCRC Tracker Rate (\$/MWh)			\$3.133

Table 36B: Calculation of the 2024 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 37 and 38 (2024 and 2025 Electric CIP Tracker) and Tables 35A and 35B (Summary of Electric Tax and Rate Base Factors).

Capital Structure	Capitalization 2024 Test Year	Cost of Capital 2024 Test Year	Weighted Average 2024 Test Year
Long-Term Debt %	47.08%	4.40%	2.07%
Short-Term Debt %	0.42%	4.17%	0.02%
TOTAL DEBT %	47.50%		2.09%
Common Equity %	52.50%	9.87%	5.18%
TOTAL EQUITY	52.50%		5.18%
TOTAL CAPITAL	100.00%		7.27%
MN Tax Rate %			28.74%
Normal Return %			7.27%
Rate Base Factor %	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)		9.36%
Tax Factor %	(Rate Base Factor – ROI)		2.09%
Monthly carrying Charge Rate Calculation			
Annual Revenue Requirements Factor %	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)		9.36%
Monthly Revenue Requirements Factor %	{(1 + short term debt) to the 1/12 Power} -1		0.3410%
CCRC Tracker Rate (\$/MWh)			\$4.955

SECTION 4: 2023 ELECTRIC AND NATURAL GAS CIP ADJUSTMENT RATE REPORT

Northern States Power Company, doing business as Xcel Energy, submits this Conservation Improvement Program (CIP) Electric and Natural Gas 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 \$0.002225 per customer kWh was approved by the Commission on September 5, 2023 in Docket No. E002/M-23-145. This rate was implemented on October 1, 2023 and is designed to reduce the electric CIP Tracker balance to \$0 by September 30, 2024. The current natural gas CIP Adjustment Factor of \$0.008994 per therm was approved by the Commission in Docket No. G002/M-23-146 and implemented on October 1, 2023. It was also designed to reduce the natural gas CIP Tracker to \$0 by September 30, 2024.

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

- Recovery of \$26,478,641 for our 2023 electric DSM financial incentives;
- Recovery of \$4,253,188 for our 2023 natural gas DSM financial incentive;
- A change in the electric CIP Adjustment Factor from \$0.00225 to \$0.000207 per kWh effective the first billing cycle beginning October 1, 2024 through September 30, 2025; and
- A change in the natural gas CIP Adjustment Factor from \$0.008994 per therm to \$0.022919 per therm effective the first billing cycle beginning October 1, 2024 through September 30, 2025.

Proposed Electric CIP Adjustment Factor for Period October 2023 Through September 2024

Xcel Energy requests a new electric CIP Adjustment Factor of \$0.000207 per customer kWh to be effective with the first billing cycle of October 2024 and to remain in effect through the September 2025 billing period. This proposed factor is calculated to reduce the electric CIP Tracker balance to \$0 by the end of September 2025. It is based on the forecasted September 2025 unrecovered balance in the Company's electric CIP Tracker account. This forecasted balance is based on the forecasted October 2024 beginning balance, October 2024 through September 2025 approved and projected expenditures, forecasted 2024 incentives and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown on the following page.

Forecasted beginning balance (Oct 2024)	(\$45,794,432)
Approved expenditures (Oct 2024 - Sept 2025)	\$160,311,725
Forecasted 2024 incentive	\$24,408,684
Less forecasted CCRC recovery (Oct 2024 - Sept 2025)	\$132,558,239
Forecasted October 2025 beginning of month balance	\$6,367,739

As in the past, Xcel Energy will include a message referencing the change in the CIP Adjustment Factor in customers' bills. If Commission approval of the proposed adjustment is delayed beyond September 20, 2024 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment of \$0.002225 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 2025 Electric CIP Tracker Balance	\$6,367,739
(2) Forecasted Electric Sales (MWh)– Oct 2024 through Sept 2025 ²³	26,752,420
(3) Recalculated Electric CIP Adjustment Rate = (1)/(2)	\$ 0.238 /MWh
	\$ 0.000238/kWh

Our above forecasted balance does not include carrying charges. To include carrying charges, we used the CIP Trackers to calculate the optimal rate of **\$0.000207 per kWh**, which results in a \$25,928 end-of-month balance for September 2025. This is the positive balance closest to zero that we can model, given the digit limitations in our billing system. The projected 2024 and 2025 electric CIP Trackers are shown in Tables 37 and Table 38.

Proposed Natural Gas CIP Adjustment Factor for Period October 2024 Through September 2025

Xcel Energy requests a new natural gas CIP Adjustment Factor of \$0.022918 per therm to be effective with the first billing cycle of October 2024 and remaining in effect through the September 2025 billing period. The proposed factor is based on the forecasted October 1, 2025 unrecovered balance in the Company's natural gas CIP Tracker account. The forecasted balance is based on the forecasted October 2024 beginning balance, October 2024 through September 2025 approved and projected expenditures, forecasted 2024 incentive and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2024)	(\$ 175,899)
Program Budget (Oct 2024 - Sept 2025)	\$ 32,217,115
Forecasted 2024 incentive	\$ 4,236,255
Less forecasted CCRC recovery (Oct 2024 - Sept 2025)	\$ 18,518,370
Forecasted October 2025 beginning of month balance	\$ 17,759,101

²³ Forecasted sales exclude the customers exempted from electric CIP charges.

As in the past, Xcel Energy will include in customers' bills a message referencing the change in the CIP Adjustment Factor. If Commission approval of the proposed factor is delayed beyond September 20, 2024 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment Factor of \$0.008994 per therm up to the first cycle of the first full billing period following Commission approval of a revised factor.

Calculation of Revised Natural Gas CIP Adjustment Rate

(1) Forecasted Oct 2024 Natural Gas CIP Tracker Balance	\$ 17,759,101
(2) Forecasted Gas Sales ²⁴ – October 2023 through September 2024	77,330,648
<hr/>	
(3) Recalculated Gas CIP Adjustment Rate = (1)/(2)	\$ 0.22965/Dth
	\$ 0.022965/therm

Our above forecasted balance does not include carrying charges. To include carrying charges, we used the CIP Trackers to calculate the optimal rate of **\$0.022918 per therm**, which results in a \$401 end-of-month balance for September 2025. This is the positive balance closest to zero that we can model, given the digit limitations in our billing system. The projected 2024 and 2025 natural gas CIP Trackers are shown in Table 39 and Table 40.

²⁴ Forecasted sales exclude the exempt customers and natural gas sales to qualifying large energy facilities.

Northern States Power Company, a Minnesota corporation
 State of Minnesota- Electric Utility
 DSM Cost Recovery & Incentive Mechanism - Total
 2024 Forecast

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<u>EXPENSES</u>	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	
1. Balance	(22,036,468)	(32,767,400)	(37,984,622)	(44,250,633)	(47,690,758)	(52,581,479)	(57,212,815)	(65,731,647)	(71,764,088)	(45,794,432)	(43,682,458)	(39,869,358)	(24,566,501)
1a. Other Adjustments	1,113,665												
2. CIP Program Expenditures	4,619,363	9,359,780	9,861,312	9,943,786	10,124,146	12,415,198	11,482,500	12,987,286	15,142,300	13,013,990	14,315,117	27,045,433	150,310,211
3. 2023 Performance Incentive									26,478,641				26,478,641
4. Total Expenses + Incentive (Line 1b + 2 + 3)	(16,303,440)	(23,407,620)	(28,123,311)	(34,306,847)	(37,566,612)	(40,166,281)	(45,730,315)	(52,744,362)	(30,143,147)	(32,780,441)	(29,367,342)	(12,823,924)	152,222,350
<u>RECOVERY</u>													
5. CCRC Rate (\$/MWh)	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	
6. CCRC Cost Recovery (CCRC times Sales)	11,368,450	9,996,214	11,055,625	9,156,611	10,273,971	11,668,300	13,693,190	13,005,681	10,724,524	10,363,197	9,988,109	11,214,530	132,508,401
7. CIP Adjustment Factor Rate (\$/MWh)	2.225	2.225	2.225	2.225	2.225	2.225	2.225	2.225	2.225	0.207	0.207	0.207	
8. CIP Adjustment Factor Recovery (Factor times Sales)	5,016,083	4,488,714	4,964,433	4,111,697	4,613,438	5,239,549	6,148,809	5,840,089	4,815,755	432,933	417,263	468,498	46,557,260
9. Sub-Balance (Line 4 - 6 - 8)	(32,687,972)	(37,892,547)	(44,143,369)	(47,575,155)	(52,454,022)	(57,074,130)	(65,572,313)	(71,590,131)	(45,683,426)	(43,576,571)	(39,772,714)	(24,506,952)	
10. Accum Deferred Tax (Line 9 * 28.742%)	(9,395,177)	(10,891,076)	(12,687,687)	(13,674,051)	(15,076,335)	(16,404,247)	(18,846,794)	(20,576,436)	(13,130,330)	(12,524,778)	(11,431,473)	(7,043,788)	
11. Net Investment (Line 9 - 10)	(23,292,795)	(27,001,471)	(31,455,682)	(33,901,104)	(37,377,687)	(40,669,883)	(46,725,519)	(51,013,695)	(32,553,096)	(31,051,793)	(28,341,241)	(17,463,164)	
12. Carrying Charge (Line 11 * Carrying Charge Rate)	(79,428)	(92,075)	(107,264)	(115,603)	(127,458)	(138,684)	(159,334)	(173,957)	(111,006)	(105,887)	(96,644)	(59,549)	(1,366,889)
13. End of Month Balance (Line 9 + 12)	(32,767,400)	(37,984,622)	(44,250,633)	(47,690,758)	(52,581,479)	(57,212,815)	(65,731,647)	(71,764,088)	(45,794,432)	(43,682,458)	(39,869,358)	(24,566,501)	

Table 37: 2024 Electric CIP Tracker Forecast, With Cost Recovery in 2024

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2025 Forecast

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>
<u>EXPENSES</u>	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1. Balance	(24,566,501)	(26,808,205)	(27,434,514)	(28,618,784)	(27,714,382)	(27,799,765)	(26,920,325)	(29,180,661)	(29,137,839)
2. CIP Program Expenditures	9,944,387	9,839,113	10,366,329	10,453,027	10,642,624	13,051,005	12,070,542	13,652,391	15,917,768
3. 2024 Performance Incentive									24,408,684
4. Total Expenses + Incentive (Line 1 + 2 + 3)	(14,622,114)	(16,969,092)	(17,068,185)	(18,165,757)	(17,071,758)	(14,748,760)	(14,849,783)	(15,528,270)	11,188,613
<u>RECOVERY</u>									
5. CCRC Rate (\$/MWh)	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955	4.955
6. CCRC Cost Recovery (CCRC times Sales)	11,635,042	9,981,916	11,020,821	9,101,232	10,233,121	11,620,838	13,688,301	12,996,017	10,715,114
7. CIP Adjustment Factor Rate (\$/MWh)	0.207	0.207	0.207	0.207	0.207	0.207	0.207	0.207	0.207
8. CIP Adjustment Factor Recovery (Factor times Sales)	486,065	417,004	460,406	380,213	427,499	485,472	571,842	542,921	447,634
9. Sub-Balance (Line 4 - 6 - 8)	(26,743,222)	(27,368,013)	(28,549,412)	(27,647,202)	(27,732,378)	(26,855,070)	(29,109,927)	(29,067,208)	25,865
10. Accum Deferred Tax (Line 9 * 28.742%)	(7,686,537)	(7,866,114)	(8,205,672)	(7,946,359)	(7,970,840)	(7,718,684)	(8,366,775)	(8,354,497)	7,434
11. Net Investment (Line 9 - 10)	(19,056,685)	(19,501,899)	(20,343,740)	(19,700,843)	(19,761,538)	(19,136,386)	(20,743,152)	(20,712,711)	18,431
12. Carrying Charge (Line 11 * Carrying Charge Rate)	(64,983)	(66,501)	(69,372)	(67,180)	(67,387)	(65,255)	(70,734)	(70,630)	63
13. End of Month Balance (Line 9 + 12)	(26,808,205)	(27,434,514)	(28,618,784)	(27,714,382)	(27,799,765)	(26,920,325)	(29,180,661)	(29,137,839)	25,928

Table 38: 2025 Electric CIP Tracker Forecast, With Cost Recovery in 2025

**Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance (\$)
2024**

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Total</u>
<u>EXPENSES</u>	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	
1. Beginning Balance	(5,587,806)	(7,756,239)	(9,671,290)	(11,356,666)	(11,628,116)	(11,085,668)	(9,714,196)	(8,268,802)	(6,383,382)	(175,899)	796,992	383,283	
1a Other Adjustments	1,054												
2. CIP Program Expenditures	1,842,054	2,264,955	2,142,635	2,199,995	2,077,200	2,172,449	2,073,504	2,509,791	2,644,443	2,453,089	2,296,242	4,404,462	29,080,820
3. 2023 Performance Incentive									4,253,188				4,253,188
4. Total Expenses (Line 1b + 2 + 3)	(3,744,698)	(5,491,284)	(7,528,655)	(9,156,671)	(9,550,916)	(8,913,219)	(7,640,692)	(5,759,011)	514,249	2,277,189	3,093,234	4,787,745	
<u>RECOVERY</u>													
5. CCRC Rate (\$/Dth)	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	
6. CCRC Cost Recovery	2,913,123	3,034,818	2,778,250	1,791,962	1,111,237	578,360	453,275	451,319	501,644	756,575	1,384,835	2,505,528	18,260,925
7. CIP Adjustment Factor Rate (\$/Dth)	0.08994	0.08994	0.08994	0.08994	0.08994	0.08994	0.08994	0.08994	0.08994	0.22918	0.22918	0.22918	
8. CIP Adjustment Factor Recovery	1,094,109	1,139,815	1,043,453	673,024	417,358	217,220	170,241	169,506	188,407	724,065	1,325,329	2,397,865	9,560,393
9. Total Recovery (Line 6 + 8)	4,007,232	4,174,633	3,821,703	2,464,985	1,528,594	795,581	623,516	620,825	690,051	1,480,640	2,710,165	4,903,393	
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(7,751,930)	(9,665,917)	(11,350,358)	(11,621,656)	(11,079,510)	(9,708,800)	(8,264,208)	(6,379,836)	(175,802)	796,549	383,070	(115,648)	
12. Accum Deferred Tax (Line 11 * 28.742%)	(2,228,060)	(2,778,178)	(3,262,320)	(3,340,296)	(3,184,473)	(2,790,503)	(2,375,299)	(1,833,692)	(50,529)	228,944	110,102	(33,240)	(21,537,544)
13. Net Investment (Line 11-12)	(5,523,871)	(6,887,739)	(8,088,038)	(8,281,360)	(7,895,037)	(6,918,296)	(5,888,909)	(4,546,144)	(125,273)	567,605	272,968	(82,408)	(53,396,503)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(4,309)	(5,372)	(6,309)	(6,459)	(6,158)	(5,396)	(4,593)	(3,546)	(98)	443	213	(64)	(41,649)
15. End of Month Balance (Line 11+14)	(7,756,239)	(9,671,290)	(11,356,666)	(11,628,116)	(11,085,668)	(9,714,196)	(8,268,802)	(6,383,382)	(175,899)	796,992	383,283	(115,712)	

Table 39: 2024 Gas CIP Tracker Forecast, With Cost Recovery in 2024

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

DSM Cost Recovery and Incentive Mechanism

Tracker and Balance (\$)

2025 Forecast

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sept</u>
<u>EXPENSES</u>	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1. Balance	(\$115,712)	(\$3,602,462)	(\$6,813,352)	(\$9,929,903)	(\$10,982,609)	(\$10,797,786)	(\$9,537,232)	(\$8,116,300)	(\$6,203,618)
2. CIP Program Expenditures	2,881,307	2,527,588	2,391,084	2,455,096	2,318,061	2,424,356	2,313,937	2,800,814	2,951,080
3. 2024 Performance Incentive									4,236,255
4. Total Expenses (Line 1 + 2 + 3)	2,765,595	(1,074,875)	(4,422,268)	(7,474,807)	(8,664,548)	(8,373,430)	(7,223,295)	(5,315,486)	983,717
<u>RECOVERY</u>									
5. CCRC Rate (\$/Dth)	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395	0.2395
6. CCRC Cost Recovery	3,252,917	2,930,304	2,811,464	1,789,293	1,086,973	591,970	454,003	452,055	502,454
7. CIP Adjustment Factor Rate (\$/Dth)	0.22918	0.22918	0.22918	0.22918	0.22918	0.22918	0.22918	0.22918	0.22918
8. CIP Adjustment Factor Recovery	3,113,139	2,804,389	2,690,655	1,712,408	1,040,266	566,533	434,494	432,630	480,863
9. Total Recovery (Line 6 + 8)	6,366,056	5,734,692	5,502,119	3,501,701	2,127,239	1,158,504	888,497	884,686	983,317
10. Rate Refund	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(3,600,461)	(6,809,567)	(9,924,387)	(10,976,508)	(10,791,787)	(9,531,934)	(8,111,791)	(6,200,172)	401
12. Accum Deferred Tax (Line 11 * 28.742%)	(1,034,845)	(1,957,206)	(2,852,467)	(3,154,868)	(3,101,776)	(2,739,668)	(2,331,491)	(1,782,053)	115
13. Net Investment (Line 11-12)	(2,565,617)	(4,852,361)	(7,071,919)	(7,821,640)	(7,690,012)	(6,792,265)	(5,780,300)	(4,418,118)	285
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(2,001)	(3,785)	(5,516)	(6,101)	(5,998)	(5,298)	(4,509)	(3,446)	0
15. End of Month Balance (Line 11+14)	(3,602,462)	(6,813,352)	(9,929,903)	(10,982,609)	(10,797,786)	(9,537,232)	(8,116,300)	(6,203,618)	401

Table 40: 2025 Gas CIP Tracker Forecast, With Cost Recovery in 2025

SECTION 5: 2023 CIP FINANCIAL INCENTIVE CALCULATIONS

Northern States Power Company, doing business as Xcel Energy, submits this Conservation Improvement Program (CIP) Electric and Natural Gas CIP Incentive Calculation and Cost-Effectiveness & Performance Mechanism Report as required by Docket No. E,G999/CI-08-133.

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 Commission's Order issued on December 9, 2020 extended the Shared Savings Incentive Mechanism through 2021-2023 Plan years and raised the CIP expenditure cap for utilities that exceed energy savings goals. The currently approved incentive mechanism has the following parameters:

- Electric utilities' incentive starts at energy savings of 1% of retail sales; 10% of net benefits is awarded at energy savings of 1.7% of retail sales and above.
- Gas utilities' incentive starts at energy savings of 0.7% of retail sales; 10% of net benefits is awarded at energy savings of 1.2% of retail sales and above.
- Net Benefits Cap remains at 10%.
- Gas utilities may exceed the 30% CIP Expenditures Cap, up to a maximum of 35%, if they meet or exceed energy savings equaling 1.2% of retail sales.
- Electric utilities may exceed the 30% CIP Expenditures Cap, up to a maximum of 35%, if they meet or exceed energy savings equaling 2% of retail sales.
- Utilities use their specific CIP Utility Discount Rate approved in Docket Nos. E999/CIP-18-783 (electric utilities) and G999/CIP-18-782 (gas utilities) for calculating net benefits for the Shared Savings incentive.

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 2023 CIP portfolio achieved electric energy savings of nearly 689 GWh which will provide net benefits of \$255 million to Xcel Energy electric customers. The Company also achieved natural gas savings of 1,007,922 Dth, which will provide Xcel Energy customers with net benefits of \$42.5 million. As a result of these achievements, we request approval of a 2023 CIP electric financial incentive of \$26,478,641 and a 2023 CIP natural gas financial incentive of \$4,253,188.

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
2023 ELECTRIC INCENTIVE CALCULATIONS**

In accordance with the Minnesota PUC Orders dated January 27, 2010, August 5, 2016 and February 20, 2020 (Docket No. E,G999/CI-08-133), Xcel Energy respectfully submits these financial incentive calculations. In 2023, the Company achieved electric energy savings of 689,113,997 kWh at the generator at a cost of \$115,173,263. As a result, we respectfully request approval of our CIP electric financial incentive in the amount of \$26,478,641.

CIP Electric Financial Incentive Calculation

According to Orders in Docket No. E,G999/CI-08-133, certain expenses and savings are excluded from the incentive calculation, including regulatory assessments, electric utility infrastructure projects, qualifying solar projects, and third party projects not selected for inclusion in the annual incentive compliance filing. As first stated in our January 30, 2013 incentive compliance filing and continued through the 2021-2023 filings, we elected to include the One Stop Shop program administered by the Center for Energy and the Environment (CEE).²⁵ 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)	27,807,301,870
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Incentive Mechanism

Max Percent of Net Benefits Awarded	10.0%
Max Percent Expenditures Awarded (up to 2% achievement)	30.0%
Max Percent Expenditures Awarded (more than, equal to 2% achievement)	35.0%
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 2023 Achievements

Actual Spending for Incentive ²⁶	\$ 115,173,263
Actual Energy Savings (kWh) ²⁷	689,113,977
Net Benefits Achieved ²⁸	\$ 264,786,408

²⁵ Docket No. E,G999/CI-08-133 and Docket No. E,G002/CI-10-81.

²⁶ Portfolio Subtotal spend plus CEE One-Stop Shop spend.

²⁷ Portfolio Subtotal energy savings plus CEE One-Stop Shop energy savings.

²⁸ 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.

2023 Financial Incentive Mechanism

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.

Percent of Sales Achievement Level =

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

$$689,113,977 / 27,807,301,870 = \mathbf{2.48\%}$$

Percent of Net Benefits Awarded = Max Percent of Net Benefits Awarded – Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level x (Amount the % of Sales Achievement is below the Net Benefits Cap Achievement) / 0.1% =

$$= 10.0\% - 0.75\% \times 0^{29} / 0.1\% \\ = \mathbf{10.0\%}$$

Expenditures Award Cap (for $\geq 2.0\%$ achievement) =

$$\text{Max Percent Expenditures Awarded} \times \text{Actual Spend for Incentive} = \\ 35\% \times \$115,173,263 = \mathbf{\$40,310,642}$$

Incentive Awarded =

$$\text{Net Benefits Achieved} \times \text{Percent of Net Benefits Awarded} = \\ \$264,786,408 \times 10.0\% = \mathbf{\$26,478,641}$$

2023 Electric Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a CIP financial incentive of \$26,478,641 for its 2023 electric achievements.

²⁹ Percent of Sales Achievement is greater than Net Benefits Cap Achievement Level. Therefore, no adjustment is made to the Percent of Net Benefits Awarded.

**NORTHERN STATES POWER COMPANY
A MINNESOTA CORPORATION
2023 NATURAL GAS INCENTIVE CALCULATION**

In accordance with the Minnesota PUC Orders dated January 27, 2010, August 5, 2016 and February 20, 2020 (Docket No. E,G999/CI-08-133), Xcel Energy respectfully submits these financial incentive calculations.

In 2023, Xcel Energy achieved energy savings of 1,007,922 Dth at a cost of \$19,782,422. As a result, we respectfully request approval of our financial incentive in the amount of \$4,253,188.

According to Orders 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 and maintained through our 2021-2023 filing, we elected to include the One Stop Shop program administered by the Center for Energy and the Environment (CEE).³⁰ The indirect impact third party programs—Enerchange, Energy Intelligence, Energy Smart, and Trillion Btu—are not included in the calculation of the incentive.³¹

Model Year Inputs

3-yr Weather Normalized Sales Average (Dth)	76,465,184
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Incentive Mechanism

Max Percent of Net Benefits Awarded	10.0%
Max Percent Expenditures Awarded (up to 1.2% achievement)	30.0%
Max Percent Expenditures Awarded (more than, equal to 1.2% achievement)	35.0%
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 2023 Achievements

Actual Spending for Incentive	\$ 19,782,422
Actual Energy Savings (Dth)	1,007,922
Net Benefits Achieved ³²	\$ 42,531,877

³⁰ Docket No. E,G999/CI-08-133 and Docket No. E,G002/CI-10-81.

³¹ Docket No. E,G999/CI-08-133 and Docket No. G002/M-16-108.

³² 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.

2023 Financial Incentive Mechanism

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.

Percent of Sales Achievement Level =

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

$$1,007,922 / 76,465,184 = \mathbf{1.32\%}$$

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% =

$$10.0\% - 0.75\% \times 0^{33} / 0.1\% =$$

$$= \mathbf{10\%}$$

Expenditures Award Cap (for $\geq 1.2\%$) achievement =

Max Percent Expenditures Awarded x Actual Spend for Incentive =
 $35\% \times \$19,782,422 = \mathbf{\$6,923,848}$

Incentive Awarded =

Net Benefits Achieved x Percent of Net Benefits Awarded =
 $\mathbf{\$42,531,877 \times 10\% = \$4,253,188}$

2023 Natural Gas Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a CIP financial incentive of \$4,253,188 for its 2023 natural gas achievements.

³³ Percent of Sales Achievement is greater than Net Benefits Cap Achievement Level. Therefore, no adjustment is made to the Percent of Net Benefits Awarded.

SECTION 6: ATTACHMENTS

Attachment A: Compliance Matrix

Attachment B: Workforce and Development Report

Attachment C: Cost Effectiveness Analyses

Attachment D: Detailed Technical Assumptions

Attachment A: Compliance Matrix

ATTACHMENT A: COMPLIANCE MATRIX

Xcel Energy is committed to complying fully with all applicable statutes, rules and decisions by the Department of Commerce. We believe our Status Report reflects appropriate implementation of all requirements. We have prepared a matrix reflecting our inventory of requirements to be met in this Application and cross-referenced to the portion of the Plan that fulfills each compliance item.

STATUTES, RULES, AND ORDER

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
§216B.241	Subd. 1c (b)	Achievement as a % of Sales. A public utility providing electric service has an annual energy-savings goal equivalent to 1.75 percent of gross annual retail energy sales unless modified by the commissioner under paragraph.	Section 1: Compliance with Rules and Statutes
§216B.241	Subd. 1c (c)	Achievement as a % of Sales & Carry Forward Provisions. A public utility providing natural gas service has an annual energy-savings goal equivalent to one percent of gross annual retail energy sales, which cannot be lowered by the commissioner. The savings goals must be calculated based on the most recent three-year weather-normalized average. A public utility providing electric service may elect to carry forward energy savings in excess of 1.75 percent for a year to the succeeding three calendar years, except that savings from electric utility infrastructure projects allowed under paragraph (d) may be carried forward for five years. A public utility providing natural gas service may elect to carry forward energy savings in excess of one percent for a year to the succeeding three calendar years. A particular energy savings can only be used to meet one year's goal.	Section 1: Compliance with Rules and Statutes
§216B.241	Subd. 1c (g)	Efficient Fuel Switching. Notwithstanding any provision to the contrary, until July 1, 2026, spending by a public utility subject to this section on efficient fuel-switching improvements to meet energy savings goals under this section must not exceed 0.35 percent per year, averaged over three years of the public utility's gross annual retail energy sales.	N/A
§216B.241	Subd. 2(e)	R&D Spending. Each public utility subject to this subdivision may spend and invest annually up to ten percent of the total amount spent and invested on energy conservation improvements under this section by the public utility on research and development projects that meet the definition of energy conservation improvement.	Section 1: Compliance with Rules and Statutes
§216B.241	Subd. 1f(c)	Facilities Energy Efficiency. The commissioner shall require that utilities include in their conservation improvement plans programs that facilitate professional engineering verification to qualify a building as Energy Star-labeled, Leadership in Energy and Environmental Design (LEED) certified, or Green Globes-certified.	Section 1: Compliance with Rules and Statutes

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
§216B.241	Subd. 5a	<p>Qualifying solar energy project.</p> <p>(a) A utility or association may include in its conservation plan programs for the installation of qualifying solar energy projects as defined by section 216B.2411 to the extent of the spending allowed for generation projects by section 216B.2411. The cost-effectiveness of a qualifying solar energy project may be determined by a different standard than for other energy conservation improvements under this section if the commissioner determines it is in the public interest to do so to encourage solar energy projects. Energy savings from qualifying solar energy projects may not be counted toward the minimum energy-savings goal of at least one percent for energy conservation improvements required under subdivision 1c, but may, if the conservation plan is approved:</p> <p>(1) be counted toward energy savings above that minimum percentage; and</p> <p>(2) be eligible for a performance incentive under section 216B.16, subdivision 6c, or 216B.241, subdivision 2c, that is distinct from the incentive for energy conservation and is based on the competitiveness and cost-effectiveness of solar projects in relation to other potential solar projects available to the utility.</p> <p>(b) Qualifying solar energy projects may not be considered when establishing demand-side management targets under section 216B.2422, 216B.243, or any other section of this chapter</p>	N/A – The Company does not include solar as part of our CIP portfolio.
§216B.241	Subd. 7(a)	<p>Low-Income Spending. The commissioner shall ensure that each public utility subject to subdivision 1c provides energy conservation and efficient fuel-switching programs to low-income households. When approving spending and energy-savings goals for low-income programs, the commissioner shall consider historic spending and participation levels, energy savings achieved by low-income programs, and the number of low-income persons residing in the utility's service territory. Beginning January 1, 2022, a public utility furnishing gas service must spend at least one percent of its most recent three-year average gross operating revenue from residential customers in the state on low-income programs. A public utility that furnishes electric service must spend at least 0.4 percent of its gross operating revenue from residential customers in the state on low-income programs. Beginning in 2024, a public utility that furnishes electric service must spend 0.6 percent of the public utility's gross operating revenue from residential customers in the state on low-income programs.</p>	Section 1: Compliance with Rules and Statutes
§216B.241	Subd. 7(f)	<p>Pre-weatherization. Up to 15 percent of a public utility's spending on low-income programs may be spent on pre-weatherization measures. A public utility is prohibited from claiming energy savings from pre-weatherization measures toward the public utility's energy savings goal</p>	Section 1: Compliance with Rules and Statutes

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
§216B.241	Subd. 8	<p>Assessments. The commission or department may assess public utilities subject to this section to carry out the purposes of subdivisions 1d, 1e, and 1f. An assessment under this subdivision must be proportionate to a public utility's gross operating revenue from sales of gas or electric service within Minnesota during the last calendar year, as applicable. Assessments made under this subdivision are not subject to the cap on assessments provided by section 216B.62, or any other law.</p>	Section 1: Compliance with Rules and Statutes
§216B.241	Subd. 9(e)	<p>SB2030. The commissioner shall require utilities to develop and implement conservation improvement programs that are expressly designed to achieve energy efficiency goals consistent with the Sustainable Building 2030 performance standards. These programs must include offerings of design assistance and modeling, financial incentives, and the verification of the proper installation of energy-efficient design components in new and substantially reconstructed buildings. A utility's design assistance program must consider the strategic planting of trees and shrubs around buildings as an energy conservation strategy for the designed project. A utility making an expenditure under its conservation improvement program that results in a building meeting the Sustainable Building 2030 performance standards may claim the energy savings toward its energy-savings goal established in subdivision 1c.</p>	Section 1: Compliance with Rules and Statutes
§216B.241	Subd. 11 (a)	<p>Efficient Fuel Switching. A public utility providing electric service at retail may include in the plan required under subdivision 2 programs to implement efficient fuel-switching improvements or combinations of energy conservation improvements, fuel-switching improvements, and load management. For each program, the public utility must provide a proposed budget, an analysis of the program's cost-effectiveness, and estimated net energy and demand savings.</p>	N/A
§216B.241	Subd. 11(d)	<p>Efficient Fuel Switching. A fuel-switching improvement is deemed efficient if, applying the technical criteria established under section 216B.241, subdivision 1d, paragraph (e), the improvement meets the following criteria, relative to the fuel that is being displaced:</p> <ol style="list-style-type: none"> (1) results in a net reduction in the amount of source energy consumed for a particular use, measured on a fuel-neutral basis; (2) results in a net reduction of statewide greenhouse gas emissions as defined in section 216H.01, subdivision 2, over the lifetime of the improvement. For an efficient fuel-switching improvement installed by an electric utility, the reduction in emissions must be measured based on the hourly emission profile of the electric utility, using the hourly emissions profile in the most recent resource plan approved by the commission under section 216B.2422; 	N/A

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
		<p>(3) is cost-effective, considering the costs and benefits from the perspective of the utility, participants, and society; and</p> <p>(4) is installed and operated in a manner that improves the utility's system load factor.</p>	
§216B.241	Subd. 12 (a-b)	<p>Efficient Fuel Switching. (a) As part of a public utility's plan filed under subdivision 2, a public utility that provides natural gas service to Minnesota retail customers may propose one or more programs to install electric technologies that reduce the consumption of natural gas by the utility's retail customers as an energy conservation improvement. The commissioner may approve a proposed program if the commissioner, applying the technical criteria developed under section 216B.241, subdivision 1d, paragraph (e), determines that:</p> <p>(1) the electric technology to be installed meets the criteria established under section 216B.241, subdivision 11, paragraph (d), clauses (1) and (2); and</p> <p>(2) the program is cost-effective, considering the costs and benefits to ratepayers, the utility, participants, and society.</p> <p>(b) If a program is approved by the commission under this subdivision, the public utility may count the program's energy savings toward its energy savings goal under section 216B.241, subdivision 1c. Notwithstanding section 216B.2402, subdivision 4, efficient fuel-switching achieved through programs approved under this subdivision is energy conservation.</p>	N/A
§216B.241	Subd. 13	<p>Load Management. A public utility may include in the utility's plan required under subdivision 2 programs to implement load management activities, or combinations of energy conservation improvements, fuel-switching improvements, and load management activities. For each program the public utility must provide a proposed budget, cost-effectiveness analysis, and estimated net energy and demand savings.</p> <p>(b) The commissioner may approve a proposed program if the commissioner determines the program is cost-effective, considering the costs and benefits to ratepayers, the utility, participants, and society.</p>	<p>Load Management program details can be found in Executive Summaries.</p>
§216B.241	Subd. 14 (h)	<p>Transformation. Upon approval, each public utility with over 30,000 customers must participate in ETA and contribute to the approved budget of the program by depositing annually in the energy and conservation account under subdivision 2a an amount that is proportional to the utility's gross operating revenue from sales of gas or electric service in Minnesota, excluding revenues from large customer facilities exempted under subdivision 1a. A</p>	<p>These costs are included as part of Assessments in the 2023 filing.</p>

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
		participating utility must not be required to contribute more than the following percentages of the utility's spending approved by the commission in the plan filed under subdivision 2: (1) two percent in the program's initial two years; (2) 3.5 percent in the program's third and fourth years; and (3) five percent thereafter.	
§216B.16	Subd. 17	Employee Expenses. Amended by Minn. Laws 2010, Chp. 328, requires utilities to report general travel, entertainment, and employee related costs. Staff recommended that travel, entertainment, and employee-related expenses associated with CIP be reviewed as part of the general expenditure review process associated with CIP status reports. Staff further recommended that these costs be capped at 0.5% of total annual CIP expenses	Section 1: Compliance with Rules and Statutes
§216B.2411	Subd. 1(a)	Distributed Energy Resource Spending Cap: Any municipality or rural electric association providing electric service and subject to section 216B.241 may, and each public utility may, use five percent of the total amount to be spent on energy conservation improvements under section 216B.241 , on:	Section 1: Compliance with Rules and Statutes
Minnesota Rules	Part 7690.0550	Utilities must file the following data for each program : <ul style="list-style-type: none"> • the approved participation goal, and the actual participants served during the previous calendar year; • the estimate of (1) low-income and (2) renter residential customer participation levels as anticipated in the approved biennial conservation improvement program filing, and the utility's estimates of low-income and renter participation actually achieved, if applicable; • the approved budget, and the actual expenditures; • the approved energy and demand savings goals and the actual savings achieved for the previous year; and the cost-effectiveness of the program based on the results of previous years and the actual expenditures, as calculated from the utility, participant, ratepayer, and societal perspectives. 	Section 1: Compliance with Rules and Statutes Section 2: CIP Status Report (Portfolio Results)
Minnesota Rules	7690.1200, subpart 1A	Requires electric utilities to calculate the required spending level by using the gross operating revenues in the year preceding the calendar year in which the filing is submitted and defines gross operating revenues as the total Minnesota jurisdictional assessable operating revenue as reported in each electric utility's Minnesota jurisdictional report on page E-30, Sales and Degree Days Data, Total Sales to Ultimate Consumer, line (B) Total Revenue Corresponding to Sales. Xcel's Minnesota electric jurisdictional report for 2019 is located in docket no E,G999/PR-20-4.	Section 1: Compliance with Rules and Statutes
Minnesota Rules	7690.0550	Requires that utilities report the cost-effectiveness of programs as calculated from the Societal, Utility, Participant, and Ratepayer perspectives. The Department is focused on ensuring that CIP is cost-effective according to the Societal Test.	Section 2: CIP Status Report (Portfolio Results)

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
Docket No. E002/M-90-1159			
January 3, 1992 Order		Requires a performance measurement evaluation to accompany Northern States Power Company, a Minnesota corporation, financial incentive mechanism filing.	Section 1: Compliance with Rules and Statutes Section 3: Conservation Cost Recovery Report
Docket No. E,G002/CIP-20-473			
November 25, 2020 Decision	1f	Provision requiring programs to promote the use of efficient lighting and support the collection of spent lamps.	Section 1: Compliance with Rules and Statutes
November 25, 2020 Decision	2d	The Deputy Commissioner requires the Company to include a narrative summary of its R&D activities and the corresponding dollar amounts for each R&D activity as part of the Company's annual Status Reports.	Section 1: Compliance with Rules and Statutes Section 2: CIP Status Report
November 25, 2020 Decision	3	The Deputy Commissioner approves the Company's budgets and goals at the segment-level, requiring the Company to be accountable for achieving segment-level goals. The Company must also report energy savings, spending, participation, and cost-effectiveness results at the program, segment, and portfolio-level in its annual status reports so that individual program performance can be monitored	Section 2: CIP Status Report
November 25, 2020 Decision	4	Due to ongoing interest by the Department and interested parties in understanding utility investments to support low-income customers and under-resourced communities, the Deputy Commissioner requires that utilities clearly report the following metrics in their annual status reports: a. the estimate of anticipated and actual low-income residential customer participation levels for each program as required in Minnesota Rules 7690.0550, b. the estimate of anticipated and actual residential rental customer participation levels for each program as required in Minnesota Rules 7690.0550, c. the planned and actual low-income spending and energy savings for each program, including dedicated low-income programs, as required in Minnesota Rules 7690.0550, d. for programs that make use of the low-income multifamily policy guidance, the anticipated and actual spending and energy savings achieved for the program, and from market-rate versus affordable housing participants, through the program, e. for programs that make use of the low-income multifamily policy guidance, the number of	Section 1: Compliance with Rules and Statutes

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
		buildings and units served by market-rate versus affordable housing through the program, and f. for programs that make use of the low-income multifamily policy guidance, the cumulative number and amount of incentives by measure type for market-rate versus affordable housing delivered through the program (e.g. total number and total value of incentives for boilers installed in market-rate and in affordable housing buildings through a multifamily program).	
November 25, 2020 Decision	N/A – Explanation of Hybrid low-income	For the purpose of determining whether a utility’s planned low-income spending meets the low-income spending requirement, the Department reviews spending for dedicated low-income programs. The Department will also include the planned spending in “hybrid programs” when the utility: • proposes a reasonable low-income spending goal within the program, • develops an acceptable method to identify the low-income portion of total program spending, and • tracks and clearly reports the low-income and non-low-income portions of the program spending in annual status reports.	Section 1: Compliance with Rules and Statutes
November 25, 2020 Decision	8	The Deputy Commissioner reminds the utilities that the Measurement and Verification (M&V) Protocols for Large Customer CIP Projects require utilities to provide Staff with both an M&V plan (pre-M&V) and an M&V report (post-M&V) for individual custom CIP projects with estimated annual savings greater than 1,000,000 kilowatt-hours (kWh) of electricity or 20,000 thousand cubic feet (MCF) of natural gas. The M&V plan must be delivered to Staff as soon as possible after baseline data collection is complete and before implementation of the measure(s).	Section 1: Compliance with Rules and Statutes
November 25, 2020 Decision	9a	Allowing the utilities to exceed annual budget, savings, and participation goals for all direct impact segments so long as the additional spending does not result in the segment becoming non-cost effective from the Societal perspective. Utilities are required to notify the Department via a Courtesy Notification of circumstances where the utility expects to exceed any segment goal by 25%.	N/A
November 25, 2020 Decision	9c	Requiring the utilities to email CIP Staff a Courtesy Notification summarizing any program changes that do not fall under the parameters of the formal plan modification process outlined in Minnesota Rules, and then work with Staff to determine whether it merits a formal modification.	Section 1: Compliance with Rules and Statutes
November 25, 2020 Decision	9d	Requiring the utilities to include in their annual status reports a description of all program modifications and changes not requiring Deputy Commissioner approval in order to keep the Department and other interested parties informed of their activities.	Section 1: Compliance with Rules and Statutes
April 29, 2021 Decision		The Deputy Commissioner requires that as part of the AENHC program Xcel track and include in its annual CIP Status Report the number of buildings and units built by each type of developer.	Section 2: CIP Status Report

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
April 29, 2021 Decision		Given the relative magnitude of the CIP-WDE program’s budget, the uniqueness of the program design, and the interest from stakeholders, the Deputy Commissioner requires that prior to the Company submitting its annual CIP Status Report, Xcel work with Staff to develop a template and system for reporting on the metrics listed in information request #12 that will be meaningful to the Department and interested parties, will be presented clearly, and will not compromise data privacy.	Attachment B
August 11, 2022 Department Decision	Empower Facilities Modification	Include in annual Status Reports: (1) A breakdown of participation by number of participants that (1) received only assessment and project proposals and (2) contracted for implementation services and/or ongoing support. (2) A list of non-CIP programs that benefited from the Empower Facilities program. (3) A summary of the fees reported in the CIP tracker as associated with the Empower Facilities program. (4) A summary of the total costs billed to customers for Empower Facilities and the percentage of these costs reported in the CIP Tracker.	Section 1: Compliance with Rules and Statutes
January 19 2023 – CIP Modification Decision	Dehumidification	Please work with Staff as the 2022 Status Report is prepared to ensure that the resources and savings reporting for dehumidifiers are reasonable and as accurate as possible and to describe the context and factors associated with this measure	Complete in 2022 Annual Status Report
January 19 2023 – CIP Modification Decision (CPP)		The Deputy Commissioner also requires Xcel to clearly report the amount of any M&V expenses and describe any M&V activities associated with the CPP Pilot program in the Market Research program section of its annual Status Report.	N/A – no customers in 2023
October 27, 2023 – CIP Modification Decision	PDP Modification	The Deputy Commissioner also requires the Company to consider customer behavior, especially how customers choose to drop load and adjust their energy usage, including switching to fossil based back up generation when it conducts any formal or informal research and evaluations on the pilot and report any findings in future Status Reports.	The PDP pilot is ongoing and currently does not have any additional details to report as part of our 2023 Annual Report.
December 31, 2023 Department Decision	4.e.	The Deputy Commissioner approves use the geographical proxy method for the School Kits program and accepts the Company’s proposal of reporting participating schools in the Company’s status report.	This will be added to the 2024 Status Report.
December 31, 2023	4.f.	The Deputy Commissioner also requires Xcel to report on (1) the number of schools by county and (2) the number of kits identified as income eligible for the School Kits program	This will be added to the 2024 Status Report

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
Department Decision		via the geographic proxy method in its status reports.	
December 31, 2023 Department Decision	4.g.	The Deputy Commissioner requires the Company to report in its Status Report potential solutions to waste generation from the School Kits program and directs Staff to work on technical assumptions and program design parameters for kit programs through the TRM Advisory Committee over the coming triennial period.	This will be added to the 2024 Status Report.
December 31, 2023 Department Decision	4.i.	The Deputy Commissioner requires Xcel to seek review from Staff of pilots and research the Company is planning to pursue via the Market Research program designed to improve its low-income portfolio either through a Courtesy Notification or a formal plan modification prior to commencement. The Deputy Commissioner also requires Xcel to report on these activities in its annual status reports.	This will be added to the 2024 Status Report.
December 31, 2023 Department Decision	4.j.	The Deputy Commissioner accepts Xcel's proposed format for providing a product level breakdown as part of the Residential Demand Response program write up in its status report and future plans. The Deputy Commissioner also accepts the correction noted by Xcel for this program.	This will be added to the 2024 Status Report.
December 31, 2023 Department Decision	4.k.	The Deputy Commissioner directs Xcel to include a report or evaluation demonstrating the methodology for claimed energy savings as part of Energy Action Days (or Behavioral Demand Response) and examples of customer messaging as part of its annual status report.	This will be added to the 2024 Status Report.
December 31, 2023 Department Decision	8.e.	Requiring the utilities to include in their annual status reports a description of all program modifications and changes not requiring Deputy Commissioner approval in order to keep the Department and other interested parties informed of their activities.	This will be added to the 2024 Status Report.
December 31, 2023 Department Decision	8.f.	Not requiring the Budget Flexibility and Plan Modification provisions when a utility falls short of achieving a budget, savings, or participation goal for a specific segment or program in a particular program year. However, as part of Staff's review of annual status reports, when an approved goal for a segment or program is no longer realistic compared to actual performance, the Deputy Commissioner may require a Plan modification, so that all interested parties can track and have reasonable expectations regarding ECO accomplishments.	This will be added to the 2024 Status Report.

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
<p>December 31, 2023 Department Decision</p>	<p>9.</p>	<p>Due to ongoing interest by the Department and interested parties in understanding utility investments to support low-income customers and under-resourced communities, the Deputy Commissioner requires that utilities clearly report the following metrics in their annual status reports:</p> <ul style="list-style-type: none"> a. the estimate of anticipated and actual low-income residential customer participation levels for each program as required in Minnesota Rules 7690.0550, b. the estimate of anticipated and actual residential rental customer participation levels for each program as required in Minnesota Rules 7690.0550, c. the planned and actual low-income spending and energy savings for each program, including dedicated low-income programs, as required in Minnesota Rules 7690.0550, d. for programs that make use of the LI Multifamily Policy Guidance, the anticipated and actual spending and energy savings achieved for the program, and from market-rate versus affordable housing participants, through the program, e. for programs that make use of the LI Multifamily Policy Guidance, the number of buildings and units served by market-rate versus affordable housing through the program, and f. for programs that make use of the LI Multifamily Policy Guidance, the cumulative number and amount of incentives by measure type for market-rate versus affordable housing delivered through the program (e.g., total number and total value of incentives for boilers installed in market-rate and in affordable housing buildings through a multifamily program). g. how the utility uses pre-weatherization funds (e.g., by geography, household income, and types of repairs), as well as program deferral rates and causes. <p>The Deputy Commissioner directs Staff to monitor the level of low-income program demand across the utilities’ portfolios as part of the annual ECO status reports and expects the Company to work to meet low-income customer program demand. If there is significantly greater demand from customers than was projected by the Company, the Deputy Commissioner can evaluate whether any adjustments are warranted.</p> <p>The Deputy Commissioner notes that items d-f do not apply to Xcel since it has redesigned its multifamily program into 2 separate programs, one for market rate properties and one for income eligible properties. The Deputy Commissioner does request that the Company continue to report the number of buildings and number of units served in multifamily programs in its annual status reports.</p>	<p>This will be added to the 2024 Status Report.</p>

Rules, Statute or Order	Subdivision or Order Point	Required Information	2023 Status Report Section
		<p>The Deputy Commissioner finds that indirect low-income programs can be counted toward the utilities' low-income spending requirement and that the 2024-2026 ECO triennium is to be used as a "trial run" to identify any unanticipated impacts on direct low-income programs. The Deputy Commissioner instructs all utilities implementing indirect low-income programs to provide a full summary of those programs in ECO annual status reports.</p> <p>The Deputy Commissioner instructs Staff to continue work with MN EEFA on "Phase II" and to establish an ongoing working group to address ECO issues specific to "under-resourced customers, multifamily housing properties, renters, and others currently underserved by energy efficiency programming in Minnesota.</p>	
December 31, 2023 Department Decision	11.d.	<p>The Deputy Commissioner reminds all utilities of the Measurement and Verification (M&V) Protocols for Large Custom Projects Version 1.</p> <p>M&V reports detailing any changes to the project, measured savings, and actual expenditures may be provided with annual status reports.</p>	This will be added to the 2024 Status Report.
December 31, 2023 Department Decision	13.	<p>For any 2024-2026 ECO regulatory filings (e.g., Triennial Plan modifications and annual ECO Status Reports) that the Company submits for Department review, the Deputy Commissioner requires the Company to follow the Department's issued technical guidance documents.</p>	This will be added to the 2024 Status Report.
December 31, 2023 Department Decision	3.	<p>The Deputy Commissioner requires the Company to include a narrative summary of its R&D activities and the corresponding dollar amounts for each R&D activity as part of the Company's annual Status Reports.</p>	This will be added to the 2024 Status Report.

Attachment B: CIP Workforce Development and Education Program (CIP-WDE)

Attachment B

CIP Workforce Development and Education Program (CIP-WDE)

CIP Workforce Development and Education Program (CIP-WDE)

The CIP-WDE creates numerous energy efficiency career pathways for unemployed and underemployed people living in historically underserved communities, Black, Indigenous, people of color, and women residing in Green Zones of Minneapolis and Areas of Concentrated Poverty (ACP) 50 zones of St. Paul. The CIP-WDE program is provided by Xcel Energy and administered by Center for Energy and Environment (CEE). It was an indirect, low-income program and is now a direct low-income CIP/ECO program.

Since its launch in 2022, nearly 100% of graduates have reported having a household income that is at or below 60% of the Area Median Income and 69% of internship graduates have gone on to be employed in the energy efficiency sector. As shown through these results, CIP-WDE is accomplishing its mission in training and employing individuals from historically underserved communities in the energy efficiency sector. All the while, CIP-WDE impacts income-qualified (IQ) customers and their communities by building a more robust workforce that represents the communities Xcel Energy serves.

CIP-WDE Program overview

During each cohort, participants receive four weeks of paid training, earning up to \$2,500 and receiving an industry-recognized credential in Building Science Principles (BSP). During training, participants learn the basics of building science, home energy audits, insulation, and air sealing, and receive installation training from experts. Along with weekly stipend payments (including one stipend paid a week after training ends), participants receive weekly transportation support in the form of bus or gas cards throughout the four-week training.

Participants learn about the theory and practice of home energy, including basic building science and the relationships between the building envelope, heating systems, cooling systems, air infiltration, insulation, mechanical ventilation, and other home systems. Over this past year, 39 participants have completed the training and 38 have earned the industry-recognized Building Science Principles (BSP) certification.

In addition to the certification, participants receive hands-on air sealing and insulation training, using props designed in accordance with BPI standards. Additional topics cover low- and no-cost energy solutions, job-site safety guidelines, basic math for home insulation, and workplace readiness. The high-level learning objectives of this course are:

- Understand the landscape of clean energy jobs
- Learn the value of home energy efficiency in peoples' lives
- Understand the "House as a System" concept
- Identify components of different home building types
- Understand the basics of thermodynamics applicable to home energy
- Recognize the benefits of air sealing and insulation
- Recognize the interaction between the building envelope and HVAC systems
- Understand the interaction between home tightness, ventilation, and combustion safety

- Be prepared for an internship in an entry-level insulation or energy auditing role
- Obtain the Building Science Principles Certificate of Knowledge by passing the exam

The combination of these topics provides a solid base in home energy efficiency for several clean energy career pathways, but particularly the internship pathways offered through the program's next phase.

Following the introductory four-week training, participants can continue their training through a paid 16-week internship position. The internships directly follow the Home Energy Career Training. Qualified trainees become temporary CEE staff and are paid an hourly wage of \$17.50 with some benefits, including paid time off. This program currently offers two internship pathways, including Home Insulation/Air Sealing and Energy Auditing. Trainees work alongside experienced practitioners to earn a nationally recognized BPI credential specific to each pathway. There are internship positions for roughly 30% of the participants who successfully complete the Home Energy Career Training.

As an extension of the introductory training, trainees in the home insulation and air sealing pathway spend time in the first few weeks practicing techniques on props designed to replicate real-world installations. Once placed with host partners, trainees spend four days per week completing projects on homes with trained crews throughout the Twin Cities. At the end of the internship, trainees can take the BPI Air Leakage Control Installer (ALCI) certification exam. All trainees who took the ALCI certification exam passed and received this credential.

Trainees in the Energy Auditing track receive hands-on experience installing low-cost, energy-saving products such as door weatherstripping, pipe insulation, lighting, and smart thermostats. Trainees are coached in effective communication skills related to home energy efficiency projects and learn basic diagnostic skills like blower door testing and combustion safety analysis by observing and performing audits on customer homes. At the end of the internship, trainees can take the BPI Building Analyst field and written exam to earn certification. All trainees who took the Building Analyst certification exam passed and received this credential as well.

During the first two weeks of the internship, trainees from both pathways train primarily with CEE on props and homes as part of CEE's program portfolio. For the following six to eight weeks, trainees are placed with CEE in the Home Energy Squad, partner employer weatherization agencies such as CAPRW and SRC, or insulation contractor companies such as Element Insulation or Franek Construction. This gives employers and trainees the opportunity to work side by side before hiring starts. It also gives trainees a glimpse into different workplace cultures and procedures. Once per week during these internships, participants meet with the training staff at CEE to recap what they learned that week and prepare to test for credentials. There is also ongoing training on career readiness topics such as writing effective resumes, best practices for interviewing, and conflict resolution.

For those participants not pursuing internships, we facilitate referrals to other clean energy training or related training programs. One such training program is the City of Minneapolis Health Department's Green Careers Program. This is a five-day training program that prepares participants to sit for the NABCEP Solar Associate exam. Graduates have also gone on to complete Xcel Energy's Energy Careers Academy Line Worker program. Participation in adjacent programs

following the initial training course is tracked for up to two years after they have graduated from the Home Energy Career Training program.

Employer Partners

CEE leverages relationships with employers to connect participants directly to insulation and energy auditor careers. This program provides ongoing opportunities for participants to meet with employer partners and build a bridge to employment. This is done in many ways, including guest speakers from employers and mock interviews, as well as direct placement for training with insulation companies and weatherization agencies. CEE partners with Low Income Weatherization agencies including Sustainable Resources Center (SRC) and Community Action Partnership of Ramsey and Washington Counties (CAPRW) to host trainees and provide opportunities for them to learn about the weatherization audit process. These companies advance trainees' knowledge to better understand the landscape of weatherization work, benefiting themselves and their staff in pursuing potential hires and enhancing the quality of work done in low-income homes. Throughout the 16-week internship, trainees spend over 500 hours working on homes and 100% of those visits are in low-income households.

Through continued conversations with employers, we have discovered that apart from facing issues with retaining and training new employees, contractors need more resources to address customers' questions regarding tax credits and rebates rolling out with the Inflation Reduction Act (IRA). Additionally, small contractor companies often rely on informal networks to enlist new crew members, often passing over candidates who may not have access to their networks. In 2023, CEE launched an employer advisory group for insulation contractors to connect and discuss concerns they have regarding IRA and retaining crew members, as well as to address recruitment strategies for attracting more diverse candidates and hiring those who have been impacted by the justice system. These conversations better equipped contractors with resources and led to a more productive and inclusive work environment for those entering the sector through the CIP-WDE program.

CIP-WDE Program Results

CIP-WDE sought to train participants in the communities where they reside. For this reason, CEE held our workforce training in Green Zone areas of Minneapolis and St. Paul that were highly accessible by public transportation and central to the communities. In 2023, cohorts were held at Sabathani Community Center. Sabathani Community Center is one of Minnesota's oldest African American founded nonprofits providing a wide range of community orientated, culturally tailored services in the heart of South Minneapolis. Due to the strategic location of Sabathani, two-thirds of participants reside in the Green Zones of Minneapolis or ACP50 Zones of St. Paul.

Participant Annual Household Income

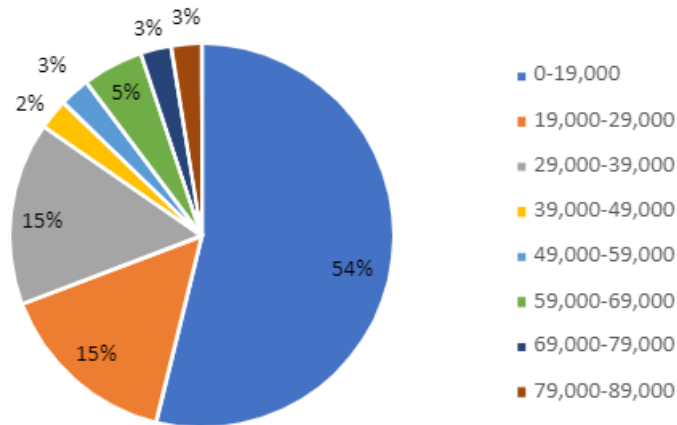


Figure 1. “What is your annual household income?” responses from graduates of Home Energy Career Training

In addition to many participants residing in the targeted locations, 92% identify as Black, Indigenous, or people of color. According to a report conducted by Clean Energy Economy MN in 2021, only 6.9% of clean energy workers identified as Black/African American and 1.4% identified as American Indian or Alaska Native. The ability to prioritize BIPOC communities through the CIP-WDE training has developed a much more diverse workforce that is representative of communities Xcel Energy serves.

In addition to the data already shared regarding the program meeting the targeted racial demographic and income goals, gender demographics have also been on track. Women have historically been underrepresented in the trades, specifically the energy efficiency sector, and continue to be grossly outnumbered by their male counterparts. As a result of our program, the women who have completed our paid internship and are employed in the sector have an average hourly wage of \$26 and earned BPI credentials, creating greater opportunity for promotions and pay increases. This success speaks to the need to continually invest in programs such as CIP-WDE to engage and retain all workers and meet market demands.

Overall, in 2023 we were able to increase the types of roles program participants were hired for within the energy efficiency sector. In 2022, those who completed the internship were only hired as energy auditors or energy counselors. In 2023, two trainees were offered employment directly out of the paid internship in weatherization and residential insulation as a carpenter apprentice and an insulation installer, respectively. Additionally, two trainees were hired by CAPRW as energy auditors for their weatherization assistance program working on income-qualified households throughout the Twin Cities.

After starting the paid internship, one trainee realized his skillset and passion was best applied to a role in outreach to diverse communities and building awareness about residential energy audits specifically in the Hmong community. This graduate was hired directly from the internship by CEE

as a Community Outreach Specialist. Additionally, other graduates have entered union pathways in construction. One graduate has gone on to Xcel Energy's Energy Careers Academy and is currently working toward a career as a line worker.

Another graduate had just graduated from high school and wasn't sure which career path was the right fit after completing the four-week paid training. Through our paid internship, they realized that residential insulation could be a great career given their skillset and interests. They were working on obtaining a driver's license and had faced challenges in scheduling the road test. With the funds from Xcel Energy and foundation funds, they were able to use Uber to get to and from jobsites while waiting to schedule a date to test.

Throughout the internship, they were committed to being on time and earning the Air Leakage Control Installer certification. This graduate was able to focus on their training, earning the ALCI BPI certification, and has been employed at \$25/hour since graduating from the internship in November 2023. Franek Construction, the insulation contractor who hired this graduate, couldn't be more grateful, saying, "We currently just hired a new full-time employee that worked with us through the workforce program, and we would have never had this great opportunity and working relationship with our new employee without this program. Thank you."

In addition to meeting the demographic targets for CIP-WDE, the program is also creating a workforce to better serve income-qualified customers and the communities in which they live. Responses from graduates of the CIP-WDE program have included the following.

- "I don't look at houses the same."
- "I can do much of what I learned in my own home."
- "I learned the proper way to reduce energy loss by properly conducting an audit and proper air sealing and insulation."
- "I learned about networking and being able to apply myself in the community."
- "I know how to save my family money and which companies to go to get insulation."

This increase in knowledge about energy saving measures and how to access quality insulation and weatherization services demonstrates that CIP-WDE is accomplishing what it set out to do in empowering communities that have been historically underrepresented and underserved.

Community-Based Partnerships

Initially, CEE sought out CAPI due to their expertise in culturally specific workforce development, social services, and recruitment of BIPOC communities for workforce training programs. From these initial conversations, it was clear that CAPI would be a strong partner in recruitment, as their clients could benefit from the credentialed training for energy efficiency careers. This dovetails with CAPI's work to get underemployed and unemployed BIPOC communities into jobs with self- and family-sustaining wages.

Once again, CAPI applied for funds made available through Minneapolis Employment & Training for Green Industry Pathways. This allowed CAPI to continue funding a full-time navigator for this program with additional funds allocated to CEE for training needs. This grant also allowed CAPI to allocate an additional \$100 per participant for support services to assist with transportation, technology, or fees related to childcare or housing.

In addition to our anchor partners like CAPI, we've added additional community partners to strengthen our retention and support following the training. Partnerships with Sabathani and Ujamaa Place, along with the City of Minneapolis, have been strengthened in the past year.

Ujamaa Place has provided critical career coaching and navigation support for seven participants who have been in cohorts this past year. Through their support, graduates not selected for the internship have been connected to other training and employment opportunities.

As the City of Minneapolis continues to expand their training opportunities in clean energy, CEE has become a clear partner. Apart from subleasing their Green Careers Exploration classroom at Sabathani to CEE for cohorts at no cost, Sabathani and the City's support has allowed us to focus our resources on support services and training equipment purchases. Additionally, with the City's Climate Legacy Initiative and involvement at the Regional Apprenticeship Training Center (RATC) in north Minneapolis, they have brought us into conversation with numerous other potential training partners. Near the end of 2023, plans evolved to strengthen our partnership by offering introductory building science/energy efficiency condensed one-to-two-day training sessions at the RATC to serve as recruitment for our program. Partnerships like these allow us to expand our reach within Green Zone areas of Minneapolis and more holistically support new entrants.

Barriers and Wraparound Services

Many program participants face multiple barriers to employment including issues related to transportation, workplace readiness, and housing. One of the most significant barriers to employment in this sector is transportation. For residential energy efficiency jobs, it is essential for workers to have access to reliable transportation, particularly their own vehicle and driver's license. Many residential insulation contractors' shops are in the outer metro region, making it difficult for those without a reliable form of transportation to get to and from work daily. A lack of reliable transportation, ownership of a driver's license, or ability fines to have a license reinstated are all reasons trainees may face challenges getting to and from a jobsite.

We pursued and received additional funding to address high transportation needs not fully anticipated in the original program design. This allowed us to retain trainees at a higher rate in the internship program, thus employing them more readily. We were able to provide funds for a vehicle for one graduate hired by an employer partner in residential insulation installation and two car repairs that allowed two trainees to remain employed and complete the internship. Additionally, we secured a reliable form of transportation for those without vehicles through a partnership with Uber to provide 174 rides, totaling nearly 3,000 miles that resulted in a higher retention rate throughout the paid internship in residential insulation. We also coordinated with CEE staff who schedule insulation jobs with contractors who host trainees to ensure that insulation jobs are scheduled in St. Paul or Minneapolis as often as possible. This has eased the strain on a trainee in coordinating public transportation or a ride to a job in an outer ring suburb.

Funding for wraparound services is mostly provided by the partner organizations, with a small portion available from the main Xcel Energy funding stream. This allows the program to heavily leverage existing workforce system resources to provide services while ensuring flexibility for additional needs not covered by existing funding. During both the four-week training and the internship, workforce partners provide participants with case management services to ensure they have what they need to participate each day: transportation, technology, adequate childcare, etc. They also provide training in workplace readiness to help participants present themselves to future employers and prepare for their next job.

Working side by side with CAPI and Ujamaa Place, we have been able to address some obstacles through financial coaching and transportation assistance. One participant regularly faced difficulties in attending the four-week Home Energy Career training due to the loss of a vehicle, and their commute to and from the training took over one and a half hours via the Twin Cities’ public transportation system. With CAPI, we provided them with additional funds to cover a diagnostic assessment for their car and provided access to Uber while their vehicle was repaired. As a result, we increased attendance, and this trainee completed the four-week training and successfully moved on to the auditor career pathway.

Conclusion

In summary, the CIP-WDE program has not only increased the number of low-income, BIPOC, and female workers in the energy efficiency sector, it has also equipped these graduates to bring their knowledge back to their communities, impacting the income-qualified households Xcel Energy serves. Programs like CIP-WDE will play a crucial role in meeting Xcel Energy’s ambitious goal to reduce greenhouse gas emissions 25% by 2030. This program sponsored by Xcel Energy and administered by CEE has been highly successful in equitably growing the energy efficiency workforce to expand services to low-income customers and communities in the Twin Cities metro.

Table 1: 2023 Participation Matrix

a	Number of persons employed when recruited for training	13
b	Number of persons unemployed when recruited for training	27
c	Number of trainees who are minorities (identify as BIPOC and/or Women)	37 27% women
d	Number of trainees who have requested ADA accommodations	0
e	Number of trainees who are economically disadvantaged (meeting 60% SMI as self-reported)	38
f	What is the number of people who have registered for the training vs. the number who come?	44 registered 39 attended
g	Number of trainees who have dropped out without completing training.	1
h	Number of trainees who have completed training.	39
i	Total number of trainees who have completed training	39
j	Information on trainees that have been placed in training-related jobs	See below
k	Employers where trainees have been placed, the occupation(s) of the trainee(s), their wage rates, and the number of placements to-date	See Below
l	Average wages and benefits for trainees that have completed the training program. (Sector or not)	\$21.00

Table 2: 2023 Trainees (Placed in Training Related Jobs)

	Employer	Occupation	Wages per hour	Benefits
Graduate 1	CEE	Energy Counselor	\$19.50	Offered
Graduate 2	CEE	Community Outreach Specialist	\$22.50	Offered
Graduate 3	CEE	Energy Auditor	\$21.75	Offered
Graduate 4	CAPRW	Carpenter Apprentice	\$25.00	Offered
Graduate 5	CAPRW	Energy Auditor II	\$27.96	Offered
Graduate 6	CAPRW	Energy Auditor II	\$27.96	Offered
Graduate 7	Franek Construction	Insulation Installer	\$25.00	Offered

Table 3: 2023 Trainees (Employment)

	Employer	Occupation	Wages per Hour	Benefits
Graduate 8	Consulting Company	General Laborer	\$29.17	Offered
Graduate 9	Circle K	Store Supervisor	\$18.00	Not Offered
Graduate 10	Minneapolis Public Schools	Childcare Assistant	\$18.00	Offered
Graduate 11	Minneapolis Public Schools	Enrichment and Literature Specialist	\$19.05	Offered
Graduate 12	St Paul Regional Water Services	Meter Reader	\$21.50	Offered
Graduate 13	Amazing Love Healthcare Service	Personal Care Assistant	\$19.00	Offered
Graduate 14*	Pho Restaurant	Waiter	\$13.41	Undisclosed
Graduate 15	Uber	Driver	\$17.00	Not Offered
Graduate 16	Self-employed, Construction	CEO	Undisclosed	Undisclosed
Graduate 17	Self-employed, Music	Artist	\$13.85	Not offered
Graduate 18	Undisclosed	Basketball Coach	\$22.00	Offered
Graduate 19	Undisclosed	Driver	\$29.00	Undisclosed
Graduate 20	Undisclosed	Peer Recovery Specialist	\$25.00	Offered

**Graduate 14 is enrolled in Xcel's Energy Career Academy Line Worker Program.*

Note: 13 graduates are unemployed, 1 is enrolled in the Ramsey County Green Construction Training, and we were not able to contact 5 graduates.

Major Curriculum Goals

The major curriculum goals for CIP-WDE include a) to learn the value of home energy efficiency, understanding the house as a system, and the foundations of building science b) to be prepared for an internship in Energy Auditing or Insulation Installation c) to apply career readiness skills to meet

professional goals, progress in a career, and secure long-term employment in the energy efficiency sector.

Curriculum Topics, including training provider(s) and delivery method

Curriculum topics include the thermodynamics of heat, air, and moisture flow; mechanical systems; home energy auditing; home insulation and air sealing; and career readiness, such as resume writing, best practices for interviewing, and workplace professionalism. The classroom training was provided by CEE Sr Building Science Trainer, Sage Berglund, and CEE Building Science Trainer, Anna Wiebe, both experienced and BPI certified energy auditors. The class included various guest speakers through daily lectures, hands on activities, and a curriculum specific textbook. Trainees receive on the job training at auditing and insulation employers.

What are major steps and milestones in the program? How many trainees in each step and milestone?

There are several steps and milestones within the program. The first step is completing the paid classroom training and obtaining the BSP certificate. 39 participants completed the training and 38 of the 39 earned the BSP certificate. The next major milestone is entering into the 16-week paid Internship. From the classroom training participants 14 were selected for the Internship, with 11 trainees completing the internship. 7 total trainees who completed are currently employed in the sector. All trainees have taken and passed the BPI certification exams Air Leakage Control Installer and Building Analyst Technician.

Using general categories, provide reasons that trainees did not complete the training when CEE is able to contact the trainee.

General categories for reasons why trainees did not complete the classroom training or the internship: a) Trainee was not ready to re-enter the workforce due to significant challenges related to housing and mental health b) Trainee was unable to commit to internship due to other employment c) Trainee did not want to pursue a career in insulation installation or energy auditing.

Types of certifications, degrees, or diplomas that the trainees are expected to obtain.

The Building Science Principles certificate is obtained through the Home Energy Career Training four-week program and is administered by the Building Performance Institute (BPI). Trainees are expected to obtain additional BPI credentials through the completion of the internship. Those in the Auditor internship track can earn the Building Analyst Technician (BA-T) certification and those in the Insulation route can earn the Air Leakage Control Installer (ALCI) certification.

Attachment C: Cost Effectiveness Analyses

Portfolio Total						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant	Utility	Rate	Total	Societal	Program "Inputs" per Customer kW and per Participant		
	Test	Test	Impact	Resource	Test			
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)			
Benefits						Program Summary and Totals		
Avoided Revenue Requirements						Program "Inputs" per Customer kW and per Participant		
Generation	N/A	\$108,957,370	\$108,957,370	\$108,957,370	\$126,616,599	Lifetime (Weighted on Generator kWh)	15.6 years	
T & D	N/A	\$14,652,577	\$14,652,577	\$14,652,577	\$17,457,352	T & D Loss Factor (Energy)	6.81%	
Marginal Energy	N/A	\$215,321,099	\$215,321,099	\$215,321,099	\$266,127,623	T & D Loss Factor (Demand)	8.54%	
Environmental Externality	N/A	N/A	N/A	N/A	\$35,597,017	Net coincident kW Saved at Generator	0.13 kW	
Subtotal	N/A	\$338,931,046	\$338,931,046	\$338,931,046	\$445,798,592	Gross Annual kWh Saved at Customer	286 kWh	
						Net Annual kWh Saved at Generator	305 kWh	
Participant Benefits						Program Summary and Totals		
Bill Reduction - Electric	\$1,027,956,341	N/A	N/A	N/A	N/A	Total Participants	2,125,045	
Rebates from Xcel Energy	\$52,220,744	N/A	N/A	\$52,220,744	\$52,220,744	Total Budget	\$119,161,699	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	277,281 kW	
Incremental O&M Savings	\$99,167,343	N/A	N/A	\$99,167,343	\$121,248,480	Gross Annual kWh Saved at Customer	608,566,469 kWh	
Subtotal	\$1,179,344,428	N/A	N/A	\$151,388,087	\$173,469,224	Net Annual kWh Saved at Generator	647,890,442 kWh	
Total Benefits	\$1,179,344,428	\$338,931,046	\$338,931,046	\$490,319,133	\$619,267,816	Utility Program Cost per kWh Lifetime	\$0.0118	
Costs						Utility Program Cost per kW at Gen		
Utility Project Costs								
Customer Services	N/A	\$4,732,961	\$4,732,961	\$4,732,961	\$4,732,961			
Project Administration	N/A	\$50,071,655	\$50,071,655	\$50,071,655	\$50,071,655			
Advertising & Promotion	N/A	\$9,239,189	\$9,239,189	\$9,239,189	\$9,239,189			
Measurement & Verification	N/A	\$2,247,653	\$2,247,653	\$2,247,653	\$2,247,653			
Rebates	N/A	\$52,220,744	\$52,220,744	\$52,220,744	\$52,220,744			
Other	N/A	\$649,498	\$649,498	\$649,498	\$649,498			
Subtotal	N/A	\$119,161,699	\$119,161,699	\$119,161,699	\$119,161,699			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$1,027,956,341	N/A	N/A			
Subtotal	N/A	N/A	\$1,027,956,341	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$160,294,444	N/A	N/A	\$160,294,444	\$159,812,418			
Incremental O&M Costs	\$6,085,682	N/A	N/A	\$6,085,682	\$7,395,830			
Subtotal	\$166,380,126	N/A	N/A	\$166,380,126	\$167,208,248			
Total Costs	\$166,380,126	\$119,161,699	\$1,147,118,041	\$285,541,825	\$286,369,947			
Net Benefit (Cost)	\$1,012,964,302	\$219,769,347	(\$808,186,994)	\$204,777,308	\$332,897,868			
Benefit/Cost Ratio	7.09	2.84	0.30	1.72	2.16			

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

Portfolio Total	2023					ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants							
	Participant	Utility	Rate	Total			
	Test	Test	Impact	Resource	Societal		
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Test	(\$Total)	
Benefits							
Avoided Revenue Requirements							
Generation	N/A	\$113,885,993	\$113,885,993	\$113,885,993	\$133,000,122		
T & D	N/A	\$17,175,040	\$17,175,040	\$17,175,040	\$20,293,419		
Marginal Energy	N/A	\$214,859,431	\$214,859,431	\$214,859,431	\$267,588,816		
Environmental Externality	N/A	N/A	N/A	N/A	\$35,304,208		
Subtotal	N/A	\$345,920,464	\$345,920,464	\$345,920,464	\$456,186,565		
Participant Benefits							
Bill Reduction - Electric	\$1,057,421,020	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$48,866,544	N/A	N/A	\$48,866,544	\$48,866,544		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$142,602,890	N/A	N/A	\$142,602,890	\$172,080,578		
Subtotal	\$1,248,890,453	N/A	N/A	\$191,469,433	\$220,947,122		
Total Benefits	\$1,248,890,453	\$345,920,464	\$345,920,464	\$537,389,897	\$677,133,687		
Costs							
Utility Project Costs							
Customer Services	N/A	\$2,446,901	\$2,446,901	\$2,446,901	\$2,446,901		
Project Administration	N/A	\$33,339,020	\$33,339,020	\$33,339,020	\$33,339,020		
Advertising & Promotion	N/A	\$6,050,556	\$6,050,556	\$6,050,556	\$6,050,556		
Measurement & Verification	N/A	\$1,351,095	\$1,351,095	\$1,351,095	\$1,351,095		
Rebates	N/A	\$48,866,544	\$48,866,544	\$48,866,544	\$48,866,544		
Other	N/A	\$4,714,530	\$4,714,530	\$4,714,530	\$4,714,530		
Subtotal	N/A	\$96,768,647	\$96,768,647	\$96,768,647	\$96,768,647		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$1,057,421,020	N/A	N/A		
Subtotal	N/A	N/A	\$1,057,421,020	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$140,199,775	N/A	N/A	\$140,199,775	\$140,199,775		
Incremental O&M Costs	\$2,615,094	N/A	N/A	\$2,615,094	\$3,208,723		
Subtotal	\$142,814,869	N/A	N/A	\$142,814,869	\$143,408,498		
Total Costs	\$142,814,869	\$96,768,647	\$1,154,189,667	\$239,583,516	\$240,177,145		
Net Benefit (Cost)	\$1,106,075,584	\$249,151,817	(\$808,269,203)	\$297,806,381	\$436,956,542		
Benefit/Cost Ratio	8.74	3.57	0.30	2.24	2.82		

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

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	16.3 years
T & D Loss Factor (Energy)	0.00%
T & D Loss Factor (Demand)	0.00%
Net coincident kW Saved at Generator	0.06 kW
Gross Annual kWh Saved at Customer	165 kWh
Net Annual kWh Saved at Generator	174 kWh

Program Summary and Participants

Total Participants	3,693,414
Total Budget	\$96,768,647
Net coincident kW Saved at Generator	228,830 kW
Gross Annual kWh Saved at Customer	607,841,963 kWh
Net Annual kWh Saved at Generator	644,129,597 kWh

Utility Program Cost per kWh Lifetime	\$0.0092
Utility Program Cost per kW at Gen	\$423

Company: **Xcel Energy**
 Project: **Portfolio Total**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$11,679,095
		Incentive Costs = \$10,708,855
		16) Total Utility Project Costs = \$22,387,951
		17) Direct Participant Costs (\$/Part.) = \$58
		18) Participant Non-Energy Costs (Annual \$/Part.) = \$0
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = \$58
		Escalation Rate = 2.30%
		20) Project Life (Years) = 13.8
		21) Avg. Dth/Part. Saved = 1.68
		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 = 623,027
		24) Total Annual Dth Saved = 1,048,613
		25) Incentive/Participant = \$17.19

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$36	Ratepayer Impact Measure Test	(\$47,484,623)	0.58
Cost per Participant per Dth =	\$55.61	Utility Cost Test	\$43,501,591	2.94
Lifetime Energy Reduction (Dth)	14,438,678	Societal Test	\$97,936,870	2.66
Societal Cost per Dth	\$4.07	Participant Test	\$98,186,123	3.73

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

ACTUAL

Company: **Xcel Energy**
Project: **Portfolio Total**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$9,232,866
		Incentive Costs = \$9,593,238
		16) Total Utility Project Costs = \$18,826,104
		17) Direct Participant Costs (\$/Part.) = 25
		18) Participant Non-Energy Costs (Annual \$/Part.) = 0
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = 88
		Escalation Rate = 2.30%
		20) Project Life (Years) = 16.2
		21) Avg. Dth/Part. Saved = 0.80
		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 = 1,254,744
		24) Total Annual Dth Saved = 1,000,440
		25) Incentive/Participant = \$7.65

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$15	Ratepayer Impact Measure Test	(\$42,319,982)	0.57
Cost per Participant per Dth =	\$50.45	Utility Cost Test	\$37,336,010	2.98
Lifetime Energy Reduction (Dth)	16,158,446	Societal Test	\$180,807,353	4.58
Societal Cost per Dth	\$3.12	Participant Test	\$165,718,161	6.24

Business Segment with Indirect Participants						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
						Program "Inputs" per Customer kW and per Participant		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Lifetime (Weighted on Generator kWh)	16.2	years
						T & D Loss Factor (Energy)	6.35%	
						T & D Loss Factor (Demand)	7.86%	
						Net coincident kW Saved at Generator	1.65	kW
						Gross Annual kWh Saved at Customer	3,843	kWh
						Net Annual kWh Saved at Generator	4,116	kWh
Benefits						Program Summary and Participants		
Avoided Revenue Requirements						Total Participants	104,009	
Generation	N/A	\$66,552,366	\$66,552,366	\$66,552,366	\$77,653,902	Total Budget	\$59,620,438	
T & D	N/A	\$9,920,578	\$9,920,578	\$9,920,578	\$11,855,212	Net coincident kW Saved at Generator	171,996	kW
Marginal Energy	N/A	\$149,884,916	\$149,884,916	\$149,884,916	\$184,995,188	Gross Annual kWh Saved at Customer	399,659,442	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$24,281,865	Net Annual kWh Saved at Generator	428,071,394	kWh
Subtotal	N/A	\$226,357,860	\$226,357,860	\$226,357,860	\$298,786,167	<hr/>		
Participant Benefits						Utility Program Cost per kWh Lifetime	\$0.0086	
Bill Reduction - Electric	\$634,880,765	N/A	N/A	N/A	N/A	Utility Program Cost per kW at Gen	\$347	
Rebates from Xcel Energy	\$35,366,845	N/A	N/A	\$35,366,845	\$35,366,845	<hr/>		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0			
Incremental O&M Savings	\$94,052,013	N/A	N/A	\$94,052,013	\$115,470,166			
Subtotal	\$764,299,623	N/A	N/A	\$129,418,858	\$150,837,011			
Total Benefits	\$764,299,623	\$226,357,860	\$226,357,860	\$355,776,717	\$449,623,178			
Costs								
Utility Project Costs								
Customer Services	N/A	\$3,815,476	\$3,815,476	\$3,815,476	\$3,815,476			
Project Administration	N/A	\$18,461,225	\$18,461,225	\$18,461,225	\$18,461,225			
Advertising & Promotion	N/A	\$948,562	\$948,562	\$948,562	\$948,562			
Measurement & Verification	N/A	\$1,028,330	\$1,028,330	\$1,028,330	\$1,028,330			
Rebates	N/A	\$35,366,845	\$35,366,845	\$35,366,845	\$35,366,845			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$59,620,438	\$59,620,438	\$59,620,438	\$59,620,438			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$634,880,765	N/A	N/A			
Subtotal	N/A	N/A	\$634,880,765	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$138,686,756	N/A	N/A	\$138,686,756	\$138,632,455			
Incremental O&M Costs	\$6,079,170	N/A	N/A	\$6,079,170	\$7,388,517			
Subtotal	\$144,765,926	N/A	N/A	\$144,765,926	\$146,020,972			
Total Costs	\$144,765,926	\$59,620,438	\$694,501,203	\$204,386,364	\$205,641,410			
Net Benefit (Cost)	\$619,533,697	\$166,737,422	(\$468,143,344)	\$151,390,353	\$243,981,768			
Benefit/Cost Ratio	5.28	3.80	0.33	1.74	2.19			

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

Business Segment with Indirect Participants						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	16.5	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	0.00%	
Generation	N/A	\$47,842,280	\$47,842,280	\$47,842,280	\$55,518,178	T & D Loss Factor (Demand)	0.00%	
T & D	N/A	\$8,572,812	\$8,572,812	\$8,572,812	\$9,972,728	Net coincident kW Saved at Generator	0.90	kW
Marginal Energy	N/A	\$95,507,276	\$95,507,276	\$95,507,276	\$118,034,485	Gross Annual kWh Saved at Customer	2,233	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$15,940,509	Net Annual kWh Saved at Generator	2,391	kWh
Subtotal	N/A	\$151,922,368	\$151,922,368	\$151,922,368	\$199,465,900			
Participant Benefits						Program Summary and Participants		
Bill Reduction - Electric	\$390,381,387	N/A	N/A	N/A	N/A	Total Participants	119,169	
Rebates from Xcel Energy	\$25,217,012	N/A	N/A	\$25,217,012	\$25,217,012	Total Budget	\$43,614,456	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	107,713 kW	
Incremental O&M Savings	\$125,227,715	N/A	N/A	\$125,227,715	\$152,451,130	Gross Annual kWh Saved at Customer	266,132,654	kWh
Subtotal	\$540,826,113	N/A	N/A	\$150,444,726	\$177,668,142	Net Annual kWh Saved at Generator	284,986,591 kWh	
Total Benefits	\$540,826,113	\$151,922,368	\$151,922,368	\$302,367,094	\$377,134,042	Utility Program Cost per kWh Lifetime	\$0.0093	
Costs						Utility Program Cost per kW at Gen	\$405	
Utility Project Costs								
Customer Services	N/A	\$884,623	\$884,623	\$884,623	\$884,623			
Project Administration	N/A	\$14,935,156	\$14,935,156	\$14,935,156	\$14,935,156			
Advertising & Promotion	N/A	\$955,672	\$955,672	\$955,672	\$955,672			
Measurement & Verification	N/A	\$440,717	\$440,717	\$440,717	\$440,717			
Rebates	N/A	\$25,217,012	\$25,217,012	\$25,217,012	\$25,217,012			
Other	N/A	\$1,181,276	\$1,181,276	\$1,181,276	\$1,181,276			
Subtotal	N/A	\$43,614,456	\$43,614,456	\$43,614,456	\$43,614,456			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$390,381,387	N/A	N/A			
Subtotal	N/A	N/A	\$390,381,387	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$111,513,882	N/A	N/A	\$111,513,882	\$111,513,882			
Incremental O&M Costs	\$2,611,019	N/A	N/A	\$2,611,019	\$3,204,120			
Subtotal	\$114,124,902	N/A	N/A	\$114,124,902	\$114,718,002			
Total Costs	\$114,124,902	\$43,614,456	\$433,995,842	\$157,739,357	\$158,332,458			
Net Benefit (Cost)	\$426,701,212	\$108,307,912	(\$282,073,474)	\$144,627,737	\$218,801,584			
Benefit/Cost Ratio	4.74	3.48	0.35	1.92	2.38			

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

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$2,795,722
Escalation Rate =	4.69%	Incentive Costs =	\$2,943,227
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$5,738,949
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$3,009
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$4
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$1,167
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	14.3
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	99.36
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	5,894
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	585,642
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$499.36
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$974	Ratepayer Impact Measure Test	(\$18,057,626)	0.68
Cost per Participant per Dth =	\$40.12	Utility Cost Test	\$32,779,714	6.71
Lifetime Energy Reduction (Dth)	8,361,730	Societal Test	\$51,347,406	3.18
Societal Cost per Dth	\$2.81	Participant Test	\$39,363,789	3.22

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

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$2,110,306
		Incentive Costs = \$1,726,238
		16) Total Utility Project Costs = \$3,836,544
		17) Direct Participant Costs (\$/Part.) = 1,015
		18) Participant Non-Energy Costs (Annual \$/Part.) = 7
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = 350
		Escalation Rate = 2.30%
		20) Project Life (Years) = 15.0
		21) Avg. Dth/Part. Saved = 37.83
		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 = 10,899
		24) Total Annual Dth Saved = 412,344
		25) Incentive/Participant = \$158.39

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$352	Ratepayer Impact Measure Test	(\$10,207,499)	0.66
Cost per Participant per Dth =	\$36.31	Utility Cost Test	\$16,066,703	5.19
Lifetime Energy Reduction (Dth)	6,174,118	Societal Test	\$24,421,983	2.63
Societal Cost per Dth	\$2.43	Participant Test	\$18,296,010	2.64

Business Segment EE and DR Total						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	16.2	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.55%	
Generation	N/A	\$66,552,366	\$66,552,366	\$66,552,366	\$77,653,902	T & D Loss Factor (Demand)	7.86%	
T & D	N/A	\$9,920,578	\$9,920,578	\$9,920,578	\$11,855,212	Net coincident kW Saved at Generator	4.78	kW
Marginal Energy	N/A	\$149,884,916	\$149,884,916	\$149,884,916	\$184,995,188	Gross Annual kWh Saved at Customer	11,099	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$24,281,865	Net Annual kWh Saved at Generator	11,888	kWh
Subtotal	N/A	\$226,357,860	\$226,357,860	\$226,357,860	\$298,786,167			
Participant Benefits						Program Summary and Participants		
Bill Reduction - Electric	\$634,880,765	N/A	N/A	N/A	N/A	Total Participants	36,009	
Rebates from Xcel Energy	\$35,366,845	N/A	N/A	\$35,366,845	\$35,366,845	Total Budget	\$59,244,262	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	171,996 kW	
Incremental O&M Savings	\$94,052,013	N/A	N/A	\$94,052,013	\$115,470,166	Gross Annual kWh Saved at Customer	399,659,442	kWh
Subtotal	\$764,299,623	N/A	N/A	\$129,418,858	\$150,837,011	Net Annual kWh Saved at Generator	428,071,394 kWh	
Total Benefits	\$764,299,623	\$226,357,860	\$226,357,860	\$355,776,717	\$449,623,178			
Costs						Utility Program Cost per kWh Lifetime		
Utility Project Costs						Utility Program Cost per kW at Gen	\$0.0085	
Customer Services	N/A	\$3,815,476	\$3,815,476	\$3,815,476	\$3,815,476		\$344	
Project Administration	N/A	\$18,207,049	\$18,207,049	\$18,207,049	\$18,207,049			
Advertising & Promotion	N/A	\$826,562	\$826,562	\$826,562	\$826,562			
Measurement & Verification	N/A	\$1,028,330	\$1,028,330	\$1,028,330	\$1,028,330			
Rebates	N/A	\$35,366,845	\$35,366,845	\$35,366,845	\$35,366,845			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$59,244,262	\$59,244,262	\$59,244,262	\$59,244,262			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$634,880,765	N/A	N/A			
Subtotal	N/A	N/A	\$634,880,765	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$138,686,756	N/A	N/A	\$138,686,756	\$138,632,455			
Incremental O&M Costs	\$6,079,170	N/A	N/A	\$6,079,170	\$7,388,517			
Subtotal	\$144,765,926	N/A	N/A	\$144,765,926	\$146,020,972			
Total Costs	\$144,765,926	\$59,244,262	\$694,125,027	\$204,010,188	\$205,265,234			
Net Benefit (Cost)	\$619,533,697	\$167,113,598	(\$467,767,168)	\$151,766,529	\$244,357,944			
Benefit/Cost Ratio	5.28	3.82	0.33	1.74	2.19			

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

Business Segment EE and DR Total						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	16.5	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	0.00%	
Generation	N/A	\$47,842,280	\$47,842,280	\$47,842,280	\$55,518,178	T & D Loss Factor (Demand)	0.00%	
T & D	N/A	\$8,572,812	\$8,572,812	\$8,572,812	\$9,972,728	Net coincident kW Saved at Generator	3.28	kW
Marginal Energy	N/A	\$95,507,276	\$95,507,276	\$95,507,276	\$118,034,485	Gross Annual kWh Saved at Customer	8,108	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$15,940,509	Net Annual kWh Saved at Generator	8,682	kWh
Subtotal	N/A	\$151,922,368	\$151,922,368	\$151,922,368	\$199,465,900			
Participant Benefits						Program Summary and Participants		
Bill Reduction - Electric	\$390,381,387	N/A	N/A	N/A	N/A	Total Participants	32,824	
Rebates from Xcel Energy	\$25,217,012	N/A	N/A	\$25,217,012	\$25,217,012	Total Budget	\$41,416,152	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	107,713 kW	
Incremental O&M Savings	\$125,227,715	N/A	N/A	\$125,227,715	\$152,451,130	Gross Annual kWh Saved at Customer	266,132,654	kWh
Subtotal	\$540,826,113	N/A	N/A	\$150,444,726	\$177,668,142	Net Annual kWh Saved at Generator	284,986,591 kWh	
Total Benefits	\$540,826,113	\$151,922,368	\$151,922,368	\$302,367,094	\$377,134,042			
Costs								
Utility Project Costs								
Customer Services	N/A	\$884,623	\$884,623	\$884,623	\$884,623			
Project Administration	N/A	\$12,876,284	\$12,876,284	\$12,876,284	\$12,876,284			
Advertising & Promotion	N/A	\$816,241	\$816,241	\$816,241	\$816,241			
Measurement & Verification	N/A	\$440,717	\$440,717	\$440,717	\$440,717			
Rebates	N/A	\$25,217,012	\$25,217,012	\$25,217,012	\$25,217,012			
Other	N/A	\$1,181,276	\$1,181,276	\$1,181,276	\$1,181,276			
Subtotal	N/A	\$41,416,152	\$41,416,152	\$41,416,152	\$41,416,152			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$390,381,387	N/A	N/A			
Subtotal	N/A	N/A	\$390,381,387	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$111,513,882	N/A	N/A	\$111,513,882	\$111,513,882			
Incremental O&M Costs	\$2,611,019	N/A	N/A	\$2,611,019	\$3,204,120			
Subtotal	\$114,124,902	N/A	N/A	\$114,124,902	\$114,718,002			
Total Costs	\$114,124,902	\$41,416,152	\$431,797,538	\$155,541,053	\$156,134,154			
Net Benefit (Cost)	\$426,701,212	\$110,506,216	(\$279,875,170)	\$146,826,041	\$220,999,888			
Benefit/Cost Ratio	4.74	3.67	0.35	1.94	2.42			

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

Company: **Xcel Energy**
 Project: **Business Segment EE and DR Total**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$2,736,654
Escalation Rate =	4.69%	Incentive Costs =	\$2,943,227
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$5,679,881
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$4,036
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$5
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$1,565
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	14.3
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	133.28
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	4,394
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	585,642
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$669.84
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$1,293	Ratepayer Impact Measure Test	(\$17,998,558)	0.68
Cost per Participant per Dth =	\$40.02	Utility Cost Test	\$32,838,782	6.78
Lifetime Energy Reduction (Dth)	8,361,730	Societal Test	\$51,406,474	3.19
Societal Cost per Dth	\$2.81	Participant Test	\$39,363,789	3.22

Company: **Xcel Energy**
 Project: **Business Segment EE and DR Total**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$1,807,862
Escalation Rate =	4.69%	Incentive Costs =	\$1,726,238
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$3,534,100
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	1,272
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	8
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	439
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	15.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	47.41
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	8,698
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	412,344
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$198.46
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$406	Ratepayer Impact Measure Test	(\$9,905,055)	0.67
Cost per Participant per Dth =	\$35.57	Utility Cost Test	\$16,369,147	5.63
Lifetime Energy Reduction (Dth)	6,174,118	Societal Test	\$24,724,427	2.68
Societal Cost per Dth	\$2.38	Participant Test	\$18,296,010	2.64

Business Energy Assessments						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	12.2	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$1,254,075	\$1,254,075	\$1,254,075	\$1,453,928	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$222,070	\$222,070	\$222,070	\$258,247	Net coincident kW Saved at Generator	5.92	kW
Marginal Energy	N/A	\$5,096,815	\$5,096,815	\$5,096,815	\$5,989,808	Gross Annual kWh Saved at Customer	56,976	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$825,263	Net Annual kWh Saved at Generator	61,034	kWh
Subtotal	N/A	\$6,572,960	\$6,572,960	\$6,572,960	\$8,527,246			
Participant Benefits						Program Summary and Participants		
Bill Reduction - Electric	\$21,015,133	N/A	N/A	N/A	N/A	Total Participants	323	
Rebates from Xcel Energy	\$1,351,794	N/A	N/A	\$1,351,794	\$1,351,794	Total Budget	\$2,379,473	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	1,912	kW
Incremental O&M Savings	\$231,803	N/A	N/A	\$231,803	\$265,782	Gross Annual kWh Saved at Customer	18,403,100	kWh
Subtotal	\$22,598,729	N/A	N/A	\$1,583,597	\$1,617,576	Net Annual kWh Saved at Generator	19,714,087	kWh
Total Benefits	\$22,598,729	\$6,572,960	\$6,572,960	\$8,156,557	\$10,144,823	Utility Program Cost per kWh Lifetime	\$0.0099	
Costs						Utility Program Cost per kW at Gen	\$1,245	
Utility Project Costs								
Customer Services	N/A	\$472,000	\$472,000	\$472,000	\$472,000			
Project Administration	N/A	\$535,679	\$535,679	\$535,679	\$535,679			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$20,000	\$20,000	\$20,000	\$20,000			
Rebates	N/A	\$1,351,794	\$1,351,794	\$1,351,794	\$1,351,794			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$2,379,473	\$2,379,473	\$2,379,473	\$2,379,473			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$21,015,133	N/A	N/A			
Subtotal	N/A	N/A	\$21,015,133	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$4,474,885	N/A	N/A	\$4,474,885	\$4,474,885			
Incremental O&M Costs	\$110,339	N/A	N/A	\$110,339	\$131,454			
Subtotal	\$4,585,224	N/A	N/A	\$4,585,224	\$4,606,312			
Total Costs	\$4,585,224	\$2,379,473	\$23,394,606	\$6,964,697	\$6,985,786			
Net Benefit (Cost)	\$18,013,506	\$4,193,487	(\$16,821,646)	\$1,191,860	\$3,159,037			
Benefit/Cost Ratio	4.93	2.76	0.28	1.17	1.45			

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

Business Energy Assessments						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	15.7	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$392,948	\$392,948	\$392,948	\$451,375	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$70,310	\$70,310	\$70,310	\$80,934	Net coincident kW Saved at Generator	15.67	kW
Marginal Energy	N/A	\$1,095,006	\$1,095,006	\$1,095,006	\$1,275,031	Gross Annual kWh Saved at Customer	107,566	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$180,121	Net Annual kWh Saved at Generator	115,229	kWh
Subtotal	N/A	\$1,558,263	\$1,558,263	\$1,558,263	\$1,987,462			
Participant Benefits						Program Summary and Participants		
Bill Reduction - Electric	\$4,443,157	N/A	N/A	N/A	N/A	Total Participants	41	
Rebates from Xcel Energy	\$559,421	N/A	N/A	\$559,421	\$559,421	Total Budget	\$1,880,314	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	642 kW	
Incremental O&M Savings	\$7,104,228	N/A	N/A	\$7,104,228	\$8,911,946	Gross Annual kWh Saved at Customer	4,410,206	kWh
Subtotal	\$12,106,806	N/A	N/A	\$7,663,649	\$9,471,367	Net Annual kWh Saved at Generator	4,724,377 kWh	
Total Benefits	\$12,106,806	\$1,558,263	\$1,558,263	\$9,221,913	\$11,458,829	Utility Program Cost per kWh Lifetime	\$0.0254	
Costs						Utility Program Cost per kW at Gen	\$2,927	
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$824,318	\$824,318	\$824,318	\$824,318			
Advertising & Promotion	N/A	\$36	\$36	\$36	\$36			
Measurement & Verification	N/A	\$0	\$0	\$0	\$0			
Rebates	N/A	\$559,421	\$559,421	\$559,421	\$559,421			
Other	N/A	\$496,540	\$496,540	\$496,540	\$496,540			
Subtotal	N/A	\$1,880,314	\$1,880,314	\$1,880,314	\$1,880,314			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$4,443,157	N/A	N/A			
Subtotal	N/A	N/A	\$4,443,157	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$3,011,465	N/A	N/A	\$3,011,465	\$3,011,465			
Incremental O&M Costs	\$8,371	N/A	N/A	\$8,371	\$10,354			
Subtotal	\$3,019,837	N/A	N/A	\$3,019,837	\$3,021,820			
Total Costs	\$3,019,837	\$1,880,314	\$6,323,471	\$4,900,151	\$4,902,134			
Net Benefit (Cost)	\$9,086,969	(\$322,051)	(\$4,765,208)	\$4,321,762	\$6,556,695			
Benefit/Cost Ratio	4.01	0.83	0.25	1.88	2.34			

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

Company: **Xcel Energy**
 Project: **Business Energy Assessments**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$196,922
Escalation Rate =	4.69%	Incentive Costs =	\$90,605
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$287,527
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$11,039
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$23,932
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	17.8
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	380.98
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	28
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	10,667
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$3,235.88
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$10,269	Ratepayer Impact Measure Test	(\$559,414)	0.60
Cost per Participant per Dth =	\$55.93	Utility Cost Test	\$561,865	2.95
Lifetime Energy Reduction (Dth)	189,576	Societal Test	\$1,826,278	4.06
Societal Cost per Dth	\$3.15	Participant Test	\$1,485,786	5.81

Company: **Xcel Energy**
 Project: **Business Energy Assessments**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$28,392
		Incentive Costs = \$33,166
		16) Total Utility Project Costs = \$61,557
		17) Direct Participant Costs (\$/Part.) = 2,731
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		20) Project Life (Years) = 16.5
		21) Avg. Dth/Part. Saved = 321.82
		22) Avg Non-Gas Fuel Units/Part. Saved = 0 kWh
		22a) Avg Additional Non-Gas Fuel Units/ Part. Used = 0 kWh
		23) Number of Participants = 6
		24) Total Annual Dth Saved = 1,931
		25) Incentive/Participant = \$5,527.59

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$10,260	Ratepayer Impact Measure Test	(\$97,381)	0.53
Cost per Participant per Dth =	\$40.37	Utility Cost Test	\$50,359	1.82
Lifetime Energy Reduction (Dth)	31,764	Societal Test	\$137,122	2.76
Societal Cost per Dth	\$2.45	Participant Test	\$155,676	10.50

Business New Construction						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	19.1	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$11,738,274	\$11,738,274	\$11,738,274	\$14,148,276	T & D Loss Factor (Demand)	8.07%	
T & D	N/A	\$2,108,739	\$2,108,739	\$2,108,739	\$2,549,269	Net coincident kW Saved at Generator	40.47	kW
Marginal Energy	N/A	\$21,531,605	\$21,531,605	\$21,531,605	\$27,231,934	Gross Annual kWh Saved at Customer	143,797	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$3,445,283	Net Annual kWh Saved at Generator	154,040	kWh
Subtotal	N/A	\$35,378,619	\$35,378,619	\$35,378,619	\$47,374,761			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$90,513,389	N/A	N/A	N/A	N/A	Total Participants	334	
Rebates from Xcel Energy	\$6,649,865	N/A	N/A	\$6,649,865	\$6,649,865	Total Budget	\$10,396,921	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	13,516 kW	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	48,028,060	kWh
Subtotal	\$97,163,254	N/A	N/A	\$6,649,865	\$6,649,865	Net Annual kWh Saved at Generator	51,449,521 kWh	
Total Benefits	\$97,163,254	\$35,378,619	\$35,378,619	\$42,028,484	\$54,024,626	Utility Program Cost per kWh Lifetime	\$0.0106	
Costs						Utility Program Cost per kW at Gen	\$769	
Utility Project Costs								
Customer Services	N/A	\$1,720,551	\$1,720,551	\$1,720,551	\$1,720,551			
Project Administration	N/A	\$1,382,555	\$1,382,555	\$1,382,555	\$1,382,555			
Advertising & Promotion	N/A	\$18,950	\$18,950	\$18,950	\$18,950			
Measurement & Verification	N/A	\$625,000	\$625,000	\$625,000	\$625,000			
Rebates	N/A	\$6,649,865	\$6,649,865	\$6,649,865	\$6,649,865			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$10,396,921	\$10,396,921	\$10,396,921	\$10,396,921			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$90,513,389	N/A	N/A			
Subtotal	N/A	N/A	\$90,513,389	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$27,246,376	N/A	N/A	\$27,246,376	\$27,207,993			
Incremental O&M Costs	\$326,210	N/A	N/A	\$326,210	\$406,173			
Subtotal	\$27,572,586	N/A	N/A	\$27,572,586	\$27,614,166			
Total Costs	\$27,572,586	\$10,396,921	\$100,910,310	\$37,969,507	\$38,011,087			
Net Benefit (Cost)	\$69,590,668	\$24,981,698	(\$65,531,691)	\$4,058,977	\$16,013,539			
Benefit/Cost Ratio	3.52	3.40	0.35	1.11	1.42			

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

Business New Construction						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	18.9	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$10,840,585	\$10,840,585	\$10,840,585	\$13,200,932	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$1,957,103	\$1,957,103	\$1,957,103	\$2,389,534	Net coincident kW Saved at Generator	67.08	kW
Marginal Energy	N/A	\$27,221,514	\$27,221,514	\$27,221,514	\$34,585,498	Gross Annual kWh Saved at Customer	339,510	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$4,308,393	Net Annual kWh Saved at Generator	363,696	kWh
Subtotal	N/A	\$40,019,202	\$40,019,202	\$40,019,202	\$54,484,357			
Participant Benefits								
Bill Reduction - Electric	\$99,115,710	N/A	N/A	N/A	N/A			
Rebates from Xcel Energy	\$6,798,390	N/A	N/A	\$6,798,390	\$6,798,390			
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0			
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$105,914,100	N/A	N/A	\$6,798,390	\$6,798,390			
Total Benefits	\$105,914,100	\$40,019,202	\$40,019,202	\$46,817,592	\$61,282,747			
Costs								
Utility Project Costs								
Customer Services	N/A	\$851,349	\$851,349	\$851,349	\$851,349			
Project Administration	N/A	\$1,066,509	\$1,066,509	\$1,066,509	\$1,066,509			
Advertising & Promotion	N/A	\$9,260	\$9,260	\$9,260	\$9,260			
Measurement & Verification	N/A	\$280,042	\$280,042	\$280,042	\$280,042			
Rebates	N/A	\$6,798,390	\$6,798,390	\$6,798,390	\$6,798,390			
Other	N/A	\$449,028	\$449,028	\$449,028	\$449,028			
Subtotal	N/A	\$9,454,578	\$9,454,578	\$9,454,578	\$9,454,578			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$99,115,710	N/A	N/A			
Subtotal	N/A	N/A	\$99,115,710	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$24,453,812	N/A	N/A	\$24,453,812	\$24,453,812			
Incremental O&M Costs	\$149,514	N/A	N/A	\$149,514	\$194,560			
Subtotal	\$24,603,326	N/A	N/A	\$24,603,326	\$24,648,372			
Total Costs	\$24,603,326	\$9,454,578	\$108,570,288	\$34,057,904	\$34,102,950			
Net Benefit (Cost)	\$81,310,774	\$30,564,624	(\$68,551,086)	\$12,759,688	\$27,179,797			
Benefit/Cost Ratio	4.30	4.23	0.37	1.37	1.80			

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

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$460,740
Escalation Rate =	4.69%	Incentive Costs =	\$432,139
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$892,879
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$37,873
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$47
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$0
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.7
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	494.66
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	177
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	87,555
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$2,441.46
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$5,045	Ratepayer Impact Measure Test	(\$3,355,107)	0.70
Cost per Participant per Dth =	\$86.86	Utility Cost Test	\$6,794,668	8.61
Lifetime Energy Reduction (Dth)	1,724,713	Societal Test	\$5,895,017	1.77
Societal Cost per Dth	\$4.42	Participant Test	\$3,009,667	1.45

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$492,704
Escalation Rate =	4.69%	Incentive Costs =	\$347,586
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$840,290
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	95,232
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	7,256
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.7
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	1,361.01
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	48
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	65,328
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$7,241.37
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$17,506	Ratepayer Impact Measure Test	(\$2,610,936)	0.68
Cost per Participant per Dth =	\$82.83	Utility Cost Test	\$4,691,316	6.58
Lifetime Energy Reduction (Dth)	1,288,650	Societal Test	\$4,689,174	1.87
Societal Cost per Dth	\$4.20	Participant Test	\$2,818,744	1.62

Commercial AC Control	2023					ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants							
	Participant Test	Utility Test	Rate Impact Test	Total Resource Test	Societal Test		
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)		
Benefits							
Avoided Revenue Requirements							
Generation	N/A	\$3,292,711	\$3,292,711	\$3,292,711	\$3,668,012		
T & D	N/A	\$0	\$0	\$0	\$0		
Marginal Energy	N/A	\$178,010	\$178,010	\$178,010	\$198,184		
Environmental Externality	N/A	N/A	N/A	N/A	\$24,691		
Subtotal	N/A	\$3,470,721	\$3,470,721	\$3,470,721	\$3,890,886		
Participant Benefits							
Bill Reduction - Electric	\$7,586,180	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$660,061	N/A	N/A	\$660,061	\$660,061		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$8,246,240	N/A	N/A	\$660,061	\$660,061		
Total Benefits	\$8,246,240	\$3,470,721	\$3,470,721	\$4,130,782	\$4,550,947		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$2,576,791	\$2,576,791	\$2,576,791	\$2,576,791		
Advertising & Promotion	N/A	\$200,000	\$200,000	\$200,000	\$200,000		
Measurement & Verification	N/A	\$200,000	\$200,000	\$200,000	\$200,000		
Rebates	N/A	\$660,061	\$660,061	\$660,061	\$660,061		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$3,636,851	\$3,636,851	\$3,636,851	\$3,636,851		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$7,586,180	N/A	N/A		
Subtotal	N/A	N/A	\$7,586,180	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$665,079	N/A	N/A	\$665,079	\$663,349		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$665,079	N/A	N/A	\$665,079	\$663,349		
Total Costs	\$665,079	\$3,636,851	\$11,223,031	\$4,301,930	\$4,300,200		
Net Benefit (Cost)	\$7,581,162	(\$166,130)	(\$7,752,310)	(\$171,148)	\$250,747		
Benefit/Cost Ratio	12.40	0.95	0.31	0.96	1.06		

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	9.8 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	1.19 kW
Gross Annual kWh Saved at Customer	124 kWh
Net Annual kWh Saved at Generator	133 kWh

Program Summary All Participants	
Total Participants	5,950
Total Budget	\$3,636,851
Net coincident kW Saved at Generator	7,079 kW
Gross Annual kWh Saved at Customer	738,395 kWh
Net Annual kWh Saved at Generator	790,996 kWh

Utility Program Cost per kWh Lifetime	\$0.4677
Utility Program Cost per kW at Gen	\$514

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

Commercial AC Control	2023					ELECTRIC	ACTUAL
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	\$1,792,738	\$1,792,738	\$1,792,738	\$2,001,349		
T & D	N/A	\$319,411	\$319,411	\$319,411	\$357,074		
Marginal Energy	N/A	\$15,289	\$15,289	\$15,289	\$16,981		
Environmental Externality	N/A	N/A	N/A	N/A	\$1,899		
Subtotal	N/A	\$2,127,437	\$2,127,437	\$2,127,437	\$2,377,302		
Participant Benefits							
Bill Reduction - Electric	\$73,366	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$75,550	N/A	N/A	\$75,550	\$75,550		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$148,916	N/A	N/A	\$75,550	\$75,550		
Total Benefits	\$148,916	\$2,127,437	\$2,127,437	\$2,202,987	\$2,452,852		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$1,340,155	\$1,340,155	\$1,340,155	\$1,340,155		
Advertising & Promotion	N/A	\$58,219	\$58,219	\$58,219	\$58,219		
Measurement & Verification	N/A	\$36,130	\$36,130	\$36,130	\$36,130		
Rebates	N/A	\$75,550	\$75,550	\$75,550	\$75,550		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$1,510,054	\$1,510,054	\$1,510,054	\$1,510,054		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$73,366	N/A	N/A		
Subtotal	N/A	N/A	\$73,366	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$446,143	N/A	N/A	\$446,143	\$446,143		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$446,143	N/A	N/A	\$446,143	\$446,143		
Total Costs	\$446,143	\$1,510,054	\$1,583,420	\$1,956,197	\$1,956,197		
Net Benefit (Cost)	(\$297,227)	\$617,383	\$544,017	\$246,790	\$496,655		
Benefit/Cost Ratio	0.33	1.41	1.34	1.13	1.25		

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

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	9.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	2.42 kW
Gross Annual kWh Saved at Customer	38 kWh
Net Annual kWh Saved at Generator	41 kWh

Program Summary All Participants	
Total Participants	1,560
Total Budget	\$1,510,054
Net coincident kW Saved at Generator	3,778 kW
Gross Annual kWh Saved at Customer	59,931 kWh
Net Annual kWh Saved at Generator	64,200 kWh

Utility Program Cost per kWh Lifetime	\$2.6191
Utility Program Cost per kW at Gen	\$400

Commercial Efficiency

2023 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	\$5,019,298	\$5,019,298	\$5,019,298	\$5,963,565
T & D	N/A	\$835,363	\$835,363	\$835,363	\$1,005,135
Marginal Energy	N/A	\$17,146,928	\$17,146,928	\$17,146,928	\$21,238,166
Environmental Externality	N/A	N/A	N/A	N/A	\$2,779,010
Subtotal	N/A	\$23,001,588	\$23,001,588	\$23,001,588	\$30,985,876
Participant Benefits					
Bill Reduction - Electric	\$71,902,744	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$3,355,595	N/A	N/A	\$3,355,595	\$3,355,595
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$1,032,143	N/A	N/A	\$1,032,143	\$1,260,979
Subtotal	\$76,290,482	N/A	N/A	\$4,387,738	\$4,616,575
Total Benefits	\$76,290,482	\$23,001,588	\$23,001,588	\$27,389,326	\$35,602,451
Costs					
Utility Project Costs					
Customer Services	N/A	\$354,950	\$354,950	\$354,950	\$354,950
Project Administration	N/A	\$731,595	\$731,595	\$731,595	\$731,595
Advertising & Promotion	N/A	\$25,000	\$25,000	\$25,000	\$25,000
Measurement & Verification	N/A	\$15,000	\$15,000	\$15,000	\$15,000
Rebates	N/A	\$3,355,595	\$3,355,595	\$3,355,595	\$3,355,595
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$4,482,140	\$4,482,140	\$4,482,140	\$4,482,140
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$71,902,744	N/A	N/A
Subtotal	N/A	N/A	\$71,902,744	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$13,738,129	N/A	N/A	\$13,738,129	\$13,734,721
Incremental O&M Costs	\$504,380	N/A	N/A	\$504,380	\$632,474
Subtotal	\$14,242,509	N/A	N/A	\$14,242,509	\$14,367,196
Total Costs	\$14,242,509	\$4,482,140	\$76,384,884	\$18,724,649	\$18,849,336
Net Benefit (Cost)	\$62,047,973	\$18,519,448	(\$53,383,296)	\$8,664,677	\$16,753,115
Benefit/Cost Ratio	5.36	5.13	0.30	1.46	1.89

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	16.6 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	14.19 kW
Gross Annual kWh Saved at Customer	83,128 kWh
Net Annual kWh Saved at Generator	89,050 kWh

Program Summary All Participants

Total Participants	537
Total Budget	\$4,482,140
Net coincident kW Saved at Generator	7,617 kW
Gross Annual kWh Saved at Customer	44,639,884 kWh
Net Annual kWh Saved at Generator	47,819,907 kWh

Utility Program Cost per kWh Lifetime	\$0.0056
Utility Program Cost per kW at Gen	\$588

Commercial Efficiency	2023					ELECTRIC	ACTUAL
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	\$3,137,314	\$3,137,314	\$3,137,314	\$3,674,950		
T & D	N/A	\$563,074	\$563,074	\$563,074	\$660,823		
Marginal Energy	N/A	\$10,554,835	\$10,554,835	\$10,554,835	\$12,915,783		
Environmental Externality	N/A	N/A	N/A	N/A	\$1,622,267		
Subtotal	N/A	\$14,255,224	\$14,255,224	\$14,255,224	\$18,873,822		
Participant Benefits							
Bill Reduction - Electric	\$49,513,728	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$2,478,224	N/A	N/A	\$2,478,224	\$2,478,224		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$206,036	N/A	N/A	\$206,036	\$248,692		
Subtotal	\$52,197,988	N/A	N/A	\$2,684,260	\$2,726,916		
Total Benefits	\$52,197,988	\$14,255,224	\$14,255,224	\$16,939,484	\$21,600,738		
Costs							
Utility Project Costs							
Customer Services	N/A	\$15,360	\$15,360	\$15,360	\$15,360		
Project Administration	N/A	\$1,051,616	\$1,051,616	\$1,051,616	\$1,051,616		
Advertising & Promotion	N/A	\$167	\$167	\$167	\$167		
Measurement & Verification	N/A	\$2,191	\$2,191	\$2,191	\$2,191		
Rebates	N/A	\$2,478,224	\$2,478,224	\$2,478,224	\$2,478,224		
Other	N/A	\$11,420	\$11,420	\$11,420	\$11,420		
Subtotal	N/A	\$3,558,979	\$3,558,979	\$3,558,979	\$3,558,979		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$49,513,728	N/A	N/A		
Subtotal	N/A	N/A	\$49,513,728	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$7,322,827	N/A	N/A	\$7,322,827	\$7,322,827		
Incremental O&M Costs	\$173,609	N/A	N/A	\$173,609	\$208,321		
Subtotal	\$7,496,436	N/A	N/A	\$7,496,436	\$7,531,148		
Total Costs	\$7,496,436	\$3,558,979	\$53,072,707	\$11,055,414	\$11,090,127		
Net Benefit (Cost)	\$44,701,553	\$10,696,245	(\$38,817,483)	\$5,884,070	\$10,510,612		
Benefit/Cost Ratio	6.96	4.01	0.27	1.53	1.95		

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	17.1 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	17.67 kW
Gross Annual kWh Saved at Customer	107,080 kWh
Net Annual kWh Saved at Generator	114,709 kWh

Program Summary All Participants	
Total Participants	307
Total Budget	\$3,558,979
Net coincident kW Saved at Generator	5,425 kW
Gross Annual kWh Saved at Customer	32,873,701 kWh
Net Annual kWh Saved at Generator	35,215,534 kWh
Utility Program Cost per kWh Lifetime	\$0.0059
Utility Program Cost per kW at Gen	\$656

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

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

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$190,056
		Incentive Costs = \$150,698
		16) Total Utility Project Costs = \$340,754
		17) Direct Participant Costs (\$/Part.) = \$15,423
		18) Participant Non-Energy Costs (Annual \$/Part.) = \$37
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = \$1,941
		Escalation Rate = 2.30%
		20) Project Life (Years) = 18.5
		21) Avg. Dth/Part. Saved = 607.74
		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 = 71
		24) Total Annual Dth Saved = 43,150
		25) Incentive/Participant = \$2,122.50

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$4,799	Ratepayer Impact Measure Test	(\$1,480,809)	0.71
Cost per Participant per Dth =	\$33.33	Utility Cost Test	\$3,220,848	10.45
Lifetime Energy Reduction (Dth)	796,976	Societal Test	\$4,910,733	4.41
Societal Cost per Dth	\$1.81	Participant Test	\$3,510,942	4.20

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$104,589
Escalation Rate =	4.69%	Incentive Costs =	\$84,779
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$189,368
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	11,591
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	1,429
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.2
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	491.08
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	85
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	41,741
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$997.40
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$2,228	Ratepayer Impact Measure Test	(\$581,327)	0.68
Cost per Participant per Dth =	\$28.14	Utility Cost Test	\$1,035,138	6.47
Lifetime Energy Reduction (Dth)	800,584	Societal Test	\$961,207	1.82
Societal Cost per Dth	\$1.47	Participant Test	\$172,175	1.17

Commercial Streamlined Assessment						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	19.3	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$2,128,607	\$2,128,607	\$2,128,607	\$2,580,661	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$382,881	\$382,881	\$382,881	\$465,541	Net coincident kW Saved at Generator	7.52	kW
Marginal Energy	N/A	\$5,206,932	\$5,206,932	\$5,206,932	\$6,602,565	Gross Annual kWh Saved at Customer	36,989	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$837,984	Net Annual kWh Saved at Generator	39,624	kWh
Subtotal	N/A	\$7,718,420	\$7,718,420	\$7,718,420	\$10,486,751			
Participant Benefits								
Bill Reduction - Electric	\$21,976,224	N/A	N/A	N/A	N/A			
Rebates from Xcel Energy	\$1,199,464	N/A	N/A	\$1,199,464	\$1,199,464			
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0			
Incremental O&M Savings	\$3,909	N/A	N/A	\$3,909	\$4,464			
Subtotal	\$23,179,597	N/A	N/A	\$1,203,373	\$1,203,927			
Total Benefits	\$23,179,597	\$7,718,420	\$7,718,420	\$8,921,793	\$11,690,678			
Costs								
Utility Project Costs								
Customer Services	N/A	\$350,000	\$350,000	\$350,000	\$350,000			
Project Administration	N/A	\$223,517	\$223,517	\$223,517	\$223,517			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$1,200	\$1,200	\$1,200	\$1,200			
Rebates	N/A	\$1,199,464	\$1,199,464	\$1,199,464	\$1,199,464			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$1,774,181	\$1,774,181	\$1,774,181	\$1,774,181			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$21,976,224	N/A	N/A			
Subtotal	N/A	N/A	\$21,976,224	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$3,740,560	N/A	N/A	\$3,740,560	\$3,740,560			
Incremental O&M Costs	\$666,202	N/A	N/A	\$666,202	\$835,949			
Subtotal	\$4,406,762	N/A	N/A	\$4,406,762	\$4,576,509			
Total Costs	\$4,406,762	\$1,774,181	\$23,750,405	\$6,180,943	\$6,350,690			
Net Benefit (Cost)	\$18,772,835	\$5,944,239	(\$16,031,985)	\$2,740,850	\$5,339,988			
Benefit/Cost Ratio	5.26	4.35	0.32	1.44	1.84			

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

Commercial Streamlined Assessment						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	18.0	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$2,262,719	\$2,262,719	\$2,262,719	\$2,669,763	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$406,541	\$406,541	\$406,541	\$480,699	Net coincident kW Saved at Generator	19.82	kW
Marginal Energy	N/A	\$4,598,547	\$4,598,547	\$4,598,547	\$5,585,639	Gross Annual kWh Saved at Customer	87,823	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$787,173	Net Annual kWh Saved at Generator	94,079	kWh
Subtotal	N/A	\$7,267,806	\$7,267,806	\$7,267,806	\$9,523,274			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$18,446,618	N/A	N/A	N/A	N/A	Total Participants	139	
Rebates from Xcel Energy	\$1,809,006	N/A	N/A	\$1,809,006	\$1,809,006	Total Budget	\$1,979,717	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	2,755	kW
Incremental O&M Savings	\$7,498,218	N/A	N/A	\$7,498,218	\$9,046,581	Gross Annual kWh Saved at Customer	12,207,338	kWh
Subtotal	\$27,753,842	N/A	N/A	\$9,307,223	\$10,855,587	Net Annual kWh Saved at Generator	13,076,956	kWh
Total Benefits	\$27,753,842	\$7,267,806	\$7,267,806	\$16,575,029	\$20,378,861			
Costs						Utility Program Cost per kWh Lifetime	\$0.0084	
Utility Project Costs						Utility Program Cost per kW at Gen	\$719	
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$165,310	\$165,310	\$165,310	\$165,310			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$2,450	\$2,450	\$2,450	\$2,450			
Rebates	N/A	\$1,809,006	\$1,809,006	\$1,809,006	\$1,809,006			
Other	N/A	\$2,952	\$2,952	\$2,952	\$2,952			
Subtotal	N/A	\$1,979,717	\$1,979,717	\$1,979,717	\$1,979,717			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$18,446,618	N/A	N/A			
Subtotal	N/A	N/A	\$18,446,618	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$5,794,338	N/A	N/A	\$5,794,338	\$5,794,338			
Incremental O&M Costs	\$155,685	N/A	N/A	\$155,685	\$186,396			
Subtotal	\$5,950,023	N/A	N/A	\$5,950,023	\$5,980,734			
Total Costs	\$5,950,023	\$1,979,717	\$20,426,335	\$7,929,740	\$7,960,451			
Net Benefit (Cost)	\$21,803,818	\$5,288,089	(\$13,158,529)	\$8,645,289	\$12,418,409			
Benefit/Cost Ratio	4.66	3.67	0.36	2.09	2.56			

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

Company: **Xcel Energy**
 Project: **Commercial Streamlined Assessment**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$92,956
		Incentive Costs = \$55,886
		16) Total Utility Project Costs = \$148,842
		17) Direct Participant Costs (\$/Part.) = \$3,898
		18) Participant Non-Energy Costs (Annual \$/Part.) = \$0
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = \$0
		Escalation Rate = 2.30%
		20) Project Life (Years) = 17.7
		21) Avg. Dth/Part. Saved = 229.03
		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 = 40
		24) Total Annual Dth Saved = 9,161
		25) Incentive/Participant = \$1,397.14

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$3,721	Ratepayer Impact Measure Test	(\$381,465)	0.66
Cost per Participant per Dth =	\$33.27	Utility Cost Test	\$577,888	4.88
Lifetime Energy Reduction (Dth)	162,049	Societal Test	\$968,570	4.18
Societal Cost per Dth	\$1.88	Participant Test	\$786,013	6.04

Company: **Xcel Energy**
 Project: **Commercial Streamlined Assessment**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$39,164
		Incentive Costs = \$58,342
		16) Total Utility Project Costs = \$97,506
		17) Direct Participant Costs (\$/Part.) = 6,788
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = 601
		Escalation Rate = 2.30%
		20) Project Life (Years) = 18.0
		21) Avg. Dth/Part. Saved = 646.51
		22) Avg Non-Gas Fuel Units/Part. Saved = 0 kWh
		22a) Avg Additional Non-Gas Fuel Units/ Part. Used = 0 kWh
		23) Number of Participants = 12
		24) Total Annual Dth Saved = 7,758
		25) Incentive/Participant = \$4,861.81

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$8,126	Ratepayer Impact Measure Test	(\$210,539)	0.63
Cost per Participant per Dth =	\$23.07	Utility Cost Test	\$255,614	3.62
Lifetime Energy Reduction (Dth)	139,957	Societal Test	\$475,000	3.65
Societal Cost per Dth	\$1.28	Participant Test	\$417,005	6.12

Compressed Air Efficiency						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	12.7	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$1,197,805	\$1,197,805	\$1,197,805	\$1,413,456	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$210,152	\$210,152	\$210,152	\$249,558	Net coincident kW Saved at Generator	7.12	kW
Marginal Energy	N/A	\$3,241,718	\$3,241,718	\$3,241,718	\$3,959,490	Gross Annual kWh Saved at Customer	37,986	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$564,358	Net Annual kWh Saved at Generator	40,692	kWh
Subtotal	N/A	\$4,649,675	\$4,649,675	\$4,649,675	\$6,186,862	Program Summary All Participants		
Participant Benefits						Total Participants	302	
Bill Reduction - Electric	\$13,154,045	N/A	N/A	N/A	N/A	Total Budget	\$1,467,044	
Rebates from Xcel Energy	\$1,064,068	N/A	N/A	\$1,064,068	\$1,064,068	Net coincident kW Saved at Generator	2,150	kW
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	11,471,630	kWh
Incremental O&M Savings	\$86,148	N/A	N/A	\$86,148	\$101,794	Net Annual kWh Saved at Generator	12,288,838	kWh
Subtotal	\$14,304,262	N/A	N/A	\$1,150,217	\$1,165,863	Utility Program Cost per kWh Lifetime	\$0.0094	
Total Benefits						Utility Program Cost per kW at Gen	\$682	
Costs								
Utility Project Costs								
Customer Services	N/A	\$2,100	\$2,100	\$2,100	\$2,100			
Project Administration	N/A	\$355,501	\$355,501	\$355,501	\$355,501			
Advertising & Promotion	N/A	\$27,225	\$27,225	\$27,225	\$27,225			
Measurement & Verification	N/A	\$18,150	\$18,150	\$18,150	\$18,150			
Rebates	N/A	\$1,064,068	\$1,064,068	\$1,064,068	\$1,064,068			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$1,467,044	\$1,467,044	\$1,467,044	\$1,467,044			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$13,154,045	N/A	N/A			
Subtotal	N/A	N/A	\$13,154,045	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$2,330,641	N/A	N/A	\$2,330,641	\$2,330,641			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$2,330,641	N/A	N/A	\$2,330,641	\$2,330,641			
Total Costs								
	\$2,330,641	\$1,467,044	\$14,621,089	\$3,797,685	\$3,797,685			
Net Benefit (Cost)	\$11,973,621	\$3,182,630	(\$9,971,414)	\$2,002,206	\$3,555,040			
Benefit/Cost Ratio	6.14	3.17	0.32	1.53	1.94			

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

Compressed Air Efficiency						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	19.2	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$499,821	\$499,821	\$499,821	\$600,683	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$90,046	\$90,046	\$90,046	\$108,514	Net coincident kW Saved at Generator	8.40	kW
Marginal Energy	N/A	\$1,226,985	\$1,226,985	\$1,226,985	\$1,508,465	Gross Annual kWh Saved at Customer	51,481	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$237,356	Net Annual kWh Saved at Generator	55,148	kWh
Subtotal	N/A	\$1,816,852	\$1,816,852	\$1,816,852	\$2,455,018			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$5,304,373	N/A	N/A	N/A	N/A	Total Participants	77	
Rebates from Xcel Energy	\$402,964	N/A	N/A	\$402,964	\$402,964	Total Budget	\$698,543	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	647 kW	
Incremental O&M Savings	\$4,532	N/A	N/A	\$4,532	\$5,400	Gross Annual kWh Saved at Customer	3,964,013	kWh
Subtotal	\$5,711,869	N/A	N/A	\$407,496	\$408,364	Net Annual kWh Saved at Generator	4,246,399 kWh	
Total Benefits	\$5,711,869	\$1,816,852	\$1,816,852	\$2,224,348	\$2,863,382	Utility Program Cost per kWh Lifetime	\$0.0086	
Costs						Utility Program Cost per kW at Gen	\$1,080	
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$270,610	\$270,610	\$270,610	\$270,610			
Advertising & Promotion	N/A	\$3	\$3	\$3	\$3			
Measurement & Verification	N/A	\$7,350	\$7,350	\$7,350	\$7,350			
Rebates	N/A	\$402,964	\$402,964	\$402,964	\$402,964			
Other	N/A	\$17,617	\$17,617	\$17,617	\$17,617			
Subtotal	N/A	\$698,543	\$698,543	\$698,543	\$698,543			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$5,304,373	N/A	N/A			
Subtotal	N/A	N/A	\$5,304,373	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$1,190,075	N/A	N/A	\$1,190,075	\$1,190,075			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$1,190,075	N/A	N/A	\$1,190,075	\$1,190,075			
Total Costs	\$1,190,075	\$698,543	\$6,002,916	\$1,888,618	\$1,888,618			
Net Benefit (Cost)	\$4,521,794	\$1,118,309	(\$4,186,064)	\$335,730	\$974,764			
Benefit/Cost Ratio	4.80	2.60	0.30	1.18	1.52			

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

Custom Efficiency	2023 ELECTRIC					GOAL
2023 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	\$597,083	\$597,083	\$597,083	\$714,547	
T & D	N/A	\$107,511	\$107,511	\$107,511	\$128,938	
Marginal Energy	N/A	\$1,898,935	\$1,898,935	\$1,898,935	\$2,352,252	
Environmental Externality	N/A	N/A	N/A	N/A	\$303,949	
Subtotal	N/A	\$2,603,529	\$2,603,529	\$2,603,529	\$3,499,687	
Participant Benefits						
Bill Reduction - Electric	\$8,018,421	N/A	N/A	N/A	N/A	
Rebates from Xcel Energy	\$376,695	N/A	N/A	\$376,695	\$376,695	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$28,477,662	N/A	N/A	\$28,477,662	\$35,005,578	
Subtotal	\$36,872,779	N/A	N/A	\$28,854,357	\$35,382,273	
Total Benefits	\$36,872,779	\$2,603,529	\$2,603,529	\$31,457,887	\$38,881,960	
Costs						
Utility Project Costs						
Customer Services	N/A	\$0	\$0	\$0	\$0	
Project Administration	N/A	\$617,753	\$617,753	\$617,753	\$617,753	
Advertising & Promotion	N/A	\$60	\$60	\$60	\$60	
Measurement & Verification	N/A	\$10,000	\$10,000	\$10,000	\$10,000	
Rebates	N/A	\$376,695	\$376,695	\$376,695	\$376,695	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$1,004,508	\$1,004,508	\$1,004,508	\$1,004,508	
Utility Revenue Reduction						
Revenue Reduction - Electric	N/A	N/A	\$8,018,421	N/A	N/A	
Subtotal	N/A	N/A	\$8,018,421	N/A	N/A	
Participant Costs						
Incremental Capital Costs	\$8,041,001	N/A	N/A	\$8,041,001	\$8,041,001	
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$8,041,001	N/A	N/A	\$8,041,001	\$8,041,001	
Total Costs	\$8,041,001	\$1,004,508	\$9,022,930	\$9,045,509	\$9,045,509	
Net Benefit (Cost)	\$28,831,778	\$1,599,021	(\$6,419,401)	\$22,412,377	\$29,836,451	
Benefit/Cost Ratio	4.59	2.59	0.29	3.48	4.30	

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

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	18.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	22.71 kW
Gross Annual kWh Saved at Customer	151,008 kWh
Net Annual kWh Saved at Generator	161,765 kWh

Program Summary All Participants	
Total Participants	30
Total Budget	\$1,004,508
Net coincident kW Saved at Generator	681 kW
Gross Annual kWh Saved at Customer	4,530,230 kWh
Net Annual kWh Saved at Generator	4,852,951 kWh

Utility Program Cost per kWh Lifetime	\$0.0115
Utility Program Cost per kW at Gen	\$1,474

Custom Efficiency					
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	\$504,164	\$504,164	\$504,164	\$601,748
T & D	N/A	\$90,742	\$90,742	\$90,742	\$108,549
Marginal Energy	N/A	\$1,520,602	\$1,520,602	\$1,520,602	\$1,831,680
Environmental Externality	N/A	N/A	N/A	N/A	\$278,744
Subtotal	N/A	\$2,115,508	\$2,115,508	\$2,115,508	\$2,820,721
Participant Benefits					
Bill Reduction - Electric	\$7,083,996	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$279,975	N/A	N/A	\$279,975	\$279,975
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$5,831,933	N/A	N/A	\$5,831,933	\$7,319,418
Subtotal	\$13,195,905	N/A	N/A	\$6,111,908	\$7,599,393
Total Benefits	\$13,195,905	\$2,115,508	\$2,115,508	\$8,227,417	\$10,420,113
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$379,910	\$379,910	\$379,910	\$379,910
Advertising & Promotion	N/A	\$20,824	\$20,824	\$20,824	\$20,824
Measurement & Verification	N/A	\$2,409	\$2,409	\$2,409	\$2,409
Rebates	N/A	\$279,975	\$279,975	\$279,975	\$279,975
Other	N/A	\$4,854	\$4,854	\$4,854	\$4,854
Subtotal	N/A	\$687,971	\$687,971	\$687,971	\$687,971
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$7,083,996	N/A	N/A
Subtotal	N/A	N/A	\$7,083,996	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$3,284,738	N/A	N/A	\$3,284,738	\$3,284,738
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$3,284,738	N/A	N/A	\$3,284,738	\$3,284,738
Total Costs	\$3,284,738	\$687,971	\$7,771,968	\$3,972,709	\$3,972,709
Net Benefit (Cost)	\$9,911,167	\$1,427,537	(\$5,656,459)	\$4,254,707	\$6,447,404
Benefit/Cost Ratio	4.02	3.07	0.27	2.07	2.62

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

2023 ELECTRIC ACTUAL	
Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	18.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	49.25 kW
Gross Annual kWh Saved at Customer	366,690 kWh
Net Annual kWh Saved at Generator	392,812 kWh
Program Summary All Participants	
Total Participants	12
Total Budget	\$687,971
Net coincident kW Saved at Generator	591 kW
Gross Annual kWh Saved at Customer	4,400,280 kWh
Net Annual kWh Saved at Generator	4,713,744 kWh
Utility Program Cost per kWh Lifetime	\$0.0081
Utility Program Cost per kW at Gen	\$1,164

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

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$54,465
Escalation Rate =	4.69%	Incentive Costs =	\$92,596
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$147,061
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$67,178
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$187,264
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	2,198.37
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	7
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	15,389
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$13,228.05
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$21,009	Ratepayer Impact Measure Test	(\$565,223)	0.70
Cost per Participant per Dth =	\$40.11	Utility Cost Test	\$1,159,300	8.88
Lifetime Energy Reduction (Dth)	292,384	Societal Test	\$3,459,632	6.60
Societal Cost per Dth	\$2.11	Participant Test	\$2,516,956	6.35

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

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$59,195
Escalation Rate =	4.69%	Incentive Costs =	\$44,469
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$103,664
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	62,154
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	-
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	4,446.90
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	2
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	8,894
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$22,234.50
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$51,832	Ratepayer Impact Measure Test	(\$357,289)	0.69
Cost per Participant per Dth =	\$25.63	Utility Cost Test	\$688,674	7.64
Lifetime Energy Reduction (Dth)	168,982	Societal Test	\$1,168,198	6.12
Societal Cost per Dth	\$1.35	Participant Test	\$876,378	8.05

Data Center Efficiency

2023 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	\$307,756	\$307,756	\$307,756	\$364,276
T & D	N/A	\$52,211	\$52,211	\$52,211	\$62,529
Marginal Energy	N/A	\$2,524,289	\$2,524,289	\$2,524,289	\$3,169,669
Environmental Externality	N/A	N/A	N/A	N/A	\$417,525
Subtotal	N/A	\$2,884,256	\$2,884,256	\$2,884,256	\$4,013,999
Participant Benefits					
Bill Reduction - Electric	\$10,465,157	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$333,048	N/A	N/A	\$333,048	\$333,048
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$737,589	N/A	N/A	\$737,589	\$875,684
Subtotal	\$11,535,794	N/A	N/A	\$1,070,638	\$1,208,733
Total Benefits	\$11,535,794	\$2,884,256	\$2,884,256	\$3,954,894	\$5,222,732
Costs					
Utility Project Costs					
Customer Services	N/A	\$200	\$200	\$200	\$200
Project Administration	N/A	\$121,527	\$121,527	\$121,527	\$121,527
Advertising & Promotion	N/A	\$21,000	\$21,000	\$21,000	\$21,000
Measurement & Verification	N/A	\$3,000	\$3,000	\$3,000	\$3,000
Rebates	N/A	\$333,048	\$333,048	\$333,048	\$333,048
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$478,775	\$478,775	\$478,775	\$478,775
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$10,465,157	N/A	N/A
Subtotal	N/A	N/A	\$10,465,157	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$2,521,152	N/A	N/A	\$2,521,152	\$2,521,152
Incremental O&M Costs	\$3,995	N/A	N/A	\$3,995	\$5,012
Subtotal	\$2,525,147	N/A	N/A	\$2,525,147	\$2,526,165
Total Costs	\$2,525,147	\$478,775	\$10,943,932	\$3,003,922	\$3,004,940
Net Benefit (Cost)	\$9,010,647	\$2,405,481	(\$8,059,676)	\$950,971	\$2,217,792
Benefit/Cost Ratio	4.57	6.02	0.26	1.32	1.74

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	18.6 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	14.10 kW
Gross Annual kWh Saved at Customer	135,506 kWh
Net Annual kWh Saved at Generator	145,159 kWh

Program Summary All

Participants

Total Participants	44
Total Budget	\$478,775
Net coincident kW Saved at Generator	620 kW
Gross Annual kWh Saved at Customer	5,962,254 kWh
Net Annual kWh Saved at Generator	6,386,988 kWh

Utility Program Cost per kWh Lifetime	\$0.0040
Utility Program Cost per kW at Gen	\$772

Data Center Efficiency						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh) 15.1 years		
Avoided Revenue Requirements						T & D Loss Factor (Energy) 6.65%		
Generation	N/A	\$330,442	\$330,442	\$330,442	\$384,535	T & D Loss Factor (Demand) 8.06%		
T & D	N/A	\$59,251	\$59,251	\$59,251	\$69,056	Net coincident kW Saved at Generator 22.61 kW		
Marginal Energy	N/A	\$1,443,608	\$1,443,608	\$1,443,608	\$1,721,074	Gross Annual kWh Saved at Customer 231,127 kWh		
Environmental Externality	N/A	N/A	N/A	N/A	\$246,348	Net Annual kWh Saved at Generator 247,592 kWh		
Subtotal	N/A	\$1,833,300	\$1,833,300	\$1,833,300	\$2,421,012			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$5,978,894	N/A	N/A	N/A	N/A	Total Participants 19		
Rebates from Xcel Energy	\$170,287	N/A	N/A	\$170,287	\$170,287	Total Budget \$267,139		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator 430 kW		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer 4,391,418 kWh		
Subtotal	\$6,149,181	N/A	N/A	\$170,287	\$170,287	Net Annual kWh Saved at Generator 4,704,251 kWh		
Total Benefits	\$6,149,181	\$1,833,300	\$1,833,300	\$2,003,587	\$2,591,299			
Costs						Utility Program Cost per kWh Lifetime \$0.0037		
Utility Project Costs						Utility Program Cost per kW at Gen \$622		
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$87,296	\$87,296	\$87,296	\$87,296			
Advertising & Promotion	N/A	\$50	\$50	\$50	\$50			
Measurement & Verification	N/A	\$1,960	\$1,960	\$1,960	\$1,960			
Rebates	N/A	\$170,287	\$170,287	\$170,287	\$170,287			
Other	N/A	\$7,546	\$7,546	\$7,546	\$7,546			
Subtotal	N/A	\$267,139	\$267,139	\$267,139	\$267,139			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$5,978,894	N/A	N/A			
Subtotal	N/A	N/A	\$5,978,894	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$420,106	N/A	N/A	\$420,106	\$420,106			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$420,106	N/A	N/A	\$420,106	\$420,106			
Total Costs	\$420,106	\$267,139	\$6,246,033	\$687,245	\$687,245			
Net Benefit (Cost)	\$5,729,075	\$1,566,161	(\$4,412,733)	\$1,316,342	\$1,904,054			
Benefit/Cost Ratio	14.64	6.86	0.29	2.92	3.77			

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

Efficiency Controls	2023					ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant	
Benefits						Lifetime (Weighted on Generator kWh)	15.0 years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%
Generation	N/A	\$129,309	\$129,309	\$129,309	\$147,284	T & D Loss Factor (Demand)	8.06%
T & D	N/A	\$19,536	\$19,536	\$19,536	\$22,722	Net coincident kW Saved at Generator	6.80 kW
Marginal Energy	N/A	\$3,148,972	\$3,148,972	\$3,148,972	\$3,746,725	Gross Annual kWh Saved at Customer	157,256 kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$550,508	Net Annual kWh Saved at Generator	168,458 kWh
Subtotal	N/A	\$3,297,817	\$3,297,817	\$3,297,817	\$4,467,239		
Participant Benefits						Program Summary All Participants	
Bill Reduction - Electric	\$12,965,615	N/A	N/A	N/A	N/A	Total Participants	63
Rebates from Xcel Energy	\$494,432	N/A	N/A	\$494,432	\$494,432	Total Budget	\$762,302
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	429 kW
Incremental O&M Savings	\$1,040,932	N/A	N/A	\$1,040,932	\$1,240,133	Gross Annual kWh Saved at Customer	9,907,109 kWh
Subtotal	\$14,500,979	N/A	N/A	\$1,535,364	\$1,734,565	Net Annual kWh Saved at Generator	10,612,865 kWh
Total Benefits	\$14,500,979	\$3,297,817	\$3,297,817	\$4,833,182	\$6,201,804	Utility Program Cost per kWh Lifetime	\$0.0048
Costs						Utility Program Cost per kW at Gen	\$1,779
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$262,870	\$262,870	\$262,870	\$262,870		
Advertising & Promotion	N/A	\$5,000	\$5,000	\$5,000	\$5,000		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0		
Rebates	N/A	\$494,432	\$494,432	\$494,432	\$494,432		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$762,302	\$762,302	\$762,302	\$762,302		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$12,965,615	N/A	N/A		
Subtotal	N/A	N/A	\$12,965,615	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$3,033,615	N/A	N/A	\$3,033,615	\$3,033,615		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$3,033,615	N/A	N/A	\$3,033,615	\$3,033,615		
Total Costs	\$3,033,615	\$762,302	\$13,727,917	\$3,795,918	\$3,795,918		
Net Benefit (Cost)	\$11,467,364	\$2,535,515	(\$10,430,100)	\$1,037,264	\$2,405,887		
Benefit/Cost Ratio	4.78	4.33	0.24	1.27	1.63		

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

Efficiency Controls						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	15.0 years	
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$41,199	\$41,199	\$41,199	\$46,746	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$7,359	\$7,359	\$7,359	\$8,362	Net coincident kW Saved at Generator	3.86 kW	
Marginal Energy	N/A	\$390,218	\$390,218	\$390,218	\$458,064	Gross Annual kWh Saved at Customer	73,455 kWh	
Environmental Externality	N/A	N/A	N/A	N/A	\$72,454	Net Annual kWh Saved at Generator	78,688 kWh	
Subtotal	N/A	\$438,776	\$438,776	\$438,776	\$585,625			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$1,654,743	N/A	N/A	N/A	N/A	Total Participants	19	
Rebates from Xcel Energy	\$126,700	N/A	N/A	\$126,700	\$126,700	Total Budget	\$304,511	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	73 kW	
Incremental O&M Savings	\$60,113	N/A	N/A	\$60,113	\$71,825	Gross Annual kWh Saved at Customer	1,395,641 kWh	
Subtotal	\$1,841,556	N/A	N/A	\$186,813	\$198,525	Net Annual kWh Saved at Generator	1,495,063 kWh	
Total Benefits	\$1,841,556	\$438,776	\$438,776	\$625,589	\$784,150			
Costs						Utility Program Cost per kWh Lifetime \$0.0136		
						Utility Program Cost per kW at Gen \$4,147		
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$172,476	\$172,476	\$172,476	\$172,476			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$3,256	\$3,256	\$3,256	\$3,256			
Rebates	N/A	\$126,700	\$126,700	\$126,700	\$126,700			
Other	N/A	\$2,079	\$2,079	\$2,079	\$2,079			
Subtotal	N/A	\$304,511	\$304,511	\$304,511	\$304,511			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$1,654,743	N/A	N/A			
Subtotal	N/A	N/A	\$1,654,743	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$439,833	N/A	N/A	\$439,833	\$439,833			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$439,833	N/A	N/A	\$439,833	\$439,833			
Total Costs	\$439,833	\$304,511	\$1,959,254	\$744,344	\$744,344			
Net Benefit (Cost)	\$1,401,723	\$134,266	(\$1,520,477)	(\$118,755)	\$39,806			
Benefit/Cost Ratio	4.19	1.44	0.22	0.84	1.05			

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

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

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$9,443
Escalation Rate =	4.69%	Incentive Costs =	\$72,098
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$81,541
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$47,312
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$13,684
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	15.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	801.09
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	18
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	14,420
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$4,005.47
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$4,530	Ratepayer Impact Measure Test	(\$394,668)	0.71
Cost per Participant per Dth =	\$64.71	Utility Cost Test	\$896,685	12.00
Lifetime Energy Reduction (Dth)	216,295	Societal Test	\$1,055,929	2.13
Societal Cost per Dth	\$4.31	Participant Test	\$674,789	1.79

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

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$22,034
		Incentive Costs = \$23,877
		16) Total Utility Project Costs = \$45,911
		17) Direct Participant Costs (\$/Part.) = 18,496
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = 5,257
		Escalation Rate = 2.30%
		20) Project Life (Years) = 15.0
		21) Avg. Dth/Part. Saved = 1,591.90
		22) Avg Non-Gas Fuel Units/Part. Saved = 0 kWh
		22a) Avg Additional Non-Gas Fuel Units/ Part. Used = 0 kWh
		23) Number of Participants = 3
		24) Total Annual Dth Saved = 4,776
		25) Incentive/Participant = \$7,959.00

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$15,304	Ratepayer Impact Measure Test	(\$149,616)	0.68
Cost per Participant per Dth =	\$21.23	Utility Cost Test	\$278,071	7.06
Lifetime Energy Reduction (Dth)	71,636	Societal Test	\$473,263	5.67
Societal Cost per Dth	\$1.42	Participant Test	\$384,235	7.92

Electric Rate Savings	2023					ELECTRIC	GOAL
2023 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	\$1,910,240	\$1,910,240	\$1,910,240	\$1,996,837		
T & D	N/A	\$0	\$0	\$0	\$0		
Marginal Energy	N/A	\$1,769	\$1,769	\$1,769	\$1,862		
Environmental Externality	N/A	N/A	N/A	N/A	\$260		
Subtotal	N/A	\$1,912,009	\$1,912,009	\$1,912,009	\$1,998,959		
Participant Benefits							
Bill Reduction - Electric	\$8,766	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	\$8,766	N/A	N/A	\$0	\$0		
Total Benefits	\$8,766	\$1,912,009	\$1,912,009	\$1,912,009	\$1,998,959		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$580,087	\$580,087	\$580,087	\$580,087		
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	\$580,087	\$580,087	\$580,087	\$580,087		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$8,766	N/A	N/A		
Subtotal	N/A	N/A	\$8,766	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	\$580,087	\$588,853	\$580,087	\$580,087		
Net Benefit (Cost)	\$8,766	\$1,331,922	\$1,323,156	\$1,331,922	\$1,418,872		
Benefit/Cost Ratio	INF	3.30	3.25	3.30	3.45		

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	5.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	178.69 kW
Gross Annual kWh Saved at Customer	329 kWh
Net Annual kWh Saved at Generator	352 kWh

Program Summary All Participants	
Total Participants	36
Total Budget	\$580,087
Net coincident kW Saved at Generator	6,433 kW
Gross Annual kWh Saved at Customer	11,844 kWh
Net Annual kWh Saved at Generator	12,688 kWh

Utility Program Cost per kWh Lifetime	\$9.1441
Utility Program Cost per kW at Gen	\$90

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

Electric Rate Savings	2023					ELECTRIC	ACTUAL
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	\$8,058,385	\$8,058,385	\$8,058,385	\$8,423,698		
T & D	N/A	\$1,421,953	\$1,421,953	\$1,421,953	\$1,486,645		
Marginal Energy	N/A	\$6,765	\$6,765	\$6,765	\$7,140		
Environmental Externality	N/A	N/A	N/A	N/A	\$1,095		
Subtotal	N/A	\$9,487,103	\$9,487,103	\$9,487,103	\$9,918,577		
Participant Benefits							
Bill Reduction - Electric	\$33,708	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	\$33,708	N/A	N/A	\$0	\$0		
Total Benefits	\$33,708	\$9,487,103	\$9,487,103	\$9,487,103	\$9,918,577		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$511,478	\$511,478	\$511,478	\$511,478		
Advertising & Promotion	N/A	\$49,653	\$49,653	\$49,653	\$49,653		
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	\$561,131	\$561,131	\$561,131	\$561,131		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$33,708	N/A	N/A		
Subtotal	N/A	N/A	\$33,708	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	\$561,131	\$594,839	\$561,131	\$561,131		
Net Benefit (Cost)	\$33,708	\$8,925,971	\$8,892,264	\$8,925,971	\$9,357,446		
Benefit/Cost Ratio	INF	16.91	15.95	16.91	17.68		

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	5.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	158.57 kW
Gross Annual kWh Saved at Customer	222 kWh
Net Annual kWh Saved at Generator	238 kWh

Program Summary All Participants	
Total Participants	225
Total Budget	\$561,131
Net coincident kW Saved at Generator	35,678 kW
Gross Annual kWh Saved at Customer	49,897 kWh
Net Annual kWh Saved at Generator	53,452 kWh

Utility Program Cost per kWh Lifetime	\$2.0996
Utility Program Cost per kW at Gen	\$16

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

Energy Information Systems
2023
ELECTRIC
GOAL
2023 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	\$399,728	\$399,728	\$399,728	\$469,773
T & D	N/A	\$71,776	\$71,776	\$71,776	\$84,520
Marginal Energy	N/A	\$1,293,857	\$1,293,857	\$1,293,857	\$1,552,248
Environmental Externality	N/A	N/A	N/A	N/A	\$218,418
Subtotal	N/A	\$1,765,360	\$1,765,360	\$1,765,360	\$2,324,959
Participant Benefits					
Bill Reduction - Electric	\$5,344,105	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$265,283	N/A	N/A	\$265,283	\$265,283
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$31,545	N/A	N/A	\$31,545	\$36,250
Subtotal	\$5,640,932	N/A	N/A	\$296,828	\$301,532
Total Benefits	\$5,640,932	\$1,765,360	\$1,765,360	\$2,062,188	\$2,626,492
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$541,694	\$541,694	\$541,694	\$541,694
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$12,100	\$12,100	\$12,100	\$12,100
Rebates	N/A	\$265,283	\$265,283	\$265,283	\$265,283
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$819,077	\$819,077	\$819,077	\$819,077
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$5,344,105	N/A	N/A
Subtotal	N/A	N/A	\$5,344,105	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$688,693	N/A	N/A	\$688,693	\$686,267
Incremental O&M Costs	\$37,119	N/A	N/A	\$37,119	\$46,577
Subtotal	\$725,812	N/A	N/A	\$725,812	\$732,844
Total Costs	\$725,812	\$819,077	\$6,163,181	\$1,544,889	\$1,551,921
Net Benefit (Cost)	\$4,915,120	\$946,284	(\$4,397,821)	\$517,299	\$1,074,571
Benefit/Cost Ratio	7.77	2.16	0.29	1.33	1.69

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

Input Summary and Totals
Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	12.7 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	12.83 kW
Gross Annual kWh Saved at Customer	110,296 kWh
Net Annual kWh Saved at Generator	118,153 kWh

Program Summary All
Participants

Total Participants	42
Total Budget	\$819,077
Net coincident kW Saved at Generator	539 kW
Gross Annual kWh Saved at Customer	4,632,423 kWh
Net Annual kWh Saved at Generator	4,962,424 kWh

Utility Program Cost per kWh Lifetime	\$0.0130
Utility Program Cost per kW at Gen	\$1,520

Energy Information Systems

2023

ELECTRIC

ACTUAL

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	\$166,088	\$166,088	\$166,088	\$190,239
T & D	N/A	\$29,706	\$29,706	\$29,706	\$34,087
Marginal Energy	N/A	\$896,884	\$896,884	\$896,884	\$1,009,750
Environmental Externality	N/A	N/A	N/A	N/A	\$154,855
Subtotal	N/A	\$1,092,678	\$1,092,678	\$1,092,678	\$1,388,932
Participant Benefits					
Bill Reduction - Electric	\$4,294,383	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$113,897	N/A	N/A	\$113,897	\$113,897
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$231,614	N/A	N/A	\$231,614	\$253,267
Subtotal	\$4,639,894	N/A	N/A	\$345,511	\$367,164
Total Benefits	\$4,639,894	\$1,092,678	\$1,092,678	\$1,438,189	\$1,756,096
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$259,211	\$259,211	\$259,211	\$259,211
Advertising & Promotion	N/A	\$3	\$3	\$3	\$3
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$113,897	\$113,897	\$113,897	\$113,897
Other	N/A	\$4,332	\$4,332	\$4,332	\$4,332
Subtotal	N/A	\$377,443	\$377,443	\$377,443	\$377,443
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$4,294,383	N/A	N/A
Subtotal	N/A	N/A	\$4,294,383	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$378,287	N/A	N/A	\$378,287	\$378,287
Incremental O&M Costs	\$2,854	N/A	N/A	\$2,854	\$3,309
Subtotal	\$381,141	N/A	N/A	\$381,141	\$381,595
Total Costs	\$381,141	\$377,443	\$4,671,825	\$758,583	\$759,038
Net Benefit (Cost)	\$4,258,753	\$715,236	(\$3,579,147)	\$679,606	\$997,058
Benefit/Cost Ratio	12.17	2.89	0.23	1.90	2.31

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

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	16.7 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	7.81 kW
Gross Annual kWh Saved at Customer	136,530 kWh
Net Annual kWh Saved at Generator	146,256 kWh

Program Summary All Participants

Total Participants	37
Total Budget	\$377,443
Net coincident kW Saved at Generator	289 kW
Gross Annual kWh Saved at Customer	5,051,601 kWh
Net Annual kWh Saved at Generator	5,411,463 kWh
Utility Program Cost per kWh Lifetime	\$0.0042
Utility Program Cost per kW at Gen	\$1,307

Company: **Xcel Energy**
 Project: **Energy Information Systems**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$31,682
Escalation Rate =	4.69%	Incentive Costs =	\$9,677
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$41,359
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$6,654
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$251
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	8.7
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	969.41
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	6
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	5,816
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$1,612.79
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$6,893	Ratepayer Impact Measure Test	(\$58,676)	0.80
Cost per Participant per Dth =	\$13.97	Utility Cost Test	\$188,320	5.55
Lifetime Energy Reduction (Dth)	50,587	Societal Test	\$302,596	4.70
Societal Cost per Dth	\$1.62	Participant Test	\$201,174	6.04

Company: **Xcel Energy**
 Project: **Energy Information Systems**

Input Data	2023
1) Retail Rate (\$/Dth) =	\$5.43
Escalation Rate =	4.69%
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000
Escalation Rate =	4.69%
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh
3) Commodity Cost (\$/Dth) =	\$3.25
Escalation Rate =	4.69%
4) Demand Cost (\$/Unit/Yr) =	\$82.36
Escalation Rate =	4.69%
5) Peak Reduction Factor =	1.00%
6) Variable O&M (\$/Dth) =	\$0.0411
Escalation Rate =	4.69%
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000
Escalation Rate =	3.59%
8) Non-Gas Fuel Loss Factor	0.00%
9) Gas Environmental Damage Factor =	\$2.0700
Escalation Rate =	2.30%
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000
Escalation Rate =	2.30%
11) Participant Discount Rate =	6.38%
12) MN CIP Utility Discount Rate =	5.34%
13) Societal Discount Rate =	3.02%
14) General Input Data Year =	2020
15a) Project Analysis Year 1 =	2021
15b) Project Analysis Year 2 =	2022
15c) Project Analysis Year 3 =	2023
	Administrative & Operating Costs = \$7,285
	Incentive Costs = \$0
	16) Total Utility Project Costs = \$7,285
	17) Direct Participant Costs (\$/Part.) = 52
	18) Participant Non-Energy Costs (Annual \$/Part.) = -
	Escalation Rate = 2.30%
	19) Participant Non-Energy Savings (Annual \$/Part.) = 15,698
	Escalation Rate = 2.30%
	20) Project Life (Years) = 15.0
	21) Avg. Dth/Part. Saved = 651.20
	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 = 1
	24) Total Annual Dth Saved = 651
	25) Incentive/Participant = \$0.00

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$7,285	Ratepayer Impact Measure Test	(\$14,047)	0.60
Cost per Participant per Dth =	\$11.27	Utility Cost Test	\$13,842	2.90
Lifetime Energy Reduction (Dth)	9,768	Societal Test	\$42,956	6.85
Societal Cost per Dth	\$0.75	Participant Test	\$42,737	822.87

Foodservice Equipment

2023 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	\$83,011	\$83,011	\$83,011	\$99,398
T & D	N/A	\$14,395	\$14,395	\$14,395	\$17,312
Marginal Energy	N/A	\$230,214	\$230,214	\$230,214	\$286,639
Environmental Externality	N/A	N/A	N/A	N/A	\$39,327
Subtotal	N/A	\$327,619	\$327,619	\$327,619	\$442,676
Participant Benefits					
Bill Reduction - Electric	\$941,838	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$21,765	N/A	N/A	\$21,765	\$21,765
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$61,456	N/A	N/A	\$61,456	\$72,477
Subtotal	\$1,025,059	N/A	N/A	\$83,220	\$94,242
Total Benefits	\$1,025,059	\$327,619	\$327,619	\$410,839	\$536,918
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$23,655	\$23,655	\$23,655	\$23,655
Advertising & Promotion	N/A	\$12,520	\$12,520	\$12,520	\$12,520
Measurement & Verification	N/A	\$2,880	\$2,880	\$2,880	\$2,880
Rebates	N/A	\$21,765	\$21,765	\$21,765	\$21,765
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$60,820	\$60,820	\$60,820	\$60,820
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$941,838	N/A	N/A
Subtotal	N/A	N/A	\$941,838	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$101,059	N/A	N/A	\$101,059	\$92,981
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$101,059	N/A	N/A	\$101,059	\$92,981
Total Costs	\$101,059	\$60,820	\$1,002,658	\$161,879	\$153,801
Net Benefit (Cost)	\$923,999	\$266,799	(\$675,039)	\$248,960	\$383,117
Benefit/Cost Ratio	10.14	5.39	0.33	2.54	3.49

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	17.7 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	1.32 kW
Gross Annual kWh Saved at Customer	8,046 kWh
Net Annual kWh Saved at Generator	8,619 kWh

Program Summary All

Participants

Total Participants	74
Total Budget	\$60,820
Net coincident kW Saved at Generator	98 kW
Gross Annual kWh Saved at Customer	595,426 kWh
Net Annual kWh Saved at Generator	637,843 kWh

Utility Program Cost per kWh Lifetime	\$0.0054
Utility Program Cost per kW at Gen	\$624

Foodservice Equipment						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	17.1	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$19,445	\$19,445	\$19,445	\$23,018	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$3,495	\$3,495	\$3,495	\$4,147	Net coincident kW Saved at Generator	1.93	kW
Marginal Energy	N/A	\$51,570	\$51,570	\$51,570	\$63,322	Gross Annual kWh Saved at Customer	12,575	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$9,182	Net Annual kWh Saved at Generator	13,471	kWh
Subtotal	N/A	\$74,510	\$74,510	\$74,510	\$99,669	Program Summary All Participants		
Participant Benefits						Total Participants	13	
Bill Reduction - Electric	\$201,065	N/A	N/A	N/A	N/A	Total Budget	\$40,740	
Rebates from Xcel Energy	\$6,975	N/A	N/A	\$6,975	\$6,975	Net coincident kW Saved at Generator	25	kW
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	163,478	kWh
Incremental O&M Savings	\$9,670	N/A	N/A	\$9,670	\$10,925	Net Annual kWh Saved at Generator	175,124	kWh
Subtotal	\$217,710	N/A	N/A	\$16,645	\$17,900	Utility Program Cost per kWh Lifetime \$0.0136		
Total Benefits						Utility Program Cost per kW at Gen \$1,622		
Costs								
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$30,976	\$30,976	\$30,976	\$30,976			
Advertising & Promotion	N/A	\$46	\$46	\$46	\$46			
Measurement & Verification	N/A	\$2,744	\$2,744	\$2,744	\$2,744			
Rebates	N/A	\$6,975	\$6,975	\$6,975	\$6,975			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$40,740	\$40,740	\$40,740	\$40,740			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$201,065	N/A	N/A			
Subtotal	N/A	N/A	\$201,065	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$25,087	N/A	N/A	\$25,087	\$25,087			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$25,087	N/A	N/A	\$25,087	\$25,087			
Total Costs								
	\$25,087	\$40,740	\$241,805	\$65,827	\$65,827			
Net Benefit (Cost)								
	\$192,623	\$33,770	(\$167,295)	\$25,328	\$51,742			
Benefit/Cost Ratio								
	8.68	1.83	0.31	1.38	1.79			

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

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$61,125
Escalation Rate =	4.69%	Incentive Costs =	\$68,779
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$129,904
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$2,004
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$201
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	13.4
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	71.61
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	163
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	11,672
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$421.96
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$797	Ratepayer Impact Measure Test	(\$356,409)	0.67
Cost per Participant per Dth =	\$39.11	Utility Cost Test	\$577,713	5.45
Lifetime Energy Reduction (Dth)	155,989	Societal Test	\$795,433	2.71
Societal Cost per Dth	\$2.98	Participant Test	\$652,964	3.00

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

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$27,573
		Incentive Costs = \$31,800
		16) Total Utility Project Costs = \$59,373
		17) Direct Participant Costs (\$/Part.) = 5,631
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = 389
		Escalation Rate = 2.30%
		20) Project Life (Years) = 12.5
		21) Avg. Dth/Part. Saved = 207.17
		22) Avg Non-Gas Fuel Units/Part. Saved = 0 kWh
		22a) Avg Additional Non-Gas Fuel Units/ Part. Used = 0 kWh
		23) Number of Participants = 27
		24) Total Annual Dth Saved = 5,594
		25) Incentive/Participant = \$1,177.78

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$2,199	Ratepayer Impact Measure Test	(\$154,878)	0.66
Cost per Participant per Dth =	\$37.80	Utility Cost Test	\$238,992	5.03
Lifetime Energy Reduction (Dth)	70,168	Societal Test	\$310,943	2.47
Societal Cost per Dth	\$3.01	Participant Test	\$263,778	2.73

HVAC+R					
2023 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	\$4,921,112	\$4,921,112	\$4,921,112	\$5,851,190
T & D	N/A	\$876,571	\$876,571	\$876,571	\$1,044,866
Marginal Energy	N/A	\$10,282,283	\$10,282,283	\$10,282,283	\$12,460,675
Environmental Externality	N/A	N/A	N/A	N/A	\$1,651,716
Subtotal	N/A	\$16,079,966	\$16,079,966	\$16,079,966	\$21,008,447
Participant Benefits					
Bill Reduction - Electric	\$44,202,725	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$2,817,857	N/A	N/A	\$2,817,857	\$2,817,857
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$611,841	N/A	N/A	\$611,841	\$735,936
Subtotal	\$47,632,422	N/A	N/A	\$3,429,698	\$3,553,792
Total Benefits	\$47,632,422	\$16,079,966	\$16,079,966	\$19,509,664	\$24,562,239
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$1,716,843	\$1,716,843	\$1,716,843	\$1,716,843
Advertising & Promotion	N/A	\$176,000	\$176,000	\$176,000	\$176,000
Measurement & Verification	N/A	\$55,000	\$55,000	\$55,000	\$55,000
Rebates	N/A	\$2,817,857	\$2,817,857	\$2,817,857	\$2,817,857
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$4,765,699	\$4,765,699	\$4,765,699	\$4,765,699
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$44,202,725	N/A	N/A
Subtotal	N/A	N/A	\$44,202,725	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$7,021,177	N/A	N/A	\$7,021,177	\$7,020,927
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$7,021,177	N/A	N/A	\$7,021,177	\$7,020,927
Total Costs	\$7,021,177	\$4,765,699	\$48,968,424	\$11,786,876	\$11,786,626
Net Benefit (Cost)	\$40,611,246	\$11,314,267	(\$32,888,458)	\$7,722,788	\$12,775,612
Benefit/Cost Ratio	6.78	3.37	0.33	1.66	2.08

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

2023 ELECTRIC		GOAL
Input Summary and Totals		
Program "Inputs" per Customer kW and per Participant		
Lifetime (Weighted on Generator kWh)		16.1 years
T & D Loss Factor (Energy)		6.65%
T & D Loss Factor (Demand)		8.06%
Net coincident kW Saved at Generator		1.60 kW
Gross Annual kWh Saved at Customer		7,475 kWh
Net Annual kWh Saved at Generator		8,008 kWh
Program Summary All Participants		
Total Participants		3,681
Total Budget		\$4,765,699
Net coincident kW Saved at Generator		5,872 kW
Gross Annual kWh Saved at Customer		27,516,282 kWh
Net Annual kWh Saved at Generator		29,476,467 kWh
Utility Program Cost per kWh Lifetime		\$0.0100
Utility Program Cost per kW at Gen		\$812

HVAC+R	2023					ELECTRIC	ACTUAL
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	\$3,075,709	\$3,075,709	\$3,075,709	\$3,635,333		
T & D	N/A	\$552,771	\$552,771	\$552,771	\$654,661		
Marginal Energy	N/A	\$6,199,653	\$6,199,653	\$6,199,653	\$7,428,514		
Environmental Externality	N/A	N/A	N/A	N/A	\$994,510		
Subtotal	N/A	\$9,828,132	\$9,828,132	\$9,828,132	\$12,713,018		
Participant Benefits							
Bill Reduction - Electric	\$25,189,329	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$2,302,350	N/A	N/A	\$2,302,350	\$2,302,350		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$27,491,680	N/A	N/A	\$2,302,350	\$2,302,350		
Total Benefits	\$27,491,680	\$9,828,132	\$9,828,132	\$12,130,483	\$15,015,368		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$964,114	\$964,114	\$964,114	\$964,114		
Advertising & Promotion	N/A	\$34,180	\$34,180	\$34,180	\$34,180		
Measurement & Verification	N/A	\$35,020	\$35,020	\$35,020	\$35,020		
Rebates	N/A	\$2,302,350	\$2,302,350	\$2,302,350	\$2,302,350		
Other	N/A	\$111,015	\$111,015	\$111,015	\$111,015		
Subtotal	N/A	\$3,446,678	\$3,446,678	\$3,446,678	\$3,446,678		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$25,189,329	N/A	N/A		
Subtotal	N/A	N/A	\$25,189,329	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$5,287,336	N/A	N/A	\$5,287,336	\$5,287,336		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$5,287,336	N/A	N/A	\$5,287,336	\$5,287,336		
Total Costs	\$5,287,336	\$3,446,678	\$28,636,008	\$8,734,014	\$8,734,014		
Net Benefit (Cost)	\$22,204,344	\$6,381,454	(\$18,807,875)	\$3,396,468	\$6,281,354		
Benefit/Cost Ratio	5.20	2.85	0.34	1.39	1.72		

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

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	15.3 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	4.30 kW
Gross Annual kWh Saved at Customer	19,961 kWh
Net Annual kWh Saved at Generator	21,383 kWh

Program Summary All Participants	
Total Participants	876
Total Budget	\$3,446,678
Net coincident kW Saved at Generator	3,767 kW
Gross Annual kWh Saved at Customer	17,485,703 kWh
Net Annual kWh Saved at Generator	18,731,337 kWh

Utility Program Cost per kWh Lifetime	\$0.0121
Utility Program Cost per kW at Gen	\$915

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

GOAL

Company: **Xcel Energy**
Project: **HVAC+R**

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$629,962
Escalation Rate =	4.69%	Incentive Costs =	\$829,639
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$1,459,601
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$2,715
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$12
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$73
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	14.3
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	126.96
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	1,012
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	128,481
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$819.80
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$1,442	Ratepayer Impact Measure Test	(\$4,085,343)	0.67
Cost per Participant per Dth =	\$32.84	Utility Cost Test	\$6,743,374	5.62
Lifetime Energy Reduction (Dth)	1,833,416	Societal Test	\$10,530,812	3.49
Societal Cost per Dth	\$2.30	Participant Test	\$8,114,450	3.94

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

ACTUAL

Company: **Xcel Energy**
 Project: **HVAC+R**

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43
Escalation Rate =	4.69%
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000
Escalation Rate =	4.69%
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh
3) Commodity Cost (\$/Dth) =	\$3.25
Escalation Rate =	4.69%
4) Demand Cost (\$/Unit/Yr) =	\$82.36
Escalation Rate =	4.69%
5) Peak Reduction Factor =	1.00%
6) Variable O&M (\$/Dth) =	\$0.0411
Escalation Rate =	4.69%
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000
Escalation Rate =	3.59%
8) Non-Gas Fuel Loss Factor	0.00%
9) Gas Environmental Damage Factor =	\$2.0700
Escalation Rate =	2.30%
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000
Escalation Rate =	2.30%
11) Participant Discount Rate =	6.38%
12) MN CIP Utility Discount Rate =	5.34%
13) Societal Discount Rate =	3.02%
14) General Input Data Year =	2020
15a) Project Analysis Year 1 =	2021
15b) Project Analysis Year 2 =	2022
15c) Project Analysis Year 3 =	2023

Administrative & Operating Costs	=	\$350,173
Incentive Costs =		\$628,950
16) Total Utility Project Costs =		\$979,124
17) Direct Participant Costs (\$/Part.)	=	7,340
18) Participant Non-Energy Costs (Annual \$/Part.) =		162
Escalation Rate =		2.30%
19) Participant Non-Energy Savings (Annual \$/Part.) =		213
Escalation Rate =		2.30%
20) Project Life (Years) =		10.4
21) Avg. Dth/Part. Saved =		185.40
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 =		410
24) Total Annual Dth Saved =		76,012
25) Incentive/Participant =		\$1,534.03

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$2,388	Ratepayer Impact Measure Test	(\$2,146,568)	0.63
Cost per Participant per Dth =	\$53.35	Utility Cost Test	\$2,668,042	3.72
Lifetime Energy Reduction (Dth)	786,733	Societal Test	\$2,727,587	1.67
Societal Cost per Dth	\$5.18	Participant Test	\$2,118,195	1.69

Lighting						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)		15.7 years
Avoided Revenue Requirements						T & D Loss Factor (Energy)		6.65%
Generation	N/A	\$16,538,347	\$16,538,347	\$16,538,347	\$19,592,971	T & D Loss Factor (Demand)		8.06%
T & D	N/A	\$2,973,113	\$2,973,113	\$2,973,113	\$3,530,712	Net coincident kW Saved at Generator		1.40 kW
Marginal Energy	N/A	\$49,309,960	\$49,309,960	\$49,309,960	\$60,943,035	Gross Annual kWh Saved at Customer		8,645 kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$8,014,692	Net Annual kWh Saved at Generator		9,260 kWh
Subtotal	N/A	\$68,821,419	\$68,821,419	\$68,821,419	\$92,081,410			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$201,922,103	N/A	N/A	N/A	N/A	Total Participants		15,762
Rebates from Xcel Energy	\$9,214,693	N/A	N/A	\$9,214,693	\$9,214,693	Total Budget		\$13,801,434
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator		22,108 kW
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer		136,258,864 kWh
Subtotal	\$211,136,795	N/A	N/A	\$9,214,693	\$9,214,693	Net Annual kWh Saved at Generator		145,965,574 kWh
Total Benefits	\$211,136,795	\$68,821,419	\$68,821,419	\$78,036,112	\$101,296,103			
Costs						Utility Program Cost per kWh Lifetime		
Utility Project Costs						Utility Program Cost per kW at Gen		
Customer Services	N/A	\$0	\$0	\$0	\$0			\$0.0060
Project Administration	N/A	\$4,311,741	\$4,311,741	\$4,311,741	\$4,311,741			\$624
Advertising & Promotion	N/A	\$250,000	\$250,000	\$250,000	\$250,000			
Measurement & Verification	N/A	\$25,000	\$25,000	\$25,000	\$25,000			
Rebates	N/A	\$9,214,693	\$9,214,693	\$9,214,693	\$9,214,693			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$13,801,434	\$13,801,434	\$13,801,434	\$13,801,434			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$201,922,103	N/A	N/A			
Subtotal	N/A	N/A	\$201,922,103	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$37,824,735	N/A	N/A	\$37,824,735	\$37,824,735			
Incremental O&M Costs	\$3,553,516	N/A	N/A	\$3,553,516	\$4,285,022			
Subtotal	\$41,378,251	N/A	N/A	\$41,378,251	\$42,109,756			
Total Costs	\$41,378,251	\$13,801,434	\$215,723,537	\$55,179,685	\$55,911,190			
Net Benefit (Cost)	\$169,758,545	\$55,019,985	(\$146,902,118)	\$22,856,427	\$45,384,913			
Benefit/Cost Ratio	5.10	4.99	0.32	1.41	1.81			

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

Lighting						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)		14.8 years
Avoided Revenue Requirements						T & D Loss Factor (Energy)		6.65%
Generation	N/A	\$7,954,539	\$7,954,539	\$7,954,539	\$9,408,009	T & D Loss Factor (Demand)		8.06%
T & D	N/A	\$1,429,573	\$1,429,573	\$1,429,573	\$1,695,132	Net coincident kW Saved at Generator		4.98 kW
Marginal Energy	N/A	\$21,083,420	\$21,083,420	\$21,083,420	\$26,116,846	Gross Annual kWh Saved at Customer		29,136 kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$3,689,453	Net Annual kWh Saved at Generator		31,212 kWh
Subtotal	N/A	\$30,467,533	\$30,467,533	\$30,467,533	\$40,909,440			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$83,442,376	N/A	N/A	N/A	N/A	Total Participants		2,283
Rebates from Xcel Energy	\$4,867,686	N/A	N/A	\$4,867,686	\$4,867,686	Total Budget		\$7,302,337
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator		11,359 kW
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer		66,517,752 kWh
Subtotal	\$88,310,062	N/A	N/A	\$4,867,686	\$4,867,686	Net Annual kWh Saved at Generator		71,256,296 kWh
Total Benefits						Utility Program Cost per kWh Lifetime		
	\$88,310,062	\$30,467,533	\$30,467,533	\$35,335,219	\$45,777,126	Utility Program Cost per kW at Gen		\$0.0069
Costs								
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$2,373,561	\$2,373,561	\$2,373,561	\$2,373,561			
Advertising & Promotion	N/A	\$16,033	\$16,033	\$16,033	\$16,033			
Measurement & Verification	N/A	\$44,764	\$44,764	\$44,764	\$44,764			
Rebates	N/A	\$4,867,686	\$4,867,686	\$4,867,686	\$4,867,686			
Other	N/A	\$292	\$292	\$292	\$292			
Subtotal	N/A	\$7,302,337	\$7,302,337	\$7,302,337	\$7,302,337			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$83,442,376	N/A	N/A			
Subtotal	N/A	N/A	\$83,442,376	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$16,767,736	N/A	N/A	\$16,767,736	\$16,767,736			
Incremental O&M Costs	\$1,639,551	N/A	N/A	\$1,639,551	\$2,009,354			
Subtotal	\$18,407,287	N/A	N/A	\$18,407,287	\$18,777,090			
Total Costs								
	\$18,407,287	\$7,302,337	\$90,744,713	\$25,709,624	\$26,079,427			
Net Benefit (Cost)								
	\$69,902,775	\$23,165,196	(\$60,277,180)	\$9,625,595	\$19,697,699			
Benefit/Cost Ratio								
	4.80	4.17	0.34	1.37	1.76			

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

Multi-Family Building Efficiency

2023

ELECTRIC

GOAL

2023 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	\$524,730	\$524,730	\$524,730	\$619,649
T & D	N/A	\$83,584	\$83,584	\$83,584	\$99,151
Marginal Energy	N/A	\$1,281,047	\$1,281,047	\$1,281,047	\$1,572,685
Environmental Externality	N/A	N/A	N/A	N/A	\$209,746
Subtotal	N/A	\$1,889,361	\$1,889,361	\$1,889,361	\$2,501,231
Participant Benefits					
Bill Reduction - Electric	\$7,732,944	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$660,545	N/A	N/A	\$660,545	\$660,545
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$143,916	N/A	N/A	\$143,916	\$162,569
Subtotal	\$8,537,404	N/A	N/A	\$804,461	\$823,114
Total Benefits	\$8,537,404	\$1,889,361	\$1,889,361	\$2,693,822	\$3,324,346
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$1,019,924	\$1,019,924	\$1,019,924	\$1,019,924
Advertising & Promotion	N/A	\$11,907	\$11,907	\$11,907	\$11,907
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$660,545	\$660,545	\$660,545	\$660,545
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$1,692,376	\$1,692,376	\$1,692,376	\$1,692,376
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$7,732,944	N/A	N/A
Subtotal	N/A	N/A	\$7,732,944	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$1,159,623	N/A	N/A	\$1,159,623	\$1,159,623
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$1,159,623	N/A	N/A	\$1,159,623	\$1,159,623
Total Costs	\$1,159,623	\$1,692,376	\$9,425,320	\$2,851,999	\$2,851,999
Net Benefit (Cost)	\$7,377,781	\$196,985	(\$7,535,958)	(\$158,177)	\$472,346
Benefit/Cost Ratio	7.36	1.12	0.20	0.94	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 and per Participant

Lifetime (Weighted on Generator kWh)	15.0 years
T & D Loss Factor (Energy)	7.37%
T & D Loss Factor (Demand)	8.76%
Net coincident kW Saved at Generator	0.09 kW
Gross Annual kWh Saved at Customer	475 kWh
Net Annual kWh Saved at Generator	501 kWh

Program Summary All Participants

Total Participants	7,947
Total Budget	\$1,692,376
Net coincident kW Saved at Generator	700 kW
Gross Annual kWh Saved at Customer	3,778,001 kWh
Net Annual kWh Saved at Generator	3,982,103 kWh

Utility Program Cost per kWh Lifetime	\$0.0283
Utility Program Cost per kW at Gen	\$2,419

Multi-Family Building Efficiency

2023

ELECTRIC

ACTUAL

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	\$282,027	\$282,027	\$282,027	\$333,099
T & D	N/A	\$50,674	\$50,674	\$50,674	\$60,006
Marginal Energy	N/A	\$894,846	\$894,846	\$894,846	\$1,104,135
Environmental Externality	N/A	N/A	N/A	N/A	\$158,597
Subtotal	N/A	\$1,227,548	\$1,227,548	\$1,227,548	\$1,655,838
Participant Benefits					
Bill Reduction - Electric	\$4,388,890	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$497,108	N/A	N/A	\$497,108	\$497,108
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$131,834	N/A	N/A	\$131,834	\$148,939
Subtotal	\$5,017,832	N/A	N/A	\$628,942	\$646,046
Total Benefits	\$5,017,832	\$1,227,548	\$1,227,548	\$1,856,490	\$2,301,884
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$1,027,068	\$1,027,068	\$1,027,068	\$1,027,068
Advertising & Promotion	N/A	\$213	\$213	\$213	\$213
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$497,108	\$497,108	\$497,108	\$497,108
Other	N/A	\$563	\$563	\$563	\$563
Subtotal	N/A	\$1,524,952	\$1,524,952	\$1,524,952	\$1,524,952
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$4,388,890	N/A	N/A
Subtotal	N/A	N/A	\$4,388,890	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$846,054	N/A	N/A	\$846,054	\$846,054
Incremental O&M Costs	\$29,888	N/A	N/A	\$29,888	\$36,580
Subtotal	\$875,941	N/A	N/A	\$875,941	\$882,634
Total Costs	\$875,941	\$1,524,952	\$5,913,842	\$2,400,894	\$2,407,586
Net Benefit (Cost)	\$4,141,890	(\$297,405)	(\$4,686,294)	(\$544,404)	(\$105,702)
Benefit/Cost Ratio	5.73	0.80	0.21	0.77	0.96

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

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	13.6 years
T & D Loss Factor (Energy)	7.28%
T & D Loss Factor (Demand)	8.86%
Net coincident kW Saved at Generator	0.02 kW
Gross Annual kWh Saved at Customer	116 kWh
Net Annual kWh Saved at Generator	120 kWh

Program Summary All Participants

Total Participants	26,592
Total Budget	\$1,524,952
Net coincident kW Saved at Generator	418 kW
Gross Annual kWh Saved at Customer	3,072,883 kWh
Net Annual kWh Saved at Generator	3,187,158 kWh

Utility Program Cost per kWh Lifetime	\$0.0352
Utility Program Cost per kW at Gen	\$3,649

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$449,326
Escalation Rate =	4.69%	Incentive Costs =	\$252,632
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$701,958
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$252
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$932
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	10.7
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	8.64
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	2,649
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	22,886
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$95.37
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$265	Ratepayer Impact Measure Test	(\$1,101,673)	0.50
Cost per Participant per Dth =	\$59.84	Utility Cost Test	\$416,498	1.59
Lifetime Energy Reduction (Dth)	244,914	Societal Test	\$3,139,984	3.29
Societal Cost per Dth	\$5.59	Participant Test	\$3,513,794	6.26

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$431,051
Escalation Rate =	4.69%	Incentive Costs =	\$105,335
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$536,386
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	33
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	1
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	197
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	10.2
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	1.08
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	8,064
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	8,748
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$13.06
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$67	Ratepayer Impact Measure Test	(\$665,752)	0.38
Cost per Participant per Dth =	\$92.36	Utility Cost Test	(\$132,241)	0.75
Lifetime Energy Reduction (Dth)	89,265	Societal Test	\$1,837,087	3.27
Societal Cost per Dth	\$9.07	Participant Test	\$1,928,730	8.11

Non-Profit Energy Savings Program

2023 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	\$224,246	\$224,246	\$224,246	\$265,871
T & D	N/A	\$38,579	\$38,579	\$38,579	\$45,894
Marginal Energy	N/A	\$464,680	\$464,680	\$464,680	\$568,536
Environmental Externality	N/A	N/A	N/A	N/A	\$77,597
Subtotal	N/A	\$727,504	\$727,504	\$727,504	\$957,898
Participant Benefits					
Bill Reduction - Electric	\$2,759,728	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$196,392	N/A	N/A	\$196,392	\$196,392
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$33,934	N/A	N/A	\$33,934	\$38,332
Subtotal	\$2,990,054	N/A	N/A	\$230,325	\$234,724
Total Benefits	\$2,990,054	\$727,504	\$727,504	\$957,829	\$1,192,622
Costs					
Utility Project Costs					
Customer Services	N/A	\$57,540	\$57,540	\$57,540	\$57,540
Project Administration	N/A	\$509,506	\$509,506	\$509,506	\$509,506
Advertising & Promotion	N/A	\$18,900	\$18,900	\$18,900	\$18,900
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$196,392	\$196,392	\$196,392	\$196,392
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$782,338	\$782,338	\$782,338	\$782,338
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$2,759,728	N/A	N/A
Subtotal	N/A	N/A	\$2,759,728	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$528,527	N/A	N/A	\$528,527	\$528,527
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$528,527	N/A	N/A	\$528,527	\$528,527
Total Costs	\$528,527	\$782,338	\$3,542,066	\$1,310,864	\$1,310,864
Net Benefit (Cost)	\$2,461,527	(\$54,833)	(\$2,814,562)	(\$353,035)	(\$118,243)
Benefit/Cost Ratio	5.66	0.93	0.21	0.73	0.91

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	14.1 years
T & D Loss Factor (Energy)	7.02%
T & D Loss Factor (Demand)	8.39%
Net coincident kW Saved at Generator	2.55 kW
Gross Annual kWh Saved at Customer	12,197 kWh
Net Annual kWh Saved at Generator	13,118 kWh

Program Summary All

Participants

Total Participants	120
Total Budget	\$782,338
Net coincident kW Saved at Generator	306 kW
Gross Annual kWh Saved at Customer	1,461,174 kWh
Net Annual kWh Saved at Generator	1,571,525 kWh

Utility Program Cost per kWh Lifetime	\$0.0353
Utility Program Cost per kW at Gen	\$2,557

Non-Profit Energy Savings Program

2023

ELECTRIC

ACTUAL

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	\$19,911	\$19,911	\$19,911	\$19,911
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	\$19,911	\$19,911	\$19,911	\$19,911
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	\$19,911	\$19,911	\$19,911	\$19,911
Net Benefit (Cost)	\$0	(\$19,911)	(\$19,911)	(\$19,911)	(\$19,911)
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 and per Participant

Lifetime (Weighted on Generator kWh)	0.0 years
T & D Loss Factor (Energy)	0.00%
T & D Loss Factor (Demand)	0.00%
Net coincident kW Saved at Generator	#DIV/0!
Gross Annual kWh Saved at Customer	#DIV/0!
Net Annual kWh Saved at Generator	#DIV/0!

Program Summary All

Participants

Total Participants	0
Total Budget	\$19,911
Net coincident kW Saved at Generator	#DIV/0!
Gross Annual kWh Saved at Customer	#DIV/0!
Net Annual kWh Saved at Generator	#DIV/0!

Utility Program Cost per kWh Lifetime	#DIV/0!
Utility Program Cost per kW at Gen	#DIV/0!

Company: **Xcel Energy**
 Project: **Non-Profit Energy Savings Program**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$233,153
Escalation Rate =	4.69%	Incentive Costs =	\$107,188
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$340,341
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$10,543
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$1,514
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	12.2
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	303.49
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	27
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	8,179
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$3,977.29
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$12,629	Ratepayer Impact Measure Test	(\$487,079)	0.48
Cost per Participant per Dth =	\$76.35	Utility Cost Test	\$111,751	1.33
Lifetime Energy Reduction (Dth)	99,809	Societal Test	\$262,386	1.42
Societal Cost per Dth	\$6.26	Participant Test	\$426,175	2.50

Company: **Xcel Energy**
 Project: **Non-Profit Energy Savings Program**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$15,397
Escalation Rate =	4.69%	Incentive Costs =	\$0
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$15,397
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	#DIV/0!
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	#DIV/0!
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	#DIV/0!
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	0.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	-
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	-
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	0
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$0.00
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	#DIV/0!	Ratepayer Impact Measure Test	(\$15,397)	0.00
Cost per Participant per Dth =	#DIV/0!	Utility Cost Test	(\$15,397)	0.00
Lifetime Energy Reduction (Dth)	-	Societal Test	(\$15,397)	0.00
Societal Cost per Dth	#DIV/0!	Participant Test	\$0	#DIV/0!

Peak Day Partners

2023 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	\$1,721,909	\$1,721,909	\$1,721,909	\$1,721,909
T & D	N/A	\$0	\$0	\$0	\$0
Marginal Energy	N/A	\$10,481	\$10,481	\$10,481	\$10,481
Environmental Externality	N/A	N/A	N/A	N/A	\$4,960
Subtotal	N/A	\$1,732,390	\$1,732,390	\$1,732,390	\$1,737,351
Participant Benefits					
Bill Reduction - Electric	\$60,170	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$560,000	N/A	N/A	\$560,000	\$560,000
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$620,170	N/A	N/A	\$560,000	\$560,000
Total Benefits	\$620,170	\$1,732,390	\$1,732,390	\$2,292,390	\$2,297,351
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$105,100	\$105,100	\$105,100	\$105,100
Advertising & Promotion	N/A	\$10,000	\$10,000	\$10,000	\$10,000
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$560,000	\$560,000	\$560,000	\$560,000
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$675,100	\$675,100	\$675,100	\$675,100
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$60,170	N/A	N/A
Subtotal	N/A	N/A	\$60,170	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	\$675,100	\$735,270	\$675,100	\$675,100

Net Benefit (Cost)	\$620,170	\$1,057,290	\$997,120	\$1,617,290	\$1,622,251
Benefit/Cost Ratio	INF	2.57	2.36	3.40	3.40

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	1.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	2719.16 kW
Gross Annual kWh Saved at Customer	40,000 kWh
Net Annual kWh Saved at Generator	42,849 kWh

Program Summary All Participants

Total Participants	10
Total Budget	\$675,100
Net coincident kW Saved at Generator	27,192 kW
Gross Annual kWh Saved at Customer	400,000 kWh
Net Annual kWh Saved at Generator	428,495 kWh

Utility Program Cost per kWh Lifetime	\$1.5755
Utility Program Cost per kW at Gen	\$25

Peak Day Partners	2023 ELECTRIC					ACTUAL	
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals	
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant	
Benefits						Lifetime (Weighted on Generator kWh)	0.0 years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	0.00%
Generation	N/A	\$0	\$0	\$0	\$0	T & D Loss Factor (Demand)	0.00%
T & D	N/A	\$0	\$0	\$0	\$0	Net coincident kW Saved at Generator	#DIV/0!
Marginal Energy	N/A	\$0	\$0	\$0	\$0	Gross Annual kWh Saved at Customer	#DIV/0!
Environmental Externality	N/A	N/A	N/A	N/A	N/A	Net Annual kWh Saved at Generator	#DIV/0!
Subtotal	N/A	\$0	\$0	\$0	\$0		
Participant Benefits						Program Summary All Participants	
Bill Reduction - Electric	\$0	N/A	N/A	N/A	N/A	Total Participants	0
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Total Budget	\$504,519
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	#DIV/0!
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	#DIV/0!
Subtotal	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator	#DIV/0!
Total Benefits	\$0	\$0	\$0	\$0	\$0	Utility Program Cost per kWh Lifetime	#DIV/0!
Costs						Utility Program Cost per kW at Gen	#DIV/0!
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$9,519	\$9,519	\$9,519	\$9,519		
Advertising & Promotion	N/A	\$495,000	\$495,000	\$495,000	\$495,000		
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	\$504,519	\$504,519	\$504,519	\$504,519		
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	\$504,519	\$504,519	\$504,519	\$504,519		
Net Benefit (Cost)	\$0	(\$504,519)	(\$504,519)	(\$504,519)	(\$504,519)		
Benefit/Cost Ratio	INF	-	-	-	-		

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

Peak Partner Rewards	2023					ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants							
	Participant Test	Utility Test	Rate Impact Test	Total Resource Test	Societal Test		
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)		
Benefits							
Avoided Revenue Requirements							
Generation	N/A	\$3,658,550	\$3,658,550	\$3,658,550	\$3,658,550		
T & D	N/A	\$0	\$0	\$0	\$0		
Marginal Energy	N/A	\$8,351	\$8,351	\$8,351	\$8,351		
Environmental Externality	N/A	N/A	N/A	N/A	\$3,952		
Subtotal	N/A	\$3,666,902	\$3,666,902	\$3,666,902	\$3,670,854		
Participant Benefits							
Bill Reduction - Electric	\$47,944	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$1,705,080	N/A	N/A	\$1,705,080	\$1,705,080		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$1,753,024	N/A	N/A	\$1,705,080	\$1,705,080		
Total Benefits	\$1,753,024	\$3,666,902	\$3,666,902	\$5,371,982	\$5,375,934		
Costs							
Utility Project Costs							
Customer Services	N/A	\$52,050	\$52,050	\$52,050	\$52,050		
Project Administration	N/A	\$585,652	\$585,652	\$585,652	\$585,652		
Advertising & Promotion	N/A	\$25,000	\$25,000	\$25,000	\$25,000		
Measurement & Verification	N/A	\$25,000	\$25,000	\$25,000	\$25,000		
Rebates	N/A	\$1,705,080	\$1,705,080	\$1,705,080	\$1,705,080		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$2,392,782	\$2,392,782	\$2,392,782	\$2,392,782		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$47,944	N/A	N/A		
Subtotal	N/A	N/A	\$47,944	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	\$2,392,782	\$2,440,726	\$2,392,782	\$2,392,782		
Net Benefit (Cost)	\$1,753,024	\$1,274,120	\$1,226,176	\$2,979,200	\$2,983,152		
Benefit/Cost Ratio	INF	1.53	1.50	2.25	2.25		

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

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	1.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	962.90 kW
Gross Annual kWh Saved at Customer	5,312 kWh
Net Annual kWh Saved at Generator	5,690 kWh

Program Summary All Participants	
Total Participants	60
Total Budget	\$2,392,782
Net coincident kW Saved at Generator	57,774 kW
Gross Annual kWh Saved at Customer	318,720 kWh
Net Annual kWh Saved at Generator	341,425 kWh

Utility Program Cost per kWh Lifetime	\$7.0082
Utility Program Cost per kW at Gen	\$41

Peak Partner Rewards	2023					ELECTRIC	ACTUAL
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	\$1,360,791	\$1,360,791	\$1,360,791	\$1,360,791		
T & D	N/A	\$238,528	\$238,528	\$238,528	\$238,528		
Marginal Energy	N/A	\$294	\$294	\$294	\$294		
Environmental Externality	N/A	N/A	N/A	N/A	\$168		
Subtotal	N/A	\$1,599,613	\$1,599,613	\$1,599,613	\$1,599,781		
Participant Benefits							
Bill Reduction - Electric	\$1,853	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$255,013	N/A	N/A	\$255,013	\$255,013		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$256,866	N/A	N/A	\$255,013	\$255,013		
Total Benefits	\$256,866	\$1,599,613	\$1,599,613	\$1,854,626	\$1,854,793		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$355,620	\$355,620	\$355,620	\$355,620		
Advertising & Promotion	N/A	\$132,555	\$132,555	\$132,555	\$132,555		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0		
Rebates	N/A	\$255,013	\$255,013	\$255,013	\$255,013		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$743,188	\$743,188	\$743,188	\$743,188		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$1,853	N/A	N/A		
Subtotal	N/A	N/A	\$1,853	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	\$743,188	\$745,041	\$743,188	\$743,188		
Net Benefit (Cost)	\$256,866	\$856,425	\$854,572	\$1,111,438	\$1,111,606		
Benefit/Cost Ratio	INF	2.15	2.15	2.50	2.50		

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

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	1.0 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	306.99 kW
Gross Annual kWh Saved at Customer	193 kWh
Net Annual kWh Saved at Generator	207 kWh

Program Summary All Participants	
Total Participants	70
Total Budget	\$743,188
Net coincident kW Saved at Generator	21,489 kW
Gross Annual kWh Saved at Customer	13,518 kWh
Net Annual kWh Saved at Generator	14,481 kWh

Utility Program Cost per kWh Lifetime	\$51.3216
Utility Program Cost per kW at Gen	\$35

Process Efficiency	2023					ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants							
	Participant Test	Utility Test	Rate Impact Test	Total Resource Test	Societal Test		
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	(\$Total)		
Benefits							
Avoided Revenue Requirements							
Generation	N/A	\$10,905,575	\$10,905,575	\$10,905,575	\$12,923,747		
T & D	N/A	\$1,924,098	\$1,924,098	\$1,924,098	\$2,290,819		
Marginal Energy	N/A	\$27,028,070	\$27,028,070	\$27,028,070	\$33,101,881		
Environmental Externality	N/A	N/A	N/A	N/A	\$4,312,627		
Subtotal	N/A	\$39,857,743	\$39,857,743	\$39,857,743	\$52,629,073		
Participant Benefits							
Bill Reduction - Electric	\$114,263,536	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$4,440,209	N/A	N/A	\$4,440,209	\$4,440,209		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$61,559,135	N/A	N/A	\$61,559,135	\$75,670,188		
Subtotal	\$180,262,880	N/A	N/A	\$65,999,344	\$80,110,396		
Total Benefits	\$180,262,880	\$39,857,743	\$39,857,743	\$105,857,087	\$132,739,470		
Costs							
Utility Project Costs							
Customer Services	N/A	\$806,085	\$806,085	\$806,085	\$806,085		
Project Administration	N/A	\$1,999,756	\$1,999,756	\$1,999,756	\$1,999,756		
Advertising & Promotion	N/A	\$25,000	\$25,000	\$25,000	\$25,000		
Measurement & Verification	N/A	\$16,000	\$16,000	\$16,000	\$16,000		
Rebates	N/A	\$4,440,209	\$4,440,209	\$4,440,209	\$4,440,209		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$7,287,050	\$7,287,050	\$7,287,050	\$7,287,050		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$114,263,536	N/A	N/A		
Subtotal	N/A	N/A	\$114,263,536	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$25,571,504	N/A	N/A	\$25,571,504	\$25,571,504		
Incremental O&M Costs	\$877,410	N/A	N/A	\$877,410	\$1,045,855		
Subtotal	\$26,448,913	N/A	N/A	\$26,448,913	\$26,617,359		
Total Costs	\$26,448,913	\$7,287,050	\$121,550,585	\$33,735,963	\$33,904,408		
Net Benefit (Cost)	\$153,813,966	\$32,570,693	(\$81,692,842)	\$72,121,124	\$98,835,061		
Benefit/Cost Ratio	6.82	5.47	0.33	3.14	3.92		

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

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	16.7 years
T & D Loss Factor (Energy)	6.65%
T & D Loss Factor (Demand)	8.06%
Net coincident kW Saved at Generator	38.20 kW
Gross Annual kWh Saved at Customer	181,468 kWh
Net Annual kWh Saved at Generator	194,396 kWh

Program Summary All Participants	
Total Participants	383
Total Budget	\$7,287,050
Net coincident kW Saved at Generator	14,631 kW
Gross Annual kWh Saved at Customer	69,502,334 kWh
Net Annual kWh Saved at Generator	74,453,491 kWh

Utility Program Cost per kWh Lifetime	\$0.0059
Utility Program Cost per kW at Gen	\$498

Process Efficiency						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	15.8	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	6.65%	
Generation	N/A	\$6,646,141	\$6,646,141	\$6,646,141	\$7,931,056	T & D Loss Factor (Demand)	8.06%	
T & D	N/A	\$1,196,126	\$1,196,126	\$1,196,126	\$1,430,844	Net coincident kW Saved at Generator	22.37	kW
Marginal Energy	N/A	\$16,967,970	\$16,967,970	\$16,967,970	\$20,752,268	Gross Annual kWh Saved at Customer	129,896	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$2,934,749	Net Annual kWh Saved at Generator	139,150	kWh
Subtotal	N/A	\$24,810,237	\$24,810,237	\$24,810,237	\$33,048,917			
Participant Benefits								
Bill Reduction - Electric	\$73,001,325	N/A	N/A	N/A	N/A			
Rebates from Xcel Energy	\$4,126,297	N/A	N/A	\$4,126,297	\$4,126,297			
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0			
Incremental O&M Savings	\$104,149,536	N/A	N/A	\$104,149,536	\$126,434,137			
Subtotal	\$181,277,157	N/A	N/A	\$108,275,832	\$130,560,434			
Total Benefits	\$181,277,157	\$24,810,237	\$24,810,237	\$133,086,070	\$163,609,350			
Costs								
Utility Project Costs								
Customer Services	N/A	\$17,913	\$17,913	\$17,913	\$17,913			
Project Administration	N/A	\$1,943,801	\$1,943,801	\$1,943,801	\$1,943,801			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$22,402	\$22,402	\$22,402	\$22,402			
Rebates	N/A	\$4,126,297	\$4,126,297	\$4,126,297	\$4,126,297			
Other	N/A	\$73,038	\$73,038	\$73,038	\$73,038			
Subtotal	N/A	\$6,183,451	\$6,183,451	\$6,183,451	\$6,183,451			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$73,001,325	N/A	N/A			
Subtotal	N/A	N/A	\$73,001,325	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$40,877,305	N/A	N/A	\$40,877,305	\$40,877,305			
Incremental O&M Costs	\$451,548	N/A	N/A	\$451,548	\$555,246			
Subtotal	\$41,328,853	N/A	N/A	\$41,328,853	\$41,432,550			
Total Costs	\$41,328,853	\$6,183,451	\$79,184,776	\$47,512,304	\$47,616,001			
Net Benefit (Cost)	\$139,948,304	\$18,626,787	(\$54,374,538)	\$85,573,766	\$115,993,349			
Benefit/Cost Ratio	4.39	4.01	0.31	2.80	3.44			

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

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

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$294,970
		Incentive Costs = \$770,281
		16) Total Utility Project Costs = \$1,065,251
		17) Direct Participant Costs (\$/Part.) = \$88,550
		18) Participant Non-Energy Costs (Annual \$/Part.) = \$15
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = \$41,143
		Escalation Rate = 2.30%
		20) Project Life (Years) = 12.2
		21) Avg. Dth/Part. Saved = 4,937.20
		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 = 46
		24) Total Annual Dth Saved = 227,111
		25) Incentive/Participant = \$16,745.25

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$23,158	Ratepayer Impact Measure Test	(\$5,112,851)	0.71
Cost per Participant per Dth =	\$22.63	Utility Cost Test	\$11,579,694	11.87
Lifetime Energy Reduction (Dth)	2,773,047	Societal Test	\$18,217,067	4.54
Societal Cost per Dth	\$1.85	Participant Test	\$14,401,878	4.54

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

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43
Escalation Rate =	4.69%
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000
Escalation Rate =	4.69%
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh
3) Commodity Cost (\$/Dth) =	\$3.25
Escalation Rate =	4.69%
4) Demand Cost (\$/Unit/Yr) =	\$82.36
Escalation Rate =	4.69%
5) Peak Reduction Factor =	1.00%
6) Variable O&M (\$/Dth) =	\$0.0411
Escalation Rate =	4.69%
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000
Escalation Rate =	3.59%
8) Non-Gas Fuel Loss Factor	0.00%
9) Gas Environmental Damage Factor =	\$2.0700
Escalation Rate =	2.30%
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000
Escalation Rate =	2.30%
11) Participant Discount Rate =	6.38%
12) MN CIP Utility Discount Rate =	5.34%
13) Societal Discount Rate =	3.02%
14) General Input Data Year =	2020
15a) Project Analysis Year 1 =	2021
15b) Project Analysis Year 2 =	2022
15c) Project Analysis Year 3 =	2023

Administrative & Operating Costs	=	\$231,175
Incentive Costs =		\$367,935
16) Total Utility Project Costs =		\$599,110
17) Direct Participant Costs (\$/Part.)	=	45,012
18) Participant Non-Energy Costs (Annual \$/Part.) =		-
Escalation Rate =		2.30%
19) Participant Non-Energy Savings (Annual \$/Part.) =		40,498
Escalation Rate =		2.30%
20) Project Life (Years) =		14.2
21) Avg. Dth/Part. Saved =		4,772.77
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 =		40
24) Total Annual Dth Saved =		190,911
25) Incentive/Participant =		\$9,198.38

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$14,978	Ratepayer Impact Measure Test	(\$2,902,195)	0.71
Cost per Participant per Dth =	\$12.57	Utility Cost Test	\$6,595,867	12.01
Lifetime Energy Reduction (Dth)	2,716,612	Societal Test	\$11,916,416	5.97
Societal Cost per Dth	\$0.88	Participant Test	\$9,118,357	6.06

Self-Direct	2023 ELECTRIC					GOAL
2023 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	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	\$5,304	\$5,304	\$5,304	\$5,304	
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	\$5,304	\$5,304	\$5,304	\$5,304	
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	\$5,304	\$5,304	\$5,304	\$5,304	
Net Benefit (Cost)	\$0	(\$5,304)	(\$5,304)	(\$5,304)	(\$5,304)	
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 and per Participant	
Lifetime (Weighted on Generator kWh)	0.0 years
T & D Loss Factor (Energy)	0.00%
T & D Loss Factor (Demand)	0.00%
Net coincident kW Saved at Generator	#DIV/0!
Gross Annual kWh Saved at Customer	#DIV/0!
Net Annual kWh Saved at Generator	#DIV/0!

Program Summary All Participants	
Total Participants	0
Total Budget	\$5,304
Net coincident kW Saved at Generator	#DIV/0!
Gross Annual kWh Saved at Customer	#DIV/0!
Net Annual kWh Saved at Generator	#DIV/0!
Utility Program Cost per kWh Lifetime	#DIV/0!
Utility Program Cost per kW at Gen	#DIV/0!

Self-Direct						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh) 17.0 years		
Avoided Revenue Requirements						T & D Loss Factor (Energy) 6.65%		
Generation	N/A	\$477,225	\$477,225	\$477,225	\$580,855	T & D Loss Factor (Demand) 8.06%		
T & D	N/A	\$86,150	\$86,150	\$86,150	\$105,133	Net coincident kW Saved at Generator 39.33 kW		
Marginal Energy	N/A	\$1,339,270	\$1,339,270	\$1,339,270	\$1,654,001	Gross Annual kWh Saved at Customer 272,178 kWh		
Environmental Externality	N/A	N/A	N/A	N/A	\$263,146	Net Annual kWh Saved at Generator 291,567 kWh		
Subtotal	N/A	\$1,902,645	\$1,902,645	\$1,902,645	\$2,603,136			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$8,213,873	N/A	N/A	N/A	N/A	Total Participants 13		
Rebates from Xcel Energy	\$347,169	N/A	N/A	\$347,169	\$347,169	Total Budget \$369,996		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator 511 kW		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer 3,538,311 kWh		
Subtotal	\$8,561,042	N/A	N/A	\$347,169	\$347,169	Net Annual kWh Saved at Generator 3,790,371 kWh		
Total Benefits						Utility Program Cost per kWh Lifetime \$0.0057		
	\$8,561,042	\$1,902,645	\$1,902,645	\$2,249,814	\$2,950,305	Utility Program Cost per kW at Gen \$724		
Costs								
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$22,827	\$22,827	\$22,827	\$22,827			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$0	\$0	\$0	\$0			
Rebates	N/A	\$347,169	\$347,169	\$347,169	\$347,169			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$369,996	\$369,996	\$369,996	\$369,996			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$8,213,873	N/A	N/A			
Subtotal	N/A	N/A	\$8,213,873	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$968,740	N/A	N/A	\$968,740	\$968,740			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$968,740	N/A	N/A	\$968,740	\$968,740			
Total Costs								
	\$968,740	\$369,996	\$8,583,869	\$1,338,736	\$1,338,736			
Net Benefit (Cost)								
	\$7,592,302	\$1,532,649	(\$6,681,224)	\$911,078	\$1,611,569			
Benefit/Cost Ratio								
	8.84	5.14	0.22	1.68	2.20			

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

Residential Segment with Indirect Participants
2023
ELECTRIC
GOAL
2023 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	\$40,383,899	\$40,383,899	\$40,383,899	\$46,843,421
T & D	N/A	\$4,636,297	\$4,636,297	\$4,636,297	\$5,491,236
Marginal Energy	N/A	\$64,251,115	\$64,251,115	\$64,251,115	\$79,673,903
Environmental Externality	N/A	N/A	N/A	N/A	\$11,123,412
Subtotal	N/A	\$109,271,311	\$109,271,311	\$109,271,311	\$143,131,972
Participant Benefits					
Bill Reduction - Electric	\$385,967,012	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$12,856,349	N/A	N/A	\$12,856,349	\$12,856,349
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$4,505,688	N/A	N/A	\$4,505,688	\$5,089,695
Subtotal	\$403,329,048	N/A	N/A	\$17,362,036	\$17,946,044
Total Benefits	\$403,329,048	\$109,271,311	\$109,271,311	\$126,633,347	\$161,078,016
Costs					
Utility Project Costs					
Customer Services	N/A	\$706,775	\$706,775	\$706,775	\$706,775
Project Administration	N/A	\$18,217,686	\$18,217,686	\$18,217,686	\$18,217,686
Advertising & Promotion	N/A	\$2,446,724	\$2,446,724	\$2,446,724	\$2,446,724
Measurement & Verification	N/A	\$183,000	\$183,000	\$183,000	\$183,000
Rebates	N/A	\$12,856,349	\$12,856,349	\$12,856,349	\$12,856,349
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$34,410,533	\$34,410,533	\$34,410,533	\$34,410,533
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$385,967,012	N/A	N/A
Subtotal	N/A	N/A	\$385,967,012	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$17,730,325	N/A	N/A	\$17,730,325	\$17,328,776
Incremental O&M Costs	\$2,395	N/A	N/A	\$2,395	\$2,706
Subtotal	\$17,732,720	N/A	N/A	\$17,732,720	\$17,331,482
Total Costs	\$17,732,720	\$34,410,533	\$420,377,545	\$52,143,254	\$51,742,015
Net Benefit (Cost)	\$385,596,328	\$74,860,778	(\$311,106,234)	\$74,490,093	\$109,336,001
Benefit/Cost Ratio	22.74	3.18	0.26	2.43	3.11

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

Input Summary and Totals
Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	0.0 years
T & D Loss Factor (Energy)	7.69%
T & D Loss Factor (Demand)	9.56%
Net coincident kW Saved at Generator	0.04 kW
Gross Annual kWh Saved at Customer	102 kWh
Net Annual kWh Saved at Generator	108 kWh

Program Summary All
Participants

Total Participants	2,010,376
Total Budget	\$34,410,533
Net coincident kW Saved at Generator	83,438 kW
Gross Annual kWh Saved at Customer	205,510,962 kWh
Net Annual kWh Saved at Generator	216,160,012 kWh

Utility Program Cost per kWh Lifetime	#DIV/0!
Utility Program Cost per kW at Gen	\$412

Residential Segment with Indirect Participants						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	16.2	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	0.00%	
Generation	N/A	\$65,658,459	\$65,658,459	\$65,658,459	\$77,033,742	T & D Loss Factor (Demand)	0.00%	
T & D	N/A	\$8,533,160	\$8,533,160	\$8,533,160	\$10,240,166	Net coincident kW Saved at Generator	0.04	kW
Marginal Energy	N/A	\$118,541,022	\$118,541,022	\$118,541,022	\$148,553,077	Gross Annual kWh Saved at Customer	112	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$19,231,957	Net Annual kWh Saved at Generator	118	kWh
Subtotal	N/A	\$192,732,640	\$192,732,640	\$192,732,640	\$255,058,942			
Participant Benefits								
Bill Reduction - Electric	\$662,450,086	N/A	N/A	N/A	N/A			
Rebates from Xcel Energy	\$19,797,162	N/A	N/A	\$19,797,162	\$19,797,162			
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0			
Incremental O&M Savings	\$17,248,078	N/A	N/A	\$17,248,078	\$19,485,847			
Subtotal	\$699,495,325	N/A	N/A	\$37,045,240	\$39,283,009			
Total Benefits	\$699,495,325	\$192,732,640	\$192,732,640	\$229,777,880	\$294,341,951			
Costs								
Utility Project Costs								
Customer Services	N/A	\$1,448,116	\$1,448,116	\$1,448,116	\$1,448,116			
Project Administration	N/A	\$12,931,627	\$12,931,627	\$12,931,627	\$12,931,627			
Advertising & Promotion	N/A	\$2,067,393	\$2,067,393	\$2,067,393	\$2,067,393			
Measurement & Verification	N/A	\$66,402	\$66,402	\$66,402	\$66,402			
Rebates	N/A	\$19,797,162	\$19,797,162	\$19,797,162	\$19,797,162			
Other	N/A	\$2	\$2	\$2	\$2			
Subtotal	N/A	\$36,310,703	\$36,310,703	\$36,310,703	\$36,310,703			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$662,450,086	N/A	N/A			
Subtotal	N/A	N/A	\$662,450,086	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$25,059,948	N/A	N/A	\$25,059,948	\$25,059,948			
Incremental O&M Costs	\$1,510	N/A	N/A	\$1,510	\$1,706			
Subtotal	\$25,061,458	N/A	N/A	\$25,061,458	\$25,061,654			
Total Costs	\$25,061,458	\$36,310,703	\$698,760,789	\$61,372,161	\$61,372,357			
Net Benefit (Cost)	\$674,433,867	\$156,421,937	(\$506,028,148)	\$168,405,719	\$232,969,594			
Benefit/Cost Ratio	27.91	5.31	0.28	3.74	4.80			

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

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

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs
		= \$4,301,590
		Incentive Costs = \$4,412,888
		16) Total Utility Project Costs = \$8,714,478
		17) Direct Participant Costs (\$/Part.)
		= \$24
		18) Participant Non-Energy Costs
		(Annual \$/Part.) = \$0
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings
		(Annual \$/Part.) = \$44
		Escalation Rate = 2.30%
		20) Project Life (Years) = 0.0
		21) Avg. Dth/Part. Saved = 0.68
		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 = 615,348
		24) Total Annual Dth Saved = 418,987
		25) Incentive/Participant = \$7.17

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$14	Ratepayer Impact Measure Test	(\$19,938,101)	0.55
Cost per Participant per Dth =	\$56.07	Utility Cost Test	\$15,364,917	2.76
Lifetime Energy Reduction (Dth)	-	Societal Test	\$47,056,494	2.96
Societal Cost per Dth	#DIV/0!	Participant Test	\$52,022,571	4.52

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs =	\$3,724,921
Escalation Rate =	4.69%	Incentive Costs =	\$5,528,252
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$9,253,173
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	18
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	104
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	17.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	0.56
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	1,028,305
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	575,457
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$5.38
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	6.38%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$9	Ratepayer Impact Measure Test	(\$25,969,394)	0.58
Cost per Participant per Dth =	\$47.85	Utility Cost Test	\$26,144,476	3.83
Lifetime Energy Reduction (Dth)	9,796,245	Societal Test	\$160,379,518	6.82
Societal Cost per Dth	\$2.81	Participant Test	\$145,827,528	8.98

Residential Segment EE and DR Total						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
						Program "Inputs" per Customer kW and per Participant		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)			
Benefits						Lifetime (Weighted on Generator kWh) 14.3 years		
Avoided Revenue Requirements						T & D Loss Factor (Energy) 7.69%		
Generation	N/A	\$40,383,899	\$40,383,899	\$40,383,899	\$46,843,421	T & D Loss Factor (Demand) 9.56%		
T & D	N/A	\$4,636,297	\$4,636,297	\$4,636,297	\$5,491,236	Net coincident kW Saved at Generator 0.08 kW		
Marginal Energy	N/A	\$64,251,115	\$64,251,115	\$64,251,115	\$79,673,903	Gross Annual kWh Saved at Customer 199 kWh		
Environmental Externality	N/A	N/A	N/A	N/A	\$11,123,412	Net Annual kWh Saved at Generator 209 kWh		
Subtotal	N/A	\$109,271,311	\$109,271,311	\$109,271,311	\$143,131,972			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$385,967,012	N/A	N/A	N/A	N/A	Total Participants 1,035,074		
Rebates from Xcel Energy	\$12,856,349	N/A	N/A	\$12,856,349	\$12,856,349	Total Budget \$30,369,203		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator 83,438 kW		
Incremental O&M Savings	\$4,505,688	N/A	N/A	\$4,505,688	\$5,089,695	Gross Annual kWh Saved at Customer 205,510,962 kWh		
Subtotal	\$403,329,048	N/A	N/A	\$17,362,036	\$17,946,044	Net Annual kWh Saved at Generator 216,160,012 kWh		
Total Benefits	\$403,329,048	\$109,271,311	\$109,271,311	\$126,633,347	\$161,078,016			
Costs						Utility Program Cost per kWh Lifetime \$0.0098		
						Utility Program Cost per kW at Gen \$364		
Utility Project Costs								
Customer Services	N/A	\$706,775	\$706,775	\$706,775	\$706,775			
Project Administration	N/A	\$14,737,856	\$14,737,856	\$14,737,856	\$14,737,856			
Advertising & Promotion	N/A	\$1,885,224	\$1,885,224	\$1,885,224	\$1,885,224			
Measurement & Verification	N/A	\$183,000	\$183,000	\$183,000	\$183,000			
Rebates	N/A	\$12,856,349	\$12,856,349	\$12,856,349	\$12,856,349			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$30,369,203	\$30,369,203	\$30,369,203	\$30,369,203			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$385,967,012	N/A	N/A			
Subtotal	N/A	N/A	\$385,967,012	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$17,730,325	N/A	N/A	\$17,730,325	\$17,328,776			
Incremental O&M Costs	\$2,395	N/A	N/A	\$2,395	\$2,706			
Subtotal	\$17,732,720	N/A	N/A	\$17,732,720	\$17,331,482			
Total Costs	\$17,732,720	\$30,369,203	\$416,336,215	\$48,101,924	\$47,700,685			
Net Benefit (Cost)	\$385,596,328	\$78,902,108	(\$307,064,904)	\$78,531,423	\$113,377,331			
Benefit/Cost Ratio	22.74	3.60	0.26	2.63	3.38			

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

Residential Segment EE and DR Total
2023
ELECTRIC
ACTUAL
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	\$65,658,459	\$65,658,459	\$65,658,459	\$77,033,742
T & D	N/A	\$8,533,160	\$8,533,160	\$8,533,160	\$10,240,166
Marginal Energy	N/A	\$118,541,022	\$118,541,022	\$118,541,022	\$148,553,077
Environmental Externality	N/A	N/A	N/A	N/A	\$19,231,957
Subtotal	N/A	\$192,732,640	\$192,732,640	\$192,732,640	\$255,058,942
Participant Benefits					
Bill Reduction - Electric	\$662,450,086	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$19,329,662	N/A	N/A	\$19,329,662	\$19,329,662
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$17,248,078	N/A	N/A	\$17,248,078	\$19,485,847
Subtotal	\$699,027,825	N/A	N/A	\$36,577,740	\$38,815,509
Total Benefits	\$699,027,825	\$192,732,640	\$192,732,640	\$229,310,380	\$293,874,451
Costs					
Utility Project Costs					
Customer Services	N/A	\$1,448,116	\$1,448,116	\$1,448,116	\$1,448,116
Project Administration	N/A	\$10,674,067	\$10,674,067	\$10,674,067	\$10,674,067
Advertising & Promotion	N/A	\$1,300,533	\$1,300,533	\$1,300,533	\$1,300,533
Measurement & Verification	N/A	\$66,402	\$66,402	\$66,402	\$66,402
Rebates	N/A	\$19,329,662	\$19,329,662	\$19,329,662	\$19,329,662
Other	N/A	\$2	\$2	\$2	\$2
Subtotal	N/A	\$32,818,782	\$32,818,782	\$32,818,782	\$32,818,782
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$662,450,086	N/A	N/A
Subtotal	N/A	N/A	\$662,450,086	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$25,059,948	N/A	N/A	\$25,059,948	\$25,059,948
Incremental O&M Costs	\$1,510	N/A	N/A	\$1,510	\$1,706
Subtotal	\$25,061,458	N/A	N/A	\$25,061,458	\$25,061,654
Total Costs	\$25,061,458	\$32,818,782	\$695,268,868	\$57,880,240	\$57,880,436
Net Benefit (Cost)	\$673,966,367	\$159,913,858	(\$502,536,227)	\$171,430,140	\$235,994,015
Benefit/Cost Ratio	27.89	5.87	0.28	3.96	5.08

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

Input Summary and Totals
Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	16.2 years
T & D Loss Factor (Energy)	0.00%
T & D Loss Factor (Demand)	0.00%
Net coincident kW Saved at Generator	0.06 kW
Gross Annual kWh Saved at Customer	172 kWh
Net Annual kWh Saved at Generator	180 kWh

Program Summary All Participants

Total Participants	1,978,321
Total Budget	\$32,818,782
Net coincident kW Saved at Generator	120,553 kW
Gross Annual kWh Saved at Customer	339,499,360 kWh
Net Annual kWh Saved at Generator	356,759,109 kWh

Utility Program Cost per kWh Lifetime	\$0.0057
Utility Program Cost per kW at Gen	\$272

Company: **Xcel Energy**
 Project: **Residential Segment EE and DR Total**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$2,794,050
		Incentive Costs = \$4,412,888
		16) Total Utility Project Costs = \$7,206,938
		17) Direct Participant Costs (\$/Part.) = \$62
		18) Participant Non-Energy Costs (Annual \$/Part.) = \$0
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = \$114
		Escalation Rate = 2.30%
		20) Project Life (Years) = 12.7
		21) Avg. Dth/Part. Saved = 1.76
		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 = 237,730
		24) Total Annual Dth Saved = 418,987
		25) Incentive/Participant = \$18.56

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$30	Ratepayer Impact Measure Test	(\$18,430,561)	0.57
Cost per Participant per Dth =	\$52.47	Utility Cost Test	\$16,872,457	3.34
Lifetime Energy Reduction (Dth)	5,325,438	Societal Test	\$48,564,034	3.16
Societal Cost per Dth	\$4.21	Participant Test	\$52,022,571	4.52

Company: **Xcel Energy**
 Project: **Residential Segment EE and DR Total**

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43	Administrative & Operating Costs		\$2,317,034
Escalation Rate =	4.69%	=		\$5,445,752
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	Incentive Costs =		\$7,762,786
Escalation Rate =	4.69%	16) Total Utility Project Costs =		
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.)		32
3) Commodity Cost (\$/Dth) =	\$3.25	=		
Escalation Rate =	4.69%	18) Participant Non-Energy Costs		
4) Demand Cost (\$/Unit/Yr) =	\$82.36	(Annual \$/Part.) =		-
Escalation Rate =	4.69%	Escalation Rate =		2.30%
5) Peak Reduction Factor =	1.00%	19) Participant Non-Energy Savings		
6) Variable O&M (\$/Dth) =	\$0.0411	(Annual \$/Part.) =		185
Escalation Rate =	4.69%	Escalation Rate =		2.30%
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	20) Project Life (Years) =		17.0
Escalation Rate =	3.59%	21) Avg. Dth/Part. Saved =		1.00
8) Non-Gas Fuel Loss Factor	0.00%	22) Avg Non-Gas Fuel Units/Part.		
9) Gas Environmental Damage Factor =	\$2.0700	Saved =		0 kWh
Escalation Rate =	2.30%	22a) Avg Additional Non-Gas Fuel		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	Units/ Part. Used =		0 kWh
Escalation Rate =	2.30%	23) Number of Participants =		576,519
11) Participant Discount Rate =	6.38%	24) Total Annual Dth Saved =		575,457
12) MN CIP Utility Discount Rate =	5.34%	25) Incentive/Participant =		\$9.45
13) Societal Discount Rate =	3.02%			
14) General Input Data Year =	2020			
15a) Project Analysis Year 1 =	2021			
15b) Project Analysis Year 2 =	2022			
15c) Project Analysis Year 3 =	2023			

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$13	Ratepayer Impact Measure Test	(\$24,479,007)	0.59
Cost per Participant per Dth =	\$45.26	Utility Cost Test	\$27,634,863	4.56
Lifetime Energy Reduction (Dth)	9,796,245	Societal Test	\$161,787,405	7.21
Societal Cost per Dth	\$2.66	Participant Test	\$145,745,028	8.97

Efficient New Homes Construction

2023 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	\$1,610,677	\$1,610,677	\$1,610,677	\$1,934,585
T & D	N/A	\$290,114	\$290,114	\$290,114	\$349,355
Marginal Energy	N/A	\$1,895,125	\$1,895,125	\$1,895,125	\$2,404,555
Environmental Externality	N/A	N/A	N/A	N/A	\$309,361
Subtotal	N/A	\$3,795,916	\$3,795,916	\$3,795,916	\$4,997,856
Participant Benefits					
Bill Reduction - Electric	\$11,322,331	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$644,422	N/A	N/A	\$644,422	\$644,422
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$41,856	N/A	N/A	\$41,856	\$47,281
Subtotal	\$12,008,609	N/A	N/A	\$686,278	\$691,703
Total Benefits	\$12,008,609	\$3,795,916	\$3,795,916	\$4,482,194	\$5,689,559
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$323,371	\$323,371	\$323,371	\$323,371
Advertising & Promotion	N/A	\$60,000	\$60,000	\$60,000	\$60,000
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$644,422	\$644,422	\$644,422	\$644,422
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$1,027,794	\$1,027,794	\$1,027,794	\$1,027,794
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$11,322,331	N/A	N/A
Subtotal	N/A	N/A	\$11,322,331	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$2,739,184	N/A	N/A	\$2,739,184	\$2,471,865
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$2,739,184	N/A	N/A	\$2,739,184	\$2,471,865
Total Costs	\$2,739,184	\$1,027,794	\$12,350,125	\$3,766,978	\$3,499,659
Net Benefit (Cost)	\$9,269,425	\$2,768,122	(\$8,554,209)	\$715,216	\$2,189,901
Benefit/Cost Ratio	4.38	3.69	0.31	1.19	1.63

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	19.5 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.32 kW
Gross Annual kWh Saved at Customer	691 kWh
Net Annual kWh Saved at Generator	751 kWh

Program Summary All Participants

Total Participants	6,001
Total Budget	\$1,027,794
Net coincident kW Saved at Generator	1,896 kW
Gross Annual kWh Saved at Customer	4,146,984 kWh
Net Annual kWh Saved at Generator	4,505,632 kWh

Utility Program Cost per kWh Lifetime	\$0.0117
Utility Program Cost per kW at Gen	\$542

Efficient New Homes Construction	2023					ELECTRIC	ACTUAL
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	\$1,219,577	\$1,219,577	\$1,219,577	\$1,483,403		
T & D	N/A	\$220,136	\$220,136	\$220,136	\$268,470		
Marginal Energy	N/A	\$2,286,546	\$2,286,546	\$2,286,546	\$2,907,551		
Environmental Externality	N/A	N/A	N/A	N/A	\$365,279		
Subtotal	N/A	\$3,726,259	\$3,726,259	\$3,726,259	\$5,024,704		
Participant Benefits							
Bill Reduction - Electric	\$12,591,062	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$450,553	N/A	N/A	\$450,553	\$450,553		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$13,041,615	N/A	N/A	\$450,553	\$450,553		
Total Benefits	\$13,041,615	\$3,726,259	\$3,726,259	\$4,176,812	\$5,475,257		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$353,850	\$353,850	\$353,850	\$353,850		
Advertising & Promotion	N/A	\$46,990	\$46,990	\$46,990	\$46,990		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0		
Rebates	N/A	\$450,553	\$450,553	\$450,553	\$450,553		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$851,393	\$851,393	\$851,393	\$851,393		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$12,591,062	N/A	N/A		
Subtotal	N/A	N/A	\$12,591,062	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$3,079,648	N/A	N/A	\$3,079,648	\$3,079,648		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$3,079,648	N/A	N/A	\$3,079,648	\$3,079,648		
Total Costs	\$3,079,648	\$851,393	\$13,442,455	\$3,931,041	\$3,931,041		
Net Benefit (Cost)	\$9,961,967	\$2,874,866	(\$9,716,197)	\$245,770	\$1,544,215		
Benefit/Cost Ratio	4.23	4.38	0.28	1.06	1.39		

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	19.8 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.51 kW
Gross Annual kWh Saved at Customer	1,626 kWh
Net Annual kWh Saved at Generator	1,767 kWh

Program Summary All Participants	
Total Participants	3,029
Total Budget	\$851,393
Net coincident kW Saved at Generator	1,552 kW
Gross Annual kWh Saved at Customer	4,925,551 kWh
Net Annual kWh Saved at Generator	5,351,533 kWh
Utility Program Cost per kWh Lifetime	\$0.0080
Utility Program Cost per kW at Gen	\$549

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

Company: **Xcel Energy**
 Project: **Efficient New Homes Construction**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$702,522
Escalation Rate =	4.69%	Incentive Costs =	\$962,942
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$1,665,465
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$1,314
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$26
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.2
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	13.61
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	3,628
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	49,384
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$265.42
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$459	Ratepayer Impact Measure Test	(\$3,666,523)	0.54
Cost per Participant per Dth =	\$130.26	Utility Cost Test	\$2,571,901	2.54
Lifetime Energy Reduction (Dth)	950,099	Societal Test	\$1,563,493	1.23
Societal Cost per Dth	\$7.05	Participant Test	\$2,528,786	1.53

Company: **Xcel Energy**
 Project: **Efficient New Homes Construction**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$669,692
Escalation Rate =	4.69%	Incentive Costs =	\$1,126,010
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$1,795,701
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	2,702
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	-
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.8
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	26.60
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	1,789
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	47,583
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$629.41
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$1,004	Ratepayer Impact Measure Test	(\$3,775,220)	0.53
Cost per Participant per Dth =	\$139.32	Utility Cost Test	\$2,396,053	2.33
Lifetime Energy Reduction (Dth)	940,689	Societal Test	\$1,364,698	1.21
Societal Cost per Dth	\$7.05	Participant Test	\$2,463,815	1.51

Energy Efficient Showerhead						2023	ELECTRIC	GOAL
2023 Net Present Cost Benefit Summary Analysis For All Participants								
						Input Summary and Totals		
						Program "Inputs" per Customer kW and per Participant		
						Lifetime (Weighted on Generator kWh)	10.0	years
						T & D Loss Factor (Energy)	7.96%	
						T & D Loss Factor (Demand)	9.84%	
						Net coincident kW Saved at Generator	0.01	kW
						Gross Annual kWh Saved at Customer	212	kWh
						Net Annual kWh Saved at Generator	139	kWh
<hr/>								
						Program Summary All Participants		
						Total Participants	5,840	
						Total Budget	\$35,736	
						Net coincident kW Saved at Generator	66	kW
						Gross Annual kWh Saved at Customer	1,239,150	kWh
						Net Annual kWh Saved at Generator	810,168	kWh
<hr/>								
						Utility Program Cost per kWh Lifetime	\$0.0044	
						Utility Program Cost per kW at Gen	\$540	
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Energy Efficient Showerhead								
						2023		
						ELECTRIC		
						GOAL		
<hr/>								
2023 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)			
<hr/>								
Benefits								
Avoided Revenue Requirements								
Generation	N/A	\$36,351	\$36,351	\$36,351	\$40,092			
T & D	N/A	\$6,466	\$6,466	\$6,466	\$7,137			
<hr/>								
Marginal Energy	N/A	\$183,160	\$183,160	\$183,160	\$204,262			
Environmental Externality	N/A	N/A	N/A	N/A	\$25,560			
Subtotal	N/A	\$225,977	\$225,977	\$225,977	\$277,051			
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Participant Benefits								
Bill Reduction - Electric	\$1,026,061	N/A	N/A	N/A	N/A			
Rebates from Xcel Energy	\$10,638	N/A	N/A	\$10,638	\$10,638			
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0			
Incremental O&M Savings	\$1,230,430	N/A	N/A	\$1,230,430	\$1,389,913			
Subtotal	\$2,267,129	N/A	N/A	\$1,241,068	\$1,400,551			
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Total Benefits	\$2,267,129	\$225,977	\$225,977	\$1,467,046	\$1,677,602			
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Costs								
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$25,098	\$25,098	\$25,098	\$25,098			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$0	\$0	\$0	\$0			
Rebates	N/A	\$10,638	\$10,638	\$10,638	\$10,638			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$35,736	\$35,736	\$35,736	\$35,736			
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Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$1,026,061	N/A	N/A			
Subtotal	N/A	N/A	\$1,026,061	N/A	N/A			
<hr/>								
Participant Costs								
Incremental Capital Costs	\$10,818	N/A	N/A	\$10,818	\$10,818			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$10,818	N/A	N/A	\$10,818	\$10,818			
<hr/>								
Total Costs	\$10,818	\$35,736	\$1,061,797	\$46,554	\$46,554			
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Net Benefit (Cost)	\$2,256,312	\$190,241	(\$835,820)	\$1,420,492	\$1,631,048			
Benefit/Cost Ratio	209.57	6.32	0.21	31.51	36.04			

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

Energy Efficient Showerhead

2023

ELECTRIC

ACTUAL

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	\$212,964	\$212,964	\$212,964	\$234,880
T & D	N/A	\$37,884	\$37,884	\$37,884	\$41,810
Marginal Energy	N/A	\$1,169,520	\$1,169,520	\$1,169,520	\$1,304,264
Environmental Externality	N/A	N/A	N/A	N/A	\$152,960
Subtotal	N/A	\$1,420,368	\$1,420,368	\$1,420,368	\$1,733,914
Participant Benefits					
Bill Reduction - Electric	\$6,030,144	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$108	N/A	N/A	\$108	\$108
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$12,457,571	N/A	N/A	\$12,457,571	\$14,073,819
Subtotal	\$18,487,823	N/A	N/A	\$12,457,679	\$14,073,927
Total Benefits	\$18,487,823	\$1,420,368	\$1,420,368	\$13,878,047	\$15,807,841
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$45,463	\$45,463	\$45,463	\$45,463
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$108	\$108	\$108	\$108
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$45,571	\$45,571	\$45,571	\$45,571
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$6,030,144	N/A	N/A
Subtotal	N/A	N/A	\$6,030,144	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$56,531	N/A	N/A	\$56,531	\$56,531
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$56,531	N/A	N/A	\$56,531	\$56,531
Total Costs	\$56,531	\$45,571	\$6,075,714	\$102,102	\$102,102
Net Benefit (Cost)	\$18,431,291	\$1,374,798	(\$4,655,346)	\$13,775,945	\$15,705,739
Benefit/Cost Ratio	327.04	31.17	0.23	135.92	154.82

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

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	15.8 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.50 kW
Gross Annual kWh Saved at Customer	9,761 kWh
Net Annual kWh Saved at Generator	6,727 kWh

**Program Summary All
Participants**

Total Participants	769
Total Budget	\$45,571
Net coincident kW Saved at Generator	388 kW
Gross Annual kWh Saved at Customer	7,506,086 kWh
Net Annual kWh Saved at Generator	5,173,124 kWh

Utility Program Cost per kWh Lifetime	\$0.0006
Utility Program Cost per kW at Gen	\$118

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$185,691
Escalation Rate =	4.69%	Incentive Costs =	\$90,086
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$275,777
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$2
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$237
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	10.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	0.54
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	49,400
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	26,781
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$1.82
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$6	Ratepayer Impact Measure Test	(\$856,559)	0.59
Cost per Participant per Dth =	\$13.71	Utility Cost Test	\$954,066	4.46
Lifetime Energy Reduction (Dth)	267,808	Societal Test	\$13,363,788	37.39
Societal Cost per Dth	\$1.37	Participant Test	\$13,514,297	148.81

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

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$204,762
Escalation Rate =	4.69%	Incentive Costs =	\$435,876
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$640,639
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	114
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	23,866
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	15.8
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	40.91
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	3,655
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	149,510
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$119.25
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$175	Ratepayer Impact Measure Test	(\$3,882,986)	0.64
Cost per Participant per Dth =	\$7.07	Utility Cost Test	\$6,225,236	10.72
Lifetime Energy Reduction (Dth)	2,357,913	Societal Test	\$113,310,158	108.24
Societal Cost per Dth	\$0.45	Participant Test	\$97,357,638	235.03

Home Energy Insights

2023 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	\$1,062,037	\$1,062,037	\$1,062,037	\$1,062,037
T & D	N/A	\$186,161	\$186,161	\$186,161	\$186,161
Marginal Energy	N/A	\$1,585,309	\$1,585,309	\$1,585,309	\$1,585,309
Environmental Externality	N/A	N/A	N/A	N/A	\$659,590
Subtotal	N/A	\$2,833,507	\$2,833,507	\$2,833,507	\$3,493,097
Participant Benefits					
Bill Reduction - Electric	\$7,827,873	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$7,827,873	N/A	N/A	\$0	\$0
Total Benefits	\$7,827,873	\$2,833,507	\$2,833,507	\$2,833,507	\$3,493,097
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$1,431,021	\$1,431,021	\$1,431,021	\$1,431,021
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	\$1,431,021	\$1,431,021	\$1,431,021	\$1,431,021
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$7,827,873	N/A	N/A
Subtotal	N/A	N/A	\$7,827,873	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	\$1,431,021	\$9,258,894	\$1,431,021	\$1,431,021
Net Benefit (Cost)	\$7,827,873	\$1,402,485	(\$6,425,387)	\$1,402,485	\$2,062,076
Benefit/Cost Ratio	INF	1.98	0.31	1.98	2.44

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	2.7 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.03 kW
Gross Annual kWh Saved at Customer	82 kWh
Net Annual kWh Saved at Generator	89 kWh

Program Summary All Participants

Total Participants	235,000
Total Budget	\$1,431,021
Net coincident kW Saved at Generator	6,984 kW
Gross Annual kWh Saved at Customer	19,355,027 kWh
Net Annual kWh Saved at Generator	21,028,930 kWh

Utility Program Cost per kWh Lifetime	\$0.0251
Utility Program Cost per kW at Gen	\$205

Home Energy Insights

2023

ELECTRIC

ACTUAL

Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	\$464,472	\$464,472	\$464,472	\$464,472
T & D	N/A	\$81,416	\$81,416	\$81,416	\$81,416
Marginal Energy	N/A	\$1,008,235	\$1,008,235	\$1,008,235	\$1,008,235
Environmental Externality	N/A	N/A	N/A	N/A	\$0
Subtotal	N/A	\$1,554,123	\$1,554,123	\$1,554,123	\$1,554,123
Participant Benefits					
Bill Reduction - Electric	\$4,414,659	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$32,201	N/A	N/A	\$32,201	\$32,201
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$4,446,861	N/A	N/A	\$32,201	\$32,201
Total Benefits	\$4,446,861	\$1,554,123	\$1,554,123	\$1,586,324	\$1,586,324
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$953,815	\$953,815	\$953,815	\$953,815
Advertising & Promotion	N/A	\$3,924	\$3,924	\$3,924	\$3,924
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$32,201	\$32,201	\$32,201	\$32,201
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$989,940	\$989,940	\$989,940	\$989,940
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$4,414,659	N/A	N/A
Subtotal	N/A	N/A	\$4,414,659	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	\$989,940	\$5,404,599	\$989,940	\$989,940

Net Benefit (Cost)	\$4,446,861	\$564,183	(\$3,850,477)	\$596,384	\$596,384
Benefit/Cost Ratio	INF	1.57	0.29	1.60	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 and per Participant

Lifetime (Weighted on Generator kWh)	2.9 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.00 kW
Gross Annual kWh Saved at Customer	28 kWh
Net Annual kWh Saved at Generator	30 kWh

Program Summary All Participants

Total Participants	646,235
Total Budget	\$989,940
Net coincident kW Saved at Generator	2,445 kW
Gross Annual kWh Saved at Customer	17,851,471 kWh
Net Annual kWh Saved at Generator	19,395,340 kWh

Utility Program Cost per kWh Lifetime	\$0.0173
Utility Program Cost per kW at Gen	\$405

Company: **Xcel Energy**
 Project: **Home Energy Insights**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$170,920
Escalation Rate =	4.69%	Incentive Costs =	\$0
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$170,920
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$0
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$0
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	2.1
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	0.37
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	124,000
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	45,678
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$0.00
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$1	Ratepayer Impact Measure Test	(\$234,067)	0.66
Cost per Participant per Dth =	\$3.74	Utility Cost Test	\$275,466	2.61
Lifetime Energy Reduction (Dth)	94,549	Societal Test	\$485,000	3.84
Societal Cost per Dth	\$1.81	Participant Test	\$509,533	#DIV/0!

Company: **Xcel Energy**
 Project: **Home Energy Insights**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$6.06	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	3.02%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$250,825
		Incentive Costs = \$0
		16) Total Utility Project Costs = \$250,825
		17) Direct Participant Costs (\$/Part.) = -
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		20) Project Life (Years) = 2.9
		21) Avg. Dth/Part. Saved = 0.08
		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 = 534,481
		24) Total Annual Dth Saved = 43,320
		25) Incentive/Participant = \$0.00

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$0	Ratepayer Impact Measure Test	(\$535,638)	0.53
Cost per Participant per Dth =	\$5.79	Utility Cost Test	\$352,283	2.40
Lifetime Energy Reduction (Dth)	127,744	Societal Test	\$601,998	3.40
Societal Cost per Dth	\$1.96	Participant Test	\$887,920	#DIV/0!

Home Energy Squad

2023 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	\$1,748,398	\$1,748,398	\$1,748,398	\$2,022,393
T & D	N/A	\$244,658	\$244,658	\$244,658	\$291,202
Marginal Energy	N/A	\$3,763,363	\$3,763,363	\$3,763,363	\$4,712,291
Environmental Externality	N/A	N/A	N/A	N/A	\$628,908
Subtotal	N/A	\$5,756,419	\$5,756,419	\$5,756,419	\$7,654,795
Participant Benefits					
Bill Reduction - Electric	\$23,196,681	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$934,239	N/A	N/A	\$934,239	\$934,239
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$1,003,772	N/A	N/A	\$1,003,772	\$1,133,877
Subtotal	\$25,134,693	N/A	N/A	\$1,938,012	\$2,068,116
Total Benefits	\$25,134,693	\$5,756,419	\$5,756,419	\$7,694,431	\$9,722,911
Costs					
Utility Project Costs					
Customer Services	N/A	\$688,225	\$688,225	\$688,225	\$688,225
Project Administration	N/A	\$571,683	\$571,683	\$571,683	\$571,683
Advertising & Promotion	N/A	\$368,836	\$368,836	\$368,836	\$368,836
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$934,239	\$934,239	\$934,239	\$934,239
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$2,562,983	\$2,562,983	\$2,562,983	\$2,562,983
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$23,196,681	N/A	N/A
Subtotal	N/A	N/A	\$23,196,681	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$924,063	N/A	N/A	\$924,063	\$917,542
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$924,063	N/A	N/A	\$924,063	\$917,542
Total Costs	\$924,063	\$2,562,983	\$25,759,664	\$3,487,046	\$3,480,525
Net Benefit (Cost)	\$24,210,630	\$3,193,436	(\$20,003,245)	\$4,207,385	\$6,242,386
Benefit/Cost Ratio	27.20	2.25	0.22	2.21	2.79

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	18.1 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.29 kW
Gross Annual kWh Saved at Customer	886 kWh
Net Annual kWh Saved at Generator	962 kWh

Program Summary All Participants

Total Participants	10,293
Total Budget	\$2,562,983
Net coincident kW Saved at Generator	2,996 kW
Gross Annual kWh Saved at Customer	9,116,856 kWh
Net Annual kWh Saved at Generator	9,905,319 kWh

Utility Program Cost per kWh Lifetime	\$0.0143
Utility Program Cost per kW at Gen	\$856

Home Energy Squad						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh) 10.0 years		
Avoided Revenue Requirements						T & D Loss Factor (Energy) 7.96%		
Generation	N/A	\$295,277	\$295,277	\$295,277	\$344,986	T & D Loss Factor (Demand) 9.84%		
T & D	N/A	\$52,967	\$52,967	\$52,967	\$62,036	Net coincident kW Saved at Generator 0.03 kW		
Marginal Energy	N/A	\$829,476	\$829,476	\$829,476	\$1,018,618	Gross Annual kWh Saved at Customer 47 kWh		
Environmental Externality	N/A	N/A	N/A	N/A	\$132,450	Net Annual kWh Saved at Generator 51 kWh		
Subtotal	N/A	\$1,177,720	\$1,177,720	\$1,177,720	\$1,558,091			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$4,675,027	N/A	N/A	N/A	N/A	Total Participants 4,094		
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Total Budget \$900,429		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator 117 kW		
Incremental O&M Savings	\$242,801	N/A	N/A	\$242,801	\$274,302	Gross Annual kWh Saved at Customer 193,804 kWh		
Subtotal	\$4,917,828	N/A	N/A	\$242,801	\$274,302	Net Annual kWh Saved at Generator 210,565 kWh		
Total Benefits						Utility Program Cost per kWh Lifetime \$0.4270		
	\$4,917,828	\$1,177,720	\$1,177,720	\$1,420,521	\$1,832,392	Utility Program Cost per kW at Gen \$7,684		
Costs								
Utility Project Costs								
Customer Services	N/A	\$473,252	\$473,252	\$473,252	\$473,252			
Project Administration	N/A	\$225,855	\$225,855	\$225,855	\$225,855			
Advertising & Promotion	N/A	\$201,323	\$201,323	\$201,323	\$201,323			
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	\$900,429	\$900,429	\$900,429	\$900,429			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$4,675,027	N/A	N/A			
Subtotal	N/A	N/A	\$4,675,027	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$143,259	N/A	N/A	\$143,259	\$143,259			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$143,259	N/A	N/A	\$143,259	\$143,259			
Total Costs								
	\$143,259	\$900,429	\$5,575,456	\$1,043,689	\$1,043,689			
Net Benefit (Cost)								
	\$4,774,568	\$277,291	(\$4,397,736)	\$376,832	\$788,704			
Benefit/Cost Ratio								
	34.33	1.31	0.21	1.36	1.76			

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

Company: **Xcel Energy**
 Project: **Home Energy Squad**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$767,165
Escalation Rate =	4.69%	Incentive Costs =	\$78,535
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$845,700
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$28
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$1,200
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	10.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	6.39
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	3,782
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	24,184
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$20.77
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$224	Ratepayer Impact Measure Test	(\$1,368,928)	0.45
Cost per Participant per Dth =	\$39.34	Utility Cost Test	\$262,269	1.31
Lifetime Energy Reduction (Dth)	241,255	Societal Test	\$5,405,102	6.65
Societal Cost per Dth	\$3.97	Participant Test	\$6,144,208	59.19

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

ACTUAL

Company: **Xcel Energy**
 Project: **Home Energy Squad**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$6.06	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	3.02%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$301,951
		Incentive Costs = \$0
		16) Total Utility Project Costs = \$301,951
		17) Direct Participant Costs (\$/Part.) = 50
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = 575
		Escalation Rate = 2.30%
		20) Project Life (Years) = 9.9
		21) Avg. Dth/Part. Saved = 4.18
		22) Avg Non-Gas Fuel Units/Part. Saved = 0 kWh
		22a) Avg Additional Non-Gas Fuel Units/ Part. Used = 0 kWh
		23) Number of Participants = 1,414
		24) Total Annual Dth Saved = 5,909
		25) Incentive/Participant = \$0.00

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$214	Ratepayer Impact Measure Test	(\$423,819)	0.38
Cost per Participant per Dth =	\$63.11	Utility Cost Test	(\$43,889)	0.85
Lifetime Energy Reduction (Dth)	58,643	Societal Test	\$982,159	3.63
Societal Cost per Dth	\$6.36	Participant Test	\$1,121,643	16.81

Home Lighting

2023 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	\$15,349,943	\$15,349,943	\$15,349,943	\$18,387,541
T & D	N/A	\$2,763,988	\$2,763,988	\$2,763,988	\$3,320,083
Marginal Energy	N/A	\$49,932,888	\$49,932,888	\$49,932,888	\$62,443,951
Environmental Externality	N/A	N/A	N/A	N/A	\$8,436,237
Subtotal	N/A	\$68,046,820	\$68,046,820	\$68,046,820	\$92,587,811
Participant Benefits					
Bill Reduction - Electric	\$298,916,456	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$4,323,136	N/A	N/A	\$4,323,136	\$4,323,136
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$303,239,592	N/A	N/A	\$4,323,136	\$4,323,136
Total Benefits	\$303,239,592	\$68,046,820	\$68,046,820	\$72,369,956	\$96,910,947
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$570,858	\$570,858	\$570,858	\$570,858
Advertising & Promotion	N/A	\$625,000	\$625,000	\$625,000	\$625,000
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$4,323,136	\$4,323,136	\$4,323,136	\$4,323,136
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$5,518,994	\$5,518,994	\$5,518,994	\$5,518,994
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$298,916,456	N/A	N/A
Subtotal	N/A	N/A	\$298,916,456	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$6,387,961	N/A	N/A	\$6,387,961	\$6,387,961
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$6,387,961	N/A	N/A	\$6,387,961	\$6,387,961
Total Costs	\$6,387,961	\$5,518,994	\$304,435,450	\$11,906,955	\$11,906,955
Net Benefit (Cost)	\$296,851,631	\$62,527,826	(\$236,388,630)	\$60,463,001	\$85,003,992
Benefit/Cost Ratio	47.47	12.33	0.22	6.08	8.14

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	15.6 years
T & D Loss Factor (Energy)	7.57%
T & D Loss Factor (Demand)	9.25%
Net coincident kW Saved at Generator	0.10 kW
Gross Annual kWh Saved at Customer	650 kWh
Net Annual kWh Saved at Generator	699 kWh

Program Summary All
Participants

Total Participants	218,166
Total Budget	\$5,518,994
Net coincident kW Saved at Generator	20,942 kW
Gross Annual kWh Saved at Customer	141,898,225 kWh
Net Annual kWh Saved at Generator	152,443,243 kWh

Utility Program Cost per kWh Lifetime	\$0.0023
Utility Program Cost per kW at Gen	\$264

Home Lighting

2023

ELECTRIC

ACTUAL

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	\$31,985,760	\$31,985,760	\$31,985,760	\$38,571,198
T & D	N/A	\$5,765,498	\$5,765,498	\$5,765,498	\$6,971,776
Marginal Energy	N/A	\$105,618,225	\$105,618,225	\$105,618,225	\$132,977,712
Environmental Externality	N/A	N/A	N/A	N/A	\$17,357,595
Subtotal	N/A	\$143,369,484	\$143,369,484	\$143,369,484	\$195,878,282
Participant Benefits					
Bill Reduction - Electric	\$592,071,115	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$9,940,085	N/A	N/A	\$9,940,085	\$9,940,085
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$602,011,200	N/A	N/A	\$9,940,085	\$9,940,085
Total Benefits	\$602,011,200	\$143,369,484	\$143,369,484	\$153,309,568	\$205,818,366
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$984,897	\$984,897	\$984,897	\$984,897
Advertising & Promotion	N/A	\$610,296	\$610,296	\$610,296	\$610,296
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$9,940,085	\$9,940,085	\$9,940,085	\$9,940,085
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$11,535,278	\$11,535,278	\$11,535,278	\$11,535,278
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$592,071,115	N/A	N/A
Subtotal	N/A	N/A	\$592,071,115	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$8,455,108	N/A	N/A	\$8,455,108	\$8,455,108
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$8,455,108	N/A	N/A	\$8,455,108	\$8,455,108
Total Costs	\$8,455,108	\$11,535,278	\$603,606,393	\$19,990,386	\$19,990,386

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	16.9 years
T & D Loss Factor (Energy)	7.69%
T & D Loss Factor (Demand)	9.41%
Net coincident kW Saved at Generator	0.09 kW
Gross Annual kWh Saved at Customer	629 kWh
Net Annual kWh Saved at Generator	676 kWh

Program Summary All Participants

Total Participants	446,762
Total Budget	\$11,535,278
Net coincident kW Saved at Generator	40,838 kW
Gross Annual kWh Saved at Customer	281,006,188 kWh
Net Annual kWh Saved at Generator	301,994,408 kWh

Utility Program Cost per kWh Lifetime	\$0.0023
Utility Program Cost per kW at Gen	\$282

Net Benefit (Cost)	\$593,556,091	\$131,834,206	(\$460,236,909)	\$133,319,182	\$185,827,980
Benefit/Cost Ratio	71.20	12.43	0.24	7.67	10.30

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

Insulation Rebate Program

2023

ELECTRIC

GOAL

2023 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	\$173,120	\$173,120	\$173,120	\$201,437
T & D	N/A	\$29,749	\$29,749	\$29,749	\$34,847
Marginal Energy	N/A	\$81,235	\$81,235	\$81,235	\$99,155
Environmental Externality	N/A	N/A	N/A	N/A	\$11,488
Subtotal	N/A	\$284,104	\$284,104	\$284,104	\$346,928
Participant Benefits					
Bill Reduction - Electric	\$438,424	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$40,795	N/A	N/A	\$40,795	\$40,795
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$479,218	N/A	N/A	\$40,795	\$40,795
Total Benefits	\$479,218	\$284,104	\$284,104	\$324,899	\$387,722
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$42,884	\$42,884	\$42,884	\$42,884
Advertising & Promotion	N/A	\$5,000	\$5,000	\$5,000	\$5,000
Measurement & Verification	N/A	\$2,000	\$2,000	\$2,000	\$2,000
Rebates	N/A	\$40,795	\$40,795	\$40,795	\$40,795
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$90,678	\$90,678	\$90,678	\$90,678
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$438,424	N/A	N/A
Subtotal	N/A	N/A	\$438,424	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$1,137,772	N/A	N/A	\$1,137,772	\$1,093,740
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$1,137,772	N/A	N/A	\$1,137,772	\$1,093,740
Total Costs	\$1,137,772	\$90,678	\$529,102	\$1,228,450	\$1,184,418
Net Benefit (Cost)	(\$658,553)	\$193,425	(\$244,998)	(\$903,552)	(\$796,696)
Benefit/Cost Ratio	0.42	3.13	0.54	0.26	0.33

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

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	15.2 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.19 kW
Gross Annual kWh Saved at Customer	147 kWh
Net Annual kWh Saved at Generator	160 kWh

Program Summary All Participants

Total Participants	1,381
Total Budget	\$90,678
Net coincident kW Saved at Generator	256 kW
Gross Annual kWh Saved at Customer	203,685 kWh
Net Annual kWh Saved at Generator	221,301 kWh
Utility Program Cost per kWh Lifetime	\$0.0270
Utility Program Cost per kW at Gen	\$355

Insulation Rebate Program						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)		15.2 years
Avoided Revenue Requirements						T & D Loss Factor (Energy)		7.96%
Generation	N/A	\$198,673	\$198,673	\$198,673	\$235,171	T & D Loss Factor (Demand)		9.84%
T & D	N/A	\$35,712	\$35,712	\$35,712	\$42,374	Net coincident kW Saved at Generator		0.26 kW
Marginal Energy	N/A	\$76,853	\$76,853	\$76,853	\$94,265	Gross Annual kWh Saved at Customer		238 kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$12,681	Net Annual kWh Saved at Generator		259 kWh
Subtotal	N/A	\$311,238	\$311,238	\$311,238	\$384,491	Program Summary All Participants		
Participant Benefits						Total Participants		980
Bill Reduction - Electric	\$444,302	N/A	N/A	N/A	N/A	Total Budget		\$116,814
Rebates from Xcel Energy	\$69,017	N/A	N/A	\$69,017	\$69,017	Net coincident kW Saved at Generator		257 kW
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer		233,365 kWh
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Net Annual kWh Saved at Generator		253,547 kWh
Subtotal	\$513,319	N/A	N/A	\$69,017	\$69,017	Utility Program Cost per kWh Lifetime \$0.0303		
Total Benefits						Utility Program Cost per kW at Gen \$454		
Costs								
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$37,255	\$37,255	\$37,255	\$37,255			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$10,543	\$10,543	\$10,543	\$10,543			
Rebates	N/A	\$69,017	\$69,017	\$69,017	\$69,017			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$116,814	\$116,814	\$116,814	\$116,814			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$444,302	N/A	N/A			
Subtotal	N/A	N/A	\$444,302	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$531,357	N/A	N/A	\$531,357	\$531,357			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$531,357	N/A	N/A	\$531,357	\$531,357			
Total Costs								
	\$531,357	\$116,814	\$561,117	\$648,171	\$648,171			
Net Benefit (Cost)								
	(\$18,038)	\$194,424	(\$249,878)	(\$267,916)	(\$194,663)			
Benefit/Cost Ratio								
	0.97	2.66	0.55	0.59	0.70			

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

Company: **Xcel Energy**
 Project: **Insulation Rebate Program**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$45,458
Escalation Rate =	4.69%	Incentive Costs =	\$204,496
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$249,954
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$1,509
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$0
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	13.4
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	19.77
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	996
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	19,689
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$205.32
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$251	Ratepayer Impact Measure Test	(\$814,905)	0.59
Cost per Participant per Dth =	\$89.05	Utility Cost Test	\$946,364	4.79
Lifetime Energy Reduction (Dth)	264,570	Societal Test	\$369,834	1.21
Societal Cost per Dth	\$6.79	Participant Test	\$462,456	1.31

Company: **Xcel Energy**
 Project: **Insulation Rebate Program**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$6.06	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	3.02%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$38,680
		Incentive Costs = \$325,831
		16) Total Utility Project Costs = \$364,511
		17) Direct Participant Costs (\$/Part.) = 3,851
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		20) Project Life (Years) = 14.9
		21) Avg. Dth/Part. Saved = 29.36
		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 = 745
		24) Total Annual Dth Saved = 21,870
		25) Incentive/Participant = \$437.36

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$489	Ratepayer Impact Measure Test	(\$1,058,643)	0.58
Cost per Participant per Dth =	\$147.85	Utility Cost Test	\$1,105,356	4.03
Lifetime Energy Reduction (Dth)	326,548	Societal Test	(\$561,336)	0.83
Societal Cost per Dth	\$9.90	Participant Test	(\$379,208)	0.87

Refrigerator Recycling

2023 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	\$484,573	\$484,573	\$484,573	\$529,045
T & D	N/A	\$63,342	\$63,342	\$63,342	\$67,617
Marginal Energy	N/A	\$999,996	\$999,996	\$999,996	\$1,080,896
Environmental Externality	N/A	N/A	N/A	N/A	\$152,837
Subtotal	N/A	\$1,547,912	\$1,547,912	\$1,547,912	\$1,830,396
Participant Benefits					
Bill Reduction - Electric	\$5,957,082	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$470,250	N/A	N/A	\$470,250	\$470,250
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$6,427,332	N/A	N/A	\$470,250	\$470,250
Total Benefits	\$6,427,332	\$1,547,912	\$1,547,912	\$2,018,162	\$2,300,646
Costs					
Utility Project Costs					
Customer Services	N/A	\$14,800	\$14,800	\$14,800	\$14,800
Project Administration	N/A	\$576,023	\$576,023	\$576,023	\$576,023
Advertising & Promotion	N/A	\$213,000	\$213,000	\$213,000	\$213,000
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$470,250	\$470,250	\$470,250	\$470,250
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$1,274,073	\$1,274,073	\$1,274,073	\$1,274,073
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$5,957,082	N/A	N/A
Subtotal	N/A	N/A	\$5,957,082	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$18,000	N/A	N/A	\$18,000	\$18,000
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$18,000	N/A	N/A	\$18,000	\$18,000
Total Costs	\$18,000	\$1,274,073	\$7,231,155	\$1,292,073	\$1,292,073
Net Benefit (Cost)	\$6,409,332	\$273,839	(\$5,683,243)	\$726,089	\$1,008,573
Benefit/Cost Ratio	357.07	1.21	0.21	1.56	1.78

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	7.2 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.11 kW
Gross Annual kWh Saved at Customer	589 kWh
Net Annual kWh Saved at Generator	640 kWh

Program Summary All
Participants

Total Participants	10,050
Total Budget	\$1,274,073
Net coincident kW Saved at Generator	1,084 kW
Gross Annual kWh Saved at Customer	5,919,212 kWh
Net Annual kWh Saved at Generator	6,431,130 kWh

Utility Program Cost per kWh Lifetime	\$0.0276
Utility Program Cost per kW at Gen	\$1,175

Refrigerator Recycling

2023

ELECTRIC

ACTUAL

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	\$130,513	\$130,513	\$130,513	\$139,826
T & D	N/A	\$23,116	\$23,116	\$23,116	\$24,774
Marginal Energy	N/A	\$357,133	\$357,133	\$357,133	\$388,360
Environmental Externality	N/A	N/A	N/A	N/A	\$53,826
Subtotal	N/A	\$510,762	\$510,762	\$510,762	\$606,786
Participant Benefits					
Bill Reduction - Electric	\$2,004,028	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$139,676	N/A	N/A	\$139,676	\$139,676
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$2,143,704	N/A	N/A	\$139,676	\$139,676
Total Benefits	\$2,143,704	\$510,762	\$510,762	\$650,438	\$746,462
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$626,245	\$626,245	\$626,245	\$626,245
Advertising & Promotion	N/A	\$16,581	\$16,581	\$16,581	\$16,581
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$139,676	\$139,676	\$139,676	\$139,676
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$782,501	\$782,501	\$782,501	\$782,501
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$2,004,028	N/A	N/A
Subtotal	N/A	N/A	\$2,004,028	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	\$782,501	\$2,786,529	\$782,501	\$782,501

Net Benefit (Cost)	\$2,143,704	(\$271,739)	(\$2,275,767)	(\$132,063)	(\$36,039)
Benefit/Cost Ratio	INF	0.65	0.18	0.83	0.95

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

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	7.7 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.12 kW
Gross Annual kWh Saved at Customer	784 kWh
Net Annual kWh Saved at Generator	851 kWh

Program Summary All Participants

Total Participants	2,763
Total Budget	\$782,501
Net coincident kW Saved at Generator	326 kW
Gross Annual kWh Saved at Customer	2,165,380 kWh
Net Annual kWh Saved at Generator	2,352,651 kWh

Utility Program Cost per kWh Lifetime	\$0.0434
Utility Program Cost per kW at Gen	\$2,398

Residential Demand Response	2023 ELECTRIC					GOAL
2023 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	\$14,568,536	\$14,568,536	\$14,568,536	\$16,364,980	
T & D	N/A	\$97,655	\$97,655	\$97,655	\$107,775	
Marginal Energy	N/A	\$131,816	\$131,816	\$131,816	\$147,407	
Environmental Externality	N/A	N/A	N/A	N/A	\$16,876	
Subtotal	N/A	\$14,798,007	\$14,798,007	\$14,798,007	\$16,637,039	
Participant Benefits						
Bill Reduction - Electric	\$4,745,061	N/A	N/A	N/A	N/A	
Rebates from Xcel Energy	\$1,684,152	N/A	N/A	\$1,684,152	\$1,684,152	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$6,429,213	N/A	N/A	\$1,684,152	\$1,684,152	
Total Benefits	\$6,429,213	\$14,798,007	\$14,798,007	\$16,482,160	\$18,321,191	
Costs						
Utility Project Costs						
Customer Services	N/A	\$0	\$0	\$0	\$0	
Project Administration	N/A	\$9,747,077	\$9,747,077	\$9,747,077	\$9,747,077	
Advertising & Promotion	N/A	\$469,488	\$469,488	\$469,488	\$469,488	
Measurement & Verification	N/A	\$150,000	\$150,000	\$150,000	\$150,000	
Rebates	N/A	\$1,684,152	\$1,684,152	\$1,684,152	\$1,684,152	
Other	N/A	\$0	\$0	\$0	\$0	
Subtotal	N/A	\$12,050,717	\$12,050,717	\$12,050,717	\$12,050,717	
Utility Revenue Reduction						
Revenue Reduction - Electric	N/A	N/A	\$4,745,061	N/A	N/A	
Subtotal	N/A	N/A	\$4,745,061	N/A	N/A	
Participant Costs						
Incremental Capital Costs	\$783,839	N/A	N/A	\$783,839	\$758,057	
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0	
Subtotal	\$783,839	N/A	N/A	\$783,839	\$758,057	
Total Costs	\$783,839	\$12,050,717	\$16,795,778	\$12,834,556	\$12,808,774	
Net Benefit (Cost)	\$5,645,373	\$2,747,290	(\$1,997,770)	\$3,647,603	\$5,512,416	
Benefit/Cost Ratio	8.20	1.23	0.88	1.28	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 and per Participant	
Lifetime (Weighted on Generator kWh)	9.6 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.08 kW
Gross Annual kWh Saved at Customer	1 kWh
Net Annual kWh Saved at Generator	1 kWh

Program Summary All Participants	
Total Participants	487,565
Total Budget	\$12,050,717
Net coincident kW Saved at Generator	39,376 kW
Gross Annual kWh Saved at Customer	503,209 kWh
Net Annual kWh Saved at Generator	546,729 kWh

Utility Program Cost per kWh Lifetime	\$2.3052
Utility Program Cost per kW at Gen	\$306

Residential Demand Response
2023
ELECTRIC
ACTUAL
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	\$18,378,499	\$18,378,499	\$18,378,499	\$20,427,249
T & D	N/A	\$20,114	\$20,114	\$20,114	\$21,242
Marginal Energy	N/A	\$36,918	\$36,918	\$36,918	\$40,119
Environmental Externality	N/A	N/A	N/A	N/A	\$2,904
Subtotal	N/A	\$18,435,532	\$18,435,532	\$18,435,532	\$20,491,514
Participant Benefits					
Bill Reduction - Electric	\$4,864,382	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$2,772,964	N/A	N/A	\$2,772,964	\$2,772,964
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$7,637,346	N/A	N/A	\$2,772,964	\$2,772,964
Total Benefits	\$7,637,346	\$18,435,532	\$18,435,532	\$21,208,496	\$23,264,478
Costs					
Utility Project Costs					
Customer Services	N/A	\$974,865	\$974,865	\$974,865	\$974,865
Project Administration	N/A	\$6,200,739	\$6,200,739	\$6,200,739	\$6,200,739
Advertising & Promotion	N/A	\$349,328	\$349,328	\$349,328	\$349,328
Measurement & Verification	N/A	\$39,819	\$39,819	\$39,819	\$39,819
Rebates	N/A	\$2,772,964	\$2,772,964	\$2,772,964	\$2,772,964
Other	N/A	\$2	\$2	\$2	\$2
Subtotal	N/A	\$10,337,717	\$10,337,717	\$10,337,717	\$10,337,717
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$4,864,382	N/A	N/A
Subtotal	N/A	N/A	\$4,864,382	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$1,171,133	N/A	N/A	\$1,171,133	\$1,171,133
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$1,171,133	N/A	N/A	\$1,171,133	\$1,171,133
Total Costs	\$1,171,133	\$10,337,717	\$15,202,099	\$11,508,849	\$11,508,849
Net Benefit (Cost)	\$6,466,213	\$8,097,815	\$3,233,433	\$9,699,646	\$11,755,629
Benefit/Cost Ratio	6.52	1.78	1.21	1.84	2.02

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

Input Summary and Totals
Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	9.9 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.07 kW
Gross Annual kWh Saved at Customer	1 kWh
Net Annual kWh Saved at Generator	1 kWh

Program Summary All Participants

Total Participants	811,076
Total Budget	\$10,337,717
Net coincident kW Saved at Generator	58,932 kW
Gross Annual kWh Saved at Customer	526,075 kWh
Net Annual kWh Saved at Generator	571,572 kWh

Utility Program Cost per kWh Lifetime	\$1.8320
Utility Program Cost per kW at Gen	\$175

Company: **Xcel Energy**
 Project: **Residential Demand Response**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$34,380
Escalation Rate =	4.69%	Incentive Costs =	\$283,598
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$317,978
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$15
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$0
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	10.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	2.05
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	14,650
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	29,999
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$19.36
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$22	Ratepayer Impact Measure Test	(\$968,552)	0.59
Cost per Participant per Dth =	\$17.75	Utility Cost Test	\$1,059,654	4.33
Lifetime Energy Reduction (Dth)	299,990	Societal Test	\$1,893,954	4.39
Societal Cost per Dth	\$1.86	Participant Test	\$2,097,393	10.78

Company: **Xcel Energy**
 Project: **Residential Demand Response**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$6.06	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	3.02%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$5,401
		Incentive Costs = \$5,388
		16) Total Utility Project Costs = \$10,788
		17) Direct Participant Costs (\$/Part.) = 36
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		20) Project Life (Years) = 10.0
		21) Avg. Dth/Part. Saved = 5.52
		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 = 305
		24) Total Annual Dth Saved = 1,683
		25) Incentive/Participant = \$17.66

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$35	Ratepayer Impact Measure Test	(\$47,287)	0.62
Cost per Participant per Dth =	\$12.95	Utility Cost Test	\$66,499	7.16
Lifetime Energy Reduction (Dth)	16,830	Societal Test	\$100,601	5.61
Societal Cost per Dth	\$1.30	Participant Test	\$108,161	10.82

Residential Heating and Cooling

2023 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	\$3,414,334	\$3,414,334	\$3,414,334	\$4,069,684
T & D	N/A	\$607,963	\$607,963	\$607,963	\$727,153
Marginal Energy	N/A	\$1,896,675	\$1,896,675	\$1,896,675	\$2,353,515
Environmental Externality	N/A	N/A	N/A	N/A	\$277,576
Subtotal	N/A	\$5,918,972	\$5,918,972	\$5,918,972	\$7,427,928
Participant Benefits					
Bill Reduction - Electric	\$10,380,070	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$3,728,301	N/A	N/A	\$3,728,301	\$3,728,301
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$14,108,371	N/A	N/A	\$3,728,301	\$3,728,301
Total Benefits	\$14,108,371	\$5,918,972	\$5,918,972	\$9,647,273	\$11,156,229
Costs					
Utility Project Costs					
Customer Services	N/A	\$3,750	\$3,750	\$3,750	\$3,750
Project Administration	N/A	\$677,324	\$677,324	\$677,324	\$677,324
Advertising & Promotion	N/A	\$138,900	\$138,900	\$138,900	\$138,900
Measurement & Verification	N/A	\$31,000	\$31,000	\$31,000	\$31,000
Rebates	N/A	\$3,728,301	\$3,728,301	\$3,728,301	\$3,728,301
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$4,579,275	\$4,579,275	\$4,579,275	\$4,579,275
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$10,380,070	N/A	N/A
Subtotal	N/A	N/A	\$10,380,070	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$4,661,757	N/A	N/A	\$4,661,757	\$4,608,831
Incremental O&M Costs	\$684	N/A	N/A	\$684	\$773
Subtotal	\$4,662,442	N/A	N/A	\$4,662,442	\$4,609,604
Total Costs	\$4,662,442	\$4,579,275	\$14,959,345	\$9,241,717	\$9,188,879
Net Benefit (Cost)	\$9,445,929	\$1,339,697	(\$9,040,373)	\$405,556	\$1,967,350
Benefit/Cost Ratio	3.03	1.29	0.40	1.04	1.21

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	18.0 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.37 kW
Gross Annual kWh Saved at Customer	431 kWh
Net Annual kWh Saved at Generator	469 kWh

Program Summary All
Participants

Total Participants	18,510
Total Budget	\$4,579,275
Net coincident kW Saved at Generator	6,919 kW
Gross Annual kWh Saved at Customer	7,986,147 kWh
Net Annual kWh Saved at Generator	8,676,822 kWh

Utility Program Cost per kWh Lifetime	\$0.0293
Utility Program Cost per kW at Gen	\$662

Residential Heating and Cooling						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)		17.3 years
Avoided Revenue Requirements						T & D Loss Factor (Energy)		7.96%
Generation	N/A	\$10,489,431	\$10,489,431	\$10,489,431	\$12,517,342	T & D Loss Factor (Demand)		9.84%
T & D	N/A	\$1,887,914	\$1,887,914	\$1,887,914	\$2,257,649	Net coincident kW Saved at Generator		0.59 kW
Marginal Energy	N/A	\$3,239,327	\$3,239,327	\$3,239,327	\$3,992,630	Gross Annual kWh Saved at Customer		412 kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$543,255	Net Annual kWh Saved at Generator		448 kWh
Subtotal	N/A	\$15,616,671	\$15,616,671	\$15,616,671	\$19,310,875			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$15,017,922	N/A	N/A	N/A	N/A	Total Participants		20,728
Rebates from Xcel Energy	\$4,979,208	N/A	N/A	\$4,979,208	\$4,979,208	Total Budget		\$5,584,416
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator		12,161 kW
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer		8,544,272 kWh
Subtotal	\$19,997,130	N/A	N/A	\$4,979,208	\$4,979,208	Net Annual kWh Saved at Generator		9,283,216 kWh
Total Benefits	\$19,997,130	\$15,616,671	\$15,616,671	\$20,595,879	\$24,290,083	Utility Program Cost per kWh Lifetime		\$0.0347
Costs						Utility Program Cost per kW at Gen		\$459
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$517,731	\$517,731	\$517,731	\$517,731			
Advertising & Promotion	N/A	\$71,436	\$71,436	\$71,436	\$71,436			
Measurement & Verification	N/A	\$16,041	\$16,041	\$16,041	\$16,041			
Rebates	N/A	\$4,979,208	\$4,979,208	\$4,979,208	\$4,979,208			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$5,584,416	\$5,584,416	\$5,584,416	\$5,584,416			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$15,017,922	N/A	N/A			
Subtotal	N/A	N/A	\$15,017,922	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$10,582,619	N/A	N/A	\$10,582,619	\$10,582,619			
Incremental O&M Costs	\$1,510	N/A	N/A	\$1,510	\$1,706			
Subtotal	\$10,584,129	N/A	N/A	\$10,584,129	\$10,584,325			
Total Costs	\$10,584,129	\$5,584,416	\$20,602,338	\$16,168,545	\$16,168,741			
Net Benefit (Cost)	\$9,413,001	\$10,032,255	(\$4,985,667)	\$4,427,333	\$8,121,342			
Benefit/Cost Ratio	1.89	2.80	0.76	1.27	1.50			

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

Company: **Xcel Energy**
 Project: **Residential Heating and Cooling**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$322,769
Escalation Rate =	4.69%	Incentive Costs =	\$2,669,838
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$2,992,607
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$397
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$0
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	18.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	6.15
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	19,540
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	120,130
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$136.63
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$153	Ratepayer Impact Measure Test	(\$7,563,083)	0.56
Cost per Participant per Dth =	\$89.45	Utility Cost Test	\$6,685,662	3.23
Lifetime Energy Reduction (Dth)	2,159,764	Societal Test	\$8,065,877	1.74
Societal Cost per Dth	\$5.02	Participant Test	\$9,166,147	2.18

Company: **Xcel Energy**
 Project: **Residential Heating and Cooling**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$477,613
Escalation Rate =	4.69%	Incentive Costs =	\$3,453,041
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$3,930,654
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	781
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	-
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	18.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	17.84
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	12,604
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	224,802
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$273.96
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$312	Ratepayer Impact Measure Test	(\$12,507,735)	0.59
Cost per Participant per Dth =	\$61.28	Utility Cost Test	\$14,231,855	4.62
Lifetime Energy Reduction (Dth)	4,053,776	Societal Test	\$19,001,501	2.38
Societal Cost per Dth	\$3.40	Participant Test	\$20,347,136	3.07

School Education Kits

2023 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	\$1,902,944	\$1,902,944	\$1,902,944	\$2,193,032
T & D	N/A	\$340,682	\$340,682	\$340,682	\$393,383
Marginal Energy	N/A	\$3,736,817	\$3,736,817	\$3,736,817	\$4,588,193
Environmental Externality	N/A	N/A	N/A	N/A	\$597,812
Subtotal	N/A	\$5,980,444	\$5,980,444	\$5,980,444	\$7,772,420
Participant Benefits					
Bill Reduction - Electric	\$21,890,513	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$985,572	N/A	N/A	\$985,572	\$985,572
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$2,229,629	N/A	N/A	\$2,229,629	\$2,518,624
Subtotal	\$25,105,713	N/A	N/A	\$3,215,201	\$3,504,196
Total Benefits	\$25,105,713	\$5,980,444	\$5,980,444	\$9,195,645	\$11,276,616
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$755,397	\$755,397	\$755,397	\$755,397
Advertising & Promotion	N/A	\$5,000	\$5,000	\$5,000	\$5,000
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$985,572	\$985,572	\$985,572	\$985,572
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$1,745,969	\$1,745,969	\$1,745,969	\$1,745,969
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$21,890,513	N/A	N/A
Subtotal	N/A	N/A	\$21,890,513	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$985,572	N/A	N/A	\$985,572	\$985,572
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$985,572	N/A	N/A	\$985,572	\$985,572
Total Costs	\$985,572	\$1,745,969	\$23,636,481	\$2,731,540	\$2,731,540
Net Benefit (Cost)	\$24,120,142	\$4,234,475	(\$17,656,037)	\$6,464,104	\$8,545,076
Benefit/Cost Ratio	25.47	3.43	0.25	3.37	4.13

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	13.7 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.07 kW
Gross Annual kWh Saved at Customer	357 kWh
Net Annual kWh Saved at Generator	272 kWh

Program Summary All Participants

Total Participants	42,000
Total Budget	\$1,745,969
Net coincident kW Saved at Generator	2,871 kW
Gross Annual kWh Saved at Customer	15,008,262 kWh
Net Annual kWh Saved at Generator	11,444,925 kWh

Utility Program Cost per kWh Lifetime	\$0.0111
Utility Program Cost per kW at Gen	\$608

School Education Kits

2023

ELECTRIC

ACTUAL

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	\$2,265,598	\$2,265,598	\$2,265,598	\$2,593,956
T & D	N/A	\$405,216	\$405,216	\$405,216	\$464,779
Marginal Energy	N/A	\$3,902,834	\$3,902,834	\$3,902,834	\$4,801,685
Environmental Externality	N/A	N/A	N/A	N/A	\$608,335
Subtotal	N/A	\$6,573,649	\$6,573,649	\$6,573,649	\$8,468,754
Participant Benefits					
Bill Reduction - Electric	\$20,272,427	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$937,414	N/A	N/A	\$937,414	\$937,414
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$4,547,706	N/A	N/A	\$4,547,706	\$5,137,726
Subtotal	\$25,757,547	N/A	N/A	\$5,485,120	\$6,075,141
Total Benefits	\$25,757,547	\$6,573,649	\$6,573,649	\$12,058,769	\$14,543,895
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$709,764	\$709,764	\$709,764	\$709,764
Advertising & Promotion	N/A	\$655	\$655	\$655	\$655
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$937,414	\$937,414	\$937,414	\$937,414
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$1,647,834	\$1,647,834	\$1,647,834	\$1,647,834
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$20,272,427	N/A	N/A
Subtotal	N/A	N/A	\$20,272,427	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$991,649	N/A	N/A	\$991,649	\$991,649
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$991,649	N/A	N/A	\$991,649	\$991,649
Total Costs	\$991,649	\$1,647,834	\$21,920,261	\$2,639,483	\$2,639,483
Net Benefit (Cost)	\$24,765,898	\$4,925,815	(\$15,346,612)	\$9,419,286	\$11,904,412
Benefit/Cost Ratio	25.97	3.99	0.30	4.57	5.51

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	20.3 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.08 kW
Gross Annual kWh Saved at Customer	394 kWh
Net Annual kWh Saved at Generator	290 kWh

Program Summary All Participants

Total Participants	41,863
Total Budget	\$1,647,834
Net coincident kW Saved at Generator	3,516 kW
Gross Annual kWh Saved at Customer	16,501,650 kWh
Net Annual kWh Saved at Generator	12,123,698 kWh
Utility Program Cost per kWh Lifetime	\$0.0067
Utility Program Cost per kW at Gen	\$469

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

Company: **Xcel Energy**
 Project: **School Education Kits**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$472,163
Escalation Rate =	4.69%	Incentive Costs =	\$85,034
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$557,198
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$4
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$500
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	9.9
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	4.64
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	21,500
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	99,667
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$3.96
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$26	Ratepayer Impact Measure Test	(\$2,705,757)	0.63
Cost per Participant per Dth =	\$6.44	Utility Cost Test	\$3,992,511	8.17
Lifetime Energy Reduction (Dth)	990,351	Societal Test	\$17,347,591	28.01
Societal Cost per Dth	\$0.65	Participant Test	\$17,444,109	206.14

Company: **Xcel Energy**
 Project: **School Education Kits**

Input Data	2023
1) Retail Rate (\$/Dth) =	\$6.06
Escalation Rate =	4.69%
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000
Escalation Rate =	4.69%
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh
3) Commodity Cost (\$/Dth) =	\$3.25
Escalation Rate =	4.69%
4) Demand Cost (\$/Unit/Yr) =	\$82.36
Escalation Rate =	4.69%
5) Peak Reduction Factor =	1.00%
6) Variable O&M (\$/Dth) =	\$0.0411
Escalation Rate =	4.69%
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000
Escalation Rate =	3.59%
8) Non-Gas Fuel Loss Factor	0.00%
9) Gas Environmental Damage Factor =	\$2.0700
Escalation Rate =	2.30%
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000
Escalation Rate =	2.30%
11) Participant Discount Rate =	3.02%
12) MN CIP Utility Discount Rate =	5.34%
13) Societal Discount Rate =	3.02%
14) General Input Data Year =	2020
15a) Project Analysis Year 1 =	2021
15b) Project Analysis Year 2 =	2022
15c) Project Analysis Year 3 =	2023
	2023
Administrative & Operating Costs =	\$332,470
Incentive Costs =	\$80,063
16) Total Utility Project Costs =	\$412,533
17) Direct Participant Costs (\$/Part.) =	4
18) Participant Non-Energy Costs (Annual \$/Part.) =	-
Escalation Rate =	2.30%
19) Participant Non-Energy Savings (Annual \$/Part.) =	857
Escalation Rate =	2.30%
20) Project Life (Years) =	23.9
21) Avg. Dth/Part. Saved =	3.67
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 =	21,505
24) Total Annual Dth Saved =	78,883
25) Incentive/Participant =	\$3.72

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$19	Ratepayer Impact Measure Test	(\$2,123,222)	0.63
Cost per Participant per Dth =	\$6.31	Utility Cost Test	\$3,209,959	8.78
Lifetime Energy Reduction (Dth)	1,881,416	Societal Test	\$26,937,360	55.13
Societal Cost per Dth	\$0.26	Participant Test	\$23,754,083	279.98

Whole Home Efficiency

2023 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	\$32,985	\$32,985	\$32,985	\$38,596
T & D	N/A	\$5,518	\$5,518	\$5,518	\$6,523
Marginal Energy	N/A	\$44,731	\$44,731	\$44,731	\$54,368
Environmental Externality	N/A	N/A	N/A	N/A	\$7,165
Subtotal	N/A	\$83,234	\$83,234	\$83,234	\$106,652
Participant Benefits					
Bill Reduction - Electric	\$266,461	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$34,843	N/A	N/A	\$34,843	\$34,843
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$301,305	N/A	N/A	\$34,843	\$34,843
Total Benefits	\$301,305	\$83,234	\$83,234	\$118,077	\$141,496
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$17,120	\$17,120	\$17,120	\$17,120
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$34,843	\$34,843	\$34,843	\$34,843
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$51,964	\$51,964	\$51,964	\$51,964
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$266,461	N/A	N/A
Subtotal	N/A	N/A	\$266,461	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$81,359	N/A	N/A	\$81,359	\$76,390
Incremental O&M Costs	\$1,711	N/A	N/A	\$1,711	\$1,933
Subtotal	\$83,069	N/A	N/A	\$83,069	\$78,323
Total Costs	\$83,069	\$51,964	\$318,425	\$135,033	\$130,287
Net Benefit (Cost)	\$218,235	\$31,270	(\$235,191)	(\$16,956)	\$11,209
Benefit/Cost Ratio	3.63	1.60	0.26	0.87	1.09

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	14.4 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.18 kW
Gross Annual kWh Saved at Customer	501 kWh
Net Annual kWh Saved at Generator	544 kWh

Program Summary All

Participants

Total Participants	268
Total Budget	\$51,964
Net coincident kW Saved at Generator	49 kW
Gross Annual kWh Saved at Customer	134,207 kWh
Net Annual kWh Saved at Generator	145,814 kWh

Utility Program Cost per kWh Lifetime	\$0.0247
Utility Program Cost per kW at Gen	\$1,065

Whole Home Efficiency						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	16.2 years	
Avoided Revenue Requirements						T & D Loss Factor (Energy)	7.96%	
Generation	N/A	\$17,695	\$17,695	\$17,695	\$21,260	T & D Loss Factor (Demand)	9.84%	
T & D	N/A	\$3,188	\$3,188	\$3,188	\$3,840	Net coincident kW Saved at Generator	0.94 kW	
Marginal Energy	N/A	\$15,953	\$15,953	\$15,953	\$19,638	Gross Annual kWh Saved at Customer	2,069 kWh	
Environmental Externality	N/A	N/A	N/A	N/A	\$2,672	Net Annual kWh Saved at Generator	2,248 kWh	
Subtotal	N/A	\$36,836	\$36,836	\$36,836	\$47,409			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$65,017	N/A	N/A	N/A	N/A	Total Participants	22	
Rebates from Xcel Energy	\$8,436	N/A	N/A	\$8,436	\$8,436	Total Budget	\$26,889	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	21 kW	
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0	Gross Annual kWh Saved at Customer	45,518 kWh	
Subtotal	\$73,453	N/A	N/A	\$8,436	\$8,436	Net Annual kWh Saved at Generator	49,455 kWh	
Total Benefits								
	\$73,453	\$36,836	\$36,836	\$45,272	\$55,845	Utility Program Cost per kWh Lifetime \$0.0336		
Costs						Utility Program Cost per kW at Gen \$1,298		
Utility Project Costs								
Customer Services	N/A	\$0	\$0	\$0	\$0			
Project Administration	N/A	\$18,454	\$18,454	\$18,454	\$18,454			
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0			
Measurement & Verification	N/A	\$0	\$0	\$0	\$0			
Rebates	N/A	\$8,436	\$8,436	\$8,436	\$8,436			
Other	N/A	\$0	\$0	\$0	\$0			
Subtotal	N/A	\$26,889	\$26,889	\$26,889	\$26,889			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$65,017	N/A	N/A			
Subtotal	N/A	N/A	\$65,017	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$48,643	N/A	N/A	\$48,643	\$48,643			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$48,643	N/A	N/A	\$48,643	\$48,643			
Total Costs								
	\$48,643	\$26,889	\$91,907	\$75,533	\$75,533			
Net Benefit (Cost)	\$24,810	\$9,946	(\$55,071)	(\$30,261)	(\$19,688)			
Benefit/Cost Ratio	1.51	1.37	0.40	0.60	0.74			

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

Company: **Xcel Energy**
 Project: **Whole Home Efficiency**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$92,981
Escalation Rate =	4.69%	Incentive Costs =	\$38,359
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$131,340
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$1,109
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$0
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	16.4
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	14.85
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	234
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	3,475
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$163.93
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$561	Ratepayer Impact Measure Test	(\$252,188)	0.50
Cost per Participant per Dth =	\$112.46	Utility Cost Test	\$124,563	1.95
Lifetime Energy Reduction (Dth)	57,052	Societal Test	\$69,393	1.17
Societal Cost per Dth	\$6.97	Participant Test	\$155,641	1.60

Company: **Xcel Energy**
 Project: **Whole Home Efficiency**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$35,638
Escalation Rate =	4.69%	Incentive Costs =	\$19,545
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$55,183
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	7,223
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	-
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	17.2
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	90.34
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	21
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	1,897
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$930.70
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$2,628	Ratepayer Impact Measure Test	(\$124,458)	0.54
Cost per Participant per Dth =	\$109.03	Utility Cost Test	\$91,511	2.66
Lifetime Energy Reduction (Dth)	32,686	Societal Test	\$50,266	1.24
Societal Cost per Dth	\$6.33	Participant Test	\$83,840	1.55

Low Income Segment Total

2023 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	\$725,906	\$725,906	\$725,906	\$824,077
T & D	N/A	\$95,703	\$95,703	\$95,703	\$110,903
Marginal Energy	N/A	\$1,183,096	\$1,183,096	\$1,183,096	\$1,456,562
Environmental Externality	N/A	N/A	N/A	N/A	\$190,807
Subtotal	N/A	\$2,004,705	\$2,004,705	\$2,004,705	\$2,582,349
Participant Benefits					
Bill Reduction - Electric	\$7,097,249	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$3,997,550	N/A	N/A	\$3,997,550	\$3,997,550
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$609,643	N/A	N/A	\$609,643	\$688,619
Subtotal	\$11,704,442	N/A	N/A	\$4,607,193	\$4,686,169
Total Benefits	\$11,704,442	\$2,004,705	\$2,004,705	\$6,611,898	\$7,268,518
Costs					
Utility Project Costs					
Customer Services	N/A	\$210,711	\$210,711	\$210,711	\$210,711
Project Administration	N/A	\$1,029,973	\$1,029,973	\$1,029,973	\$1,029,973
Advertising & Promotion	N/A	\$255,681	\$255,681	\$255,681	\$255,681
Measurement & Verification	N/A	\$30,823	\$30,823	\$30,823	\$30,823
Rebates	N/A	\$3,997,550	\$3,997,550	\$3,997,550	\$3,997,550
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$5,524,738	\$5,524,738	\$5,524,738	\$5,524,738
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$7,097,249	N/A	N/A
Subtotal	N/A	N/A	\$7,097,249	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$3,877,363	N/A	N/A	\$3,877,363	\$3,851,187
Incremental O&M Costs	\$4,116	N/A	N/A	\$4,116	\$4,607
Subtotal	\$3,881,479	N/A	N/A	\$3,881,479	\$3,855,794
Total Costs	\$3,881,479	\$5,524,738	\$12,621,987	\$9,406,217	\$9,380,532
Net Benefit (Cost)	\$7,822,963	(\$3,520,033)	(\$10,617,282)	(\$2,794,319)	(\$2,112,014)
Benefit/Cost Ratio	3.02	0.36	0.16	0.70	0.77

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

2023

ELECTRIC

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Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	15.7 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.13 kW
Gross Annual kWh Saved at Customer	312 kWh
Net Annual kWh Saved at Generator	336 kWh

Program Summary All Participants

Total Participants	10,660
Total Budget	\$5,524,738
Net coincident kW Saved at Generator	1,394 kW
Gross Annual kWh Saved at Customer	3,320,846 kWh
Net Annual kWh Saved at Generator	3,578,459 kWh

Utility Program Cost per kWh Lifetime	\$0.0981
Utility Program Cost per kW at Gen	\$3,964

Low Income Segment Total	2023					ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants							
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)		
Benefits							
Avoided Revenue Requirements							
Generation	N/A	\$385,254	\$385,254	\$385,254	\$448,202		
T & D	N/A	\$69,068	\$69,068	\$69,068	\$80,525		
Marginal Energy	N/A	\$811,133	\$811,133	\$811,133	\$1,001,254		
Environmental Externality	N/A	N/A	N/A	N/A	\$131,742		
Subtotal	N/A	\$1,265,455	\$1,265,455	\$1,265,455	\$1,661,723		
Participant Benefits							
Bill Reduction - Electric	\$4,589,548	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$3,852,370	N/A	N/A	\$3,852,370	\$3,852,370		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$127,097	N/A	N/A	\$127,097	\$143,601		
Subtotal	\$8,569,015	N/A	N/A	\$3,979,467	\$3,995,971		
Total Benefits	\$8,569,015	\$1,265,455	\$1,265,455	\$5,244,923	\$5,657,694		
Costs							
Utility Project Costs							
Customer Services	N/A	\$114,162	\$114,162	\$114,162	\$114,162		
Project Administration	N/A	\$819,237	\$819,237	\$819,237	\$819,237		
Advertising & Promotion	N/A	\$162,231	\$162,231	\$162,231	\$162,231		
Measurement & Verification	N/A	\$8,991	\$8,991	\$8,991	\$8,991		
Rebates	N/A	\$3,852,370	\$3,852,370	\$3,852,370	\$3,852,370		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$4,956,991	\$4,956,991	\$4,956,991	\$4,956,991		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$4,589,548	N/A	N/A		
Subtotal	N/A	N/A	\$4,589,548	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$3,625,945	N/A	N/A	\$3,625,945	\$3,625,945		
Incremental O&M Costs	\$2,564	N/A	N/A	\$2,564	\$2,897		
Subtotal	\$3,628,510	N/A	N/A	\$3,628,510	\$3,628,842		
Total Costs	\$3,628,510	\$4,956,991	\$9,546,538	\$8,585,500	\$8,585,833		
Net Benefit (Cost)	\$4,940,505	(\$3,691,535)	(\$8,281,083)	(\$3,340,577)	(\$2,928,139)		
Benefit/Cost Ratio	2.36	0.26	0.13	0.61	0.66		

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	15.9 years
T & D Loss Factor (Energy)	0.00%
T & D Loss Factor (Demand)	0.00%
Net coincident kW Saved at Generator	0.12 kW
Gross Annual kWh Saved at Customer	458 kWh
Net Annual kWh Saved at Generator	494 kWh

Program Summary All Participants	
Total Participants	4,825
Total Budget	\$4,956,991
Net coincident kW Saved at Generator	564 kW
Gross Annual kWh Saved at Customer	2,209,949 kWh
Net Annual kWh Saved at Generator	2,383,897 kWh

Utility Program Cost per kWh Lifetime	\$0.1311
Utility Program Cost per kW at Gen	\$8,791

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

Company: **Xcel Energy**
 Project: **Low Income Segment Total**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$5.43	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	6.38%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$1,186,461
		Incentive Costs = \$3,352,740
		16) Total Utility Project Costs = \$4,539,201
		17) Direct Participant Costs (\$/Part.) = \$1,902
		18) Participant Non-Energy Costs (Annual \$/Part.) = \$0
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = \$1,118
		Escalation Rate = 2.30%
		20) Project Life (Years) = 17.1
		21) Avg. Dth/Part. Saved = 24.64
		22) Avg Non-Gas Fuel Units/Part. Saved = 0 kWh
		22a) Avg Additional Non-Gas Fuel Units/ Part. Used = 0 kWh
		23) Number of Participants = 1,785
		24) Total Annual Dth Saved = 43,983
		25) Incentive/Participant = \$1,878.63

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$2,543	Ratepayer Impact Measure Test	(\$6,093,574)	0.35
Cost per Participant per Dth =	\$180.37	Utility Cost Test	(\$1,247,718)	0.73
Lifetime Energy Reduction (Dth)	751,510	Societal Test	\$2,928,292	1.37
Societal Cost per Dth	\$10.59	Participant Test	\$6,799,763	3.00

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

ACTUAL

Company: **Xcel Energy**
 Project: **Low Income Segment Total**

Input Data

2023

1) Retail Rate (\$/Dth) =	\$5.43
Escalation Rate =	4.69%
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000
Escalation Rate =	4.69%
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh
3) Commodity Cost (\$/Dth) =	\$3.25
Escalation Rate =	4.69%
4) Demand Cost (\$/Unit/Yr) =	\$82.36
Escalation Rate =	4.69%
5) Peak Reduction Factor =	1.00%
6) Variable O&M (\$/Dth) =	\$0.0411
Escalation Rate =	4.69%
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000
Escalation Rate =	3.59%
8) Non-Gas Fuel Loss Factor	0.00%
9) Gas Environmental Damage Factor =	\$2.0700
Escalation Rate =	2.30%
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000
Escalation Rate =	2.30%
11) Participant Discount Rate =	6.38%
12) MN CIP Utility Discount Rate =	5.34%
13) Societal Discount Rate =	3.02%
14) General Input Data Year =	2020
15a) Project Analysis Year 1 =	2021
15b) Project Analysis Year 2 =	2022
15c) Project Analysis Year 3 =	2023

Administrative & Operating Costs	
=	\$1,049,908
Incentive Costs =	\$2,338,747
16) Total Utility Project Costs =	\$3,388,655
17) Direct Participant Costs (\$/Part.)	
=	3,017
18) Participant Non-Energy Costs (Annual \$/Part.) =	-
Escalation Rate =	2.30%
19) Participant Non-Energy Savings (Annual \$/Part.) =	298
Escalation Rate =	2.30%
20) Project Life (Years) =	14.9
21) Avg. Dth/Part. Saved =	17.08
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 =	740
24) Total Annual Dth Saved =	12,639
25) Incentive/Participant =	\$3,160.47

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$4,579	Ratepayer Impact Measure Test	(\$3,795,358)	0.18
Cost per Participant per Dth =	\$444.76	Utility Cost Test	(\$2,527,438)	0.25
Lifetime Energy Reduction (Dth)	188,083	Societal Test	(\$1,646,417)	0.71
Societal Cost per Dth	\$29.89	Participant Test	\$1,594,623	1.71

Affordable Efficient New Home Construction

2023

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2023 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	\$76,510	\$76,510	\$76,510	\$92,772
T & D	N/A	\$13,782	\$13,782	\$13,782	\$16,760
Marginal Energy	N/A	\$226,133	\$226,133	\$226,133	\$287,356
Environmental Externality	N/A	N/A	N/A	N/A	\$37,038
Subtotal	N/A	\$316,425	\$316,425	\$316,425	\$433,926
Participant Benefits					
Bill Reduction - Electric	\$1,352,664	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$285,750	N/A	N/A	\$285,750	\$285,750
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$13,998	N/A	N/A	\$13,998	\$15,812
Subtotal	\$1,652,411	N/A	N/A	\$299,747	\$301,562
Total Benefits	\$1,652,411	\$316,425	\$316,425	\$616,173	\$735,488
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$6,958	\$6,958	\$6,958	\$6,958
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$285,750	\$285,750	\$285,750	\$285,750
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$292,708	\$292,708	\$292,708	\$292,708
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$1,352,664	N/A	N/A
Subtotal	N/A	N/A	\$1,352,664	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$483,662	N/A	N/A	\$483,662	\$461,597
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$483,662	N/A	N/A	\$483,662	\$461,597
Total Costs	\$483,662	\$292,708	\$1,645,372	\$776,370	\$754,305
Net Benefit (Cost)	\$1,168,749	\$23,717	(\$1,328,946)	(\$160,197)	(\$18,817)
Benefit/Cost Ratio	3.42	1.08	0.19	0.79	0.98

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	19.5 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.26 kW
Gross Annual kWh Saved at Customer	1,501 kWh
Net Annual kWh Saved at Generator	1,631 kWh

Program Summary All Participants

Total Participants	329
Total Budget	\$292,708
Net coincident kW Saved at Generator	86 kW
Gross Annual kWh Saved at Customer	493,893 kWh
Net Annual kWh Saved at Generator	536,607 kWh
Utility Program Cost per kWh Lifetime	\$0.0279
Utility Program Cost per kW at Gen	\$3,385

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

Affordable Efficient New Home Construction	2023					ELECTRIC	ACTUAL
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	\$3,527	\$3,527	\$3,527	\$4,294		
T & D	N/A	\$637	\$637	\$637	\$777		
Marginal Energy	N/A	\$14,545	\$14,545	\$14,545	\$18,485		
Environmental Externality	N/A	N/A	N/A	N/A	\$2,329		
Subtotal	N/A	\$18,709	\$18,709	\$18,709	\$25,885		
Participant Benefits							
Bill Reduction - Electric	\$80,308	N/A	N/A	N/A	N/A		
Rebates from Xcel Energy	\$89,882	N/A	N/A	\$89,882	\$89,882		
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0		
Incremental O&M Savings	\$1,181	N/A	N/A	\$1,181	\$1,349		
Subtotal	\$171,371	N/A	N/A	\$91,063	\$91,230		
Total Benefits	\$171,371	\$18,709	\$18,709	\$109,772	\$117,115		
Costs							
Utility Project Costs							
Customer Services	N/A	\$0	\$0	\$0	\$0		
Project Administration	N/A	\$6,287	\$6,287	\$6,287	\$6,287		
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0		
Measurement & Verification	N/A	\$0	\$0	\$0	\$0		
Rebates	N/A	\$89,882	\$89,882	\$89,882	\$89,882		
Other	N/A	\$0	\$0	\$0	\$0		
Subtotal	N/A	\$96,168	\$96,168	\$96,168	\$96,168		
Utility Revenue Reduction							
Revenue Reduction - Electric	N/A	N/A	\$80,308	N/A	N/A		
Subtotal	N/A	N/A	\$80,308	N/A	N/A		
Participant Costs							
Incremental Capital Costs	\$85,714	N/A	N/A	\$85,714	\$85,714		
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0		
Subtotal	\$85,714	N/A	N/A	\$85,714	\$85,714		
Total Costs	\$85,714	\$96,168	\$176,476	\$181,882	\$181,882		
Net Benefit (Cost)	\$85,657	(\$77,459)	(\$157,767)	(\$72,110)	(\$64,766)		
Benefit/Cost Ratio	2.00	0.19	0.11	0.60	0.64		

Input Summary and Totals	
Program "Inputs" per Customer kW and per Participant	
Lifetime (Weighted on Generator kWh)	19.7 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.47 kW
Gross Annual kWh Saved at Customer	3,957 kWh
Net Annual kWh Saved at Generator	4,299 kWh

Program Summary All Participants	
Total Participants	8
Total Budget	\$96,168
Net coincident kW Saved at Generator	4 kW
Gross Annual kWh Saved at Customer	31,658 kWh
Net Annual kWh Saved at Generator	34,396 kWh
Utility Program Cost per kWh Lifetime	\$0.1421
Utility Program Cost per kW at Gen	\$25,360

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

Company: **Xcel Energy**
 Project: **Affordable Efficient New Home Construction**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$33,798
Escalation Rate =	4.69%	Incentive Costs =	\$991,824
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$1,025,622
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$5,934
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$64
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	19.9
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	136.48
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	196
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	26,751
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$5,060.33
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$5,233	Ratepayer Impact Measure Test	(\$2,144,636)	0.52
Cost per Participant per Dth =	\$81.82	Utility Cost Test	\$1,343,960	2.31
Lifetime Energy Reduction (Dth)	531,862	Societal Test	\$2,834,026	2.28
Societal Cost per Dth	\$4.16	Participant Test	\$3,329,794	3.86

Company: **Xcel Energy**
 Project: **Affordable Efficient New Home Construction**

Input Data		2023
1) Retail Rate (\$/Dth) =	\$6.06	
Escalation Rate =	4.69%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	4.69%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/Dth) =	\$3.25	
Escalation Rate =	4.69%	
4) Demand Cost (\$/Unit/Yr) =	\$82.36	
Escalation Rate =	4.69%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/Dth) =	\$0.0411	
Escalation Rate =	4.69%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	
Escalation Rate =	3.59%	
8) Non-Gas Fuel Loss Factor	0.00%	
9) Gas Environmental Damage Factor =	\$2.0700	
Escalation Rate =	2.30%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000	
Escalation Rate =	2.30%	
11) Participant Discount Rate =	3.02%	
12) MN CIP Utility Discount Rate =	5.34%	
13) Societal Discount Rate =	3.02%	
14) General Input Data Year =	2020	
15a) Project Analysis Year 1 =	2021	
15b) Project Analysis Year 2 =	2022	
15c) Project Analysis Year 3 =	2023	
		Administrative & Operating Costs = \$2,802
		Incentive Costs = \$89,534
		16) Total Utility Project Costs = \$92,336
		17) Direct Participant Costs (\$/Part.) = 6,457
		18) Participant Non-Energy Costs (Annual \$/Part.) = -
		Escalation Rate = 2.30%
		19) Participant Non-Energy Savings (Annual \$/Part.) = 1
		Escalation Rate = 2.30%
		20) Project Life (Years) = 19.9
		21) Avg. Dth/Part. Saved = 35.50
		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 = 5
		24) Total Annual Dth Saved = 178
		25) Incentive/Participant = \$17,906.70

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$18,467	Ratepayer Impact Measure Test	(\$99,779)	0.14
Cost per Participant per Dth =	\$702.09	Utility Cost Test	(\$76,573)	0.17
Lifetime Energy Reduction (Dth)	3,538	Societal Test	(\$9,238)	0.93
Societal Cost per Dth	\$35.22	Participant Test	\$80,461	3.49

Home Energy Savings Program

2023 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	\$157,092	\$157,092	\$157,092	\$183,134
T & D	N/A	\$21,233	\$21,233	\$21,233	\$24,841
Marginal Energy	N/A	\$327,663	\$327,663	\$327,663	\$403,627
Environmental Externality	N/A	N/A	N/A	N/A	\$53,238
Subtotal	N/A	\$505,988	\$505,988	\$505,988	\$664,840
Participant Benefits					
Bill Reduction - Electric	\$2,003,567	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$1,592,002	N/A	N/A	\$1,592,002	\$1,592,002
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$216,756	N/A	N/A	\$216,756	\$244,851
Subtotal	\$3,812,326	N/A	N/A	\$1,808,758	\$1,836,853
Total Benefits	\$3,812,326	\$505,988	\$505,988	\$2,314,746	\$2,501,693
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$590,355	\$590,355	\$590,355	\$590,355
Advertising & Promotion	N/A	\$220,449	\$220,449	\$220,449	\$220,449
Measurement & Verification	N/A	\$13,337	\$13,337	\$13,337	\$13,337
Rebates	N/A	\$1,592,002	\$1,592,002	\$1,592,002	\$1,592,002
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$2,416,144	\$2,416,144	\$2,416,144	\$2,416,144
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$2,003,567	N/A	N/A
Subtotal	N/A	N/A	\$2,003,567	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$1,366,728	N/A	N/A	\$1,366,728	\$1,366,728
Incremental O&M Costs	\$4,116	N/A	N/A	\$4,116	\$4,607
Subtotal	\$1,370,844	N/A	N/A	\$1,370,844	\$1,371,335
Total Costs	\$1,370,844	\$2,416,144	\$4,419,711	\$3,786,988	\$3,787,479
Net Benefit (Cost)	\$2,441,482	(\$1,910,156)	(\$3,913,723)	(\$1,472,242)	(\$1,285,786)
Benefit/Cost Ratio	2.78	0.21	0.11	0.61	0.66

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	16.0 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.06 kW
Gross Annual kWh Saved at Customer	237 kWh
Net Annual kWh Saved at Generator	255 kWh

Program Summary All Participants

Total Participants	4,181
Total Budget	\$2,416,144
Net coincident kW Saved at Generator	236 kW
Gross Annual kWh Saved at Customer	989,433 kWh
Net Annual kWh Saved at Generator	1,068,029 kWh

Utility Program Cost per kWh Lifetime	\$0.1416
Utility Program Cost per kW at Gen	\$10,218

Home Energy Savings Program

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	\$177,145	\$177,145	\$177,145	\$209,142
T & D	N/A	\$31,829	\$31,829	\$31,829	\$37,667
Marginal Energy	N/A	\$425,554	\$425,554	\$425,554	\$527,510
Environmental Externality	N/A	N/A	N/A	N/A	\$68,740
Subtotal	N/A	\$634,529	\$634,529	\$634,529	\$843,059
Participant Benefits					
Bill Reduction - Electric	\$2,425,329	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$1,240,380	N/A	N/A	\$1,240,380	\$1,240,380
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$41,195	N/A	N/A	\$41,195	\$46,540
Subtotal	\$3,706,904	N/A	N/A	\$1,281,575	\$1,286,919
Total Benefits	\$3,706,904	\$634,529	\$634,529	\$1,916,103	\$2,129,978
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$585,135	\$585,135	\$585,135	\$585,135
Advertising & Promotion	N/A	\$113,173	\$113,173	\$113,173	\$113,173
Measurement & Verification	N/A	\$8,991	\$8,991	\$8,991	\$8,991
Rebates	N/A	\$1,240,380	\$1,240,380	\$1,240,380	\$1,240,380
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$1,947,678	\$1,947,678	\$1,947,678	\$1,947,678
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$2,425,329	N/A	N/A
Subtotal	N/A	N/A	\$2,425,329	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$1,309,763	N/A	N/A	\$1,309,763	\$1,309,763
Incremental O&M Costs	\$2,564	N/A	N/A	\$2,564	\$2,897
Subtotal	\$1,312,328	N/A	N/A	\$1,312,328	\$1,312,661
Total Costs	\$1,312,328	\$1,947,678	\$4,373,007	\$3,260,006	\$3,260,338
Net Benefit (Cost)	\$2,394,576	(\$1,313,149)	(\$3,738,478)	(\$1,343,902)	(\$1,130,360)
Benefit/Cost Ratio	2.82	0.33	0.15	0.59	0.65

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

2023

ELECTRIC

ACTUAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	16.0 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.11 kW
Gross Annual kWh Saved at Customer	550 kWh
Net Annual kWh Saved at Generator	589 kWh

Program Summary All Participants

Total Participants	2,079
Total Budget	\$1,947,678
Net coincident kW Saved at Generator	234 kW
Gross Annual kWh Saved at Customer	1,143,281 kWh
Net Annual kWh Saved at Generator	1,224,979 kWh

Utility Program Cost per kWh Lifetime	\$0.0991
Utility Program Cost per kW at Gen	\$8,330

Company: **Xcel Energy**
 Project: **Home Energy Savings Program**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$793,297
Escalation Rate =	4.69%	Incentive Costs =	\$2,324,534
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$3,117,831
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$2,647
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$806
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	14.5
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	12.75
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	833
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	10,614
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$2,791.65
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$3,744	Ratepayer Impact Measure Test	(\$3,410,131)	0.15
Cost per Participant per Dth =	\$501.45	Utility Cost Test	(\$2,498,867)	0.20
Lifetime Energy Reduction (Dth)	153,687	Societal Test	(\$1,306,011)	0.75
Societal Cost per Dth	\$34.63	Participant Test	\$1,702,696	1.77

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

ACTUAL

Company: **Xcel Energy**
 Project: **Home Energy Savings Program**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$933,623
Escalation Rate =	4.69%	Incentive Costs =	\$2,249,214
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$3,182,836
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	5,622
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	-
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	15.9
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	26.26
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	389
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	10,213
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$5,782.04
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$8,182	Ratepayer Impact Measure Test	(\$3,534,277)	0.17
Cost per Participant per Dth =	\$525.75	Utility Cost Test	(\$2,438,640)	0.23
Lifetime Energy Reduction (Dth)	162,174	Societal Test	(\$1,925,268)	0.64
Societal Cost per Dth	\$33.11	Participant Test	\$1,158,003	1.53

Low Income Home Energy Squad

2023 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	\$389,109	\$389,109	\$389,109	\$432,647
T & D	N/A	\$42,294	\$42,294	\$42,294	\$48,680
Marginal Energy	N/A	\$465,819	\$465,819	\$465,819	\$571,804
Environmental Externality	N/A	N/A	N/A	N/A	\$75,487
Subtotal	N/A	\$897,221	\$897,221	\$897,221	\$1,128,618
Participant Benefits					
Bill Reduction - Electric	\$2,801,236	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$335,600	N/A	N/A	\$335,600	\$335,600
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$252,873	N/A	N/A	\$252,873	\$285,607
Subtotal	\$3,389,709	N/A	N/A	\$588,473	\$621,207
Total Benefits	\$3,389,709	\$897,221	\$897,221	\$1,485,694	\$1,749,824
Costs					
Utility Project Costs					
Customer Services	N/A	\$210,711	\$210,711	\$210,711	\$210,711
Project Administration	N/A	\$228,331	\$228,331	\$228,331	\$228,331
Advertising & Promotion	N/A	\$28,483	\$28,483	\$28,483	\$28,483
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$335,600	\$335,600	\$335,600	\$335,600
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$803,124	\$803,124	\$803,124	\$803,124
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$2,801,236	N/A	N/A
Subtotal	N/A	N/A	\$2,801,236	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$246,202	N/A	N/A	\$246,202	\$242,091
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$246,202	N/A	N/A	\$246,202	\$242,091
Total Costs	\$246,202	\$803,124	\$3,604,360	\$1,049,326	\$1,045,215
Net Benefit (Cost)	\$3,143,507	\$94,097	(\$2,707,139)	\$436,368	\$704,609
Benefit/Cost Ratio	13.77	1.12	0.25	1.42	1.67

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	15.6 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.43 kW
Gross Annual kWh Saved at Customer	632 kWh
Net Annual kWh Saved at Generator	687 kWh

Program Summary All Participants

Total Participants	2,017
Total Budget	\$803,124
Net coincident kW Saved at Generator	873 kW
Gross Annual kWh Saved at Customer	1,275,117 kWh
Net Annual kWh Saved at Generator	1,385,395 kWh

Utility Program Cost per kWh Lifetime	\$0.0371
Utility Program Cost per kW at Gen	\$919

Low Income Home Energy Squad						2023	ELECTRIC	ACTUAL
Net Present Cost Benefit Summary Analysis For All Participants						Input Summary and Totals		
	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Total Resource Test (\$Total)	Societal Test (\$Total)	Program "Inputs" per Customer kW and per Participant		
Benefits						Lifetime (Weighted on Generator kWh)	16.9	years
Avoided Revenue Requirements						T & D Loss Factor (Energy)	7.96%	
Generation	N/A	\$99,220	\$99,220	\$99,220	\$114,897	T & D Loss Factor (Demand)	9.84%	
T & D	N/A	\$17,775	\$17,775	\$17,775	\$20,630	Net coincident kW Saved at Generator	0.18	kW
Marginal Energy	N/A	\$194,822	\$194,822	\$194,822	\$245,203	Gross Annual kWh Saved at Customer	529	kWh
Environmental Externality	N/A	N/A	N/A	N/A	\$32,598	Net Annual kWh Saved at Generator	575	kWh
Subtotal	N/A	\$311,816	\$311,816	\$311,816	\$413,328			
Participant Benefits						Program Summary All Participants		
Bill Reduction - Electric	\$1,111,493	N/A	N/A	N/A	N/A	Total Participants	916	
Rebates from Xcel Energy	\$0	N/A	N/A	\$0	\$0	Total Budget	\$263,317	
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0	Net coincident kW Saved at Generator	161	kW
Incremental O&M Savings	\$84,721	N/A	N/A	\$84,721	\$95,712	Gross Annual kWh Saved at Customer	484,686	kWh
Subtotal	\$1,196,214	N/A	N/A	\$84,721	\$95,712	Net Annual kWh Saved at Generator	526,604	kWh
Total Benefits	\$1,196,214	\$311,816	\$311,816	\$396,536	\$509,040	Utility Program Cost per kWh Lifetime	\$0.0296	
Costs						Utility Program Cost per kW at Gen	\$1,631	
Utility Project Costs								
Customer Services	N/A	\$114,162	\$114,162	\$114,162	\$114,162			
Project Administration	N/A	\$100,097	\$100,097	\$100,097	\$100,097			
Advertising & Promotion	N/A	\$49,058	\$49,058	\$49,058	\$49,058			
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	\$263,317	\$263,317	\$263,317	\$263,317			
Utility Revenue Reduction								
Revenue Reduction - Electric	N/A	N/A	\$1,111,493	N/A	N/A			
Subtotal	N/A	N/A	\$1,111,493	N/A	N/A			
Participant Costs								
Incremental Capital Costs	\$9,735	N/A	N/A	\$9,735	\$9,735			
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0			
Subtotal	\$9,735	N/A	N/A	\$9,735	\$9,735			
Total Costs	\$9,735	\$263,317	\$1,374,810	\$273,052	\$273,052			
Net Benefit (Cost)	\$1,186,479	\$48,499	(\$1,062,994)	\$123,484	\$235,988			
Benefit/Cost Ratio	122.88	1.18	0.23	1.45	1.86			

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

Company: **Xcel Energy**
 Project: **Low Income Home Energy Squad**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$359,366
Escalation Rate =	4.69%	Incentive Costs =	\$36,382
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$395,748
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	\$35
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	\$1,735
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	10.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	8.76
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	756
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	6,619
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$48.12
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$523	Ratepayer Impact Measure Test	(\$538,808)	0.36
Cost per Participant per Dth =	\$63.78	Utility Cost Test	(\$92,811)	0.77
Lifetime Energy Reduction (Dth)	65,961	Societal Test	\$1,400,277	4.30
Societal Cost per Dth	\$6.43	Participant Test	\$1,767,273	67.88

Company: **Xcel Energy**
 Project: **Low Income Home Energy Squad**

Input Data		2023	
1) Retail Rate (\$/Dth) =	\$6.06	Administrative & Operating Costs =	\$113,484
Escalation Rate =	4.69%	Incentive Costs =	\$0
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16) Total Utility Project Costs =	\$113,484
Escalation Rate =	4.69%	17) Direct Participant Costs (\$/Part.) =	39
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	18) Participant Non-Energy Costs (Annual \$/Part.) =	-
3) Commodity Cost (\$/Dth) =	\$3.25	Escalation Rate =	2.30%
Escalation Rate =	4.69%	19) Participant Non-Energy Savings (Annual \$/Part.) =	638
4) Demand Cost (\$/Unit/Yr) =	\$82.36	Escalation Rate =	2.30%
Escalation Rate =	4.69%	20) Project Life (Years) =	10.0
5) Peak Reduction Factor =	1.00%	21) Avg. Dth/Part. Saved =	6.50
6) Variable O&M (\$/Dth) =	\$0.0411	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
Escalation Rate =	4.69%	22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.00000	23) Number of Participants =	346
Escalation Rate =	3.59%	24) Total Annual Dth Saved =	2,248
8) Non-Gas Fuel Loss Factor	0.00%	25) Incentive/Participant =	\$0.00
9) Gas Environmental Damage Factor =	\$2.0700		
Escalation Rate =	2.30%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0000		
Escalation Rate =	2.30%		
11) Participant Discount Rate =	3.02%		
12) MN CIP Utility Discount Rate =	5.34%		
13) Societal Discount Rate =	3.02%		
14) General Input Data Year =	2020		
15a) Project Analysis Year 1 =	2021		
15b) Project Analysis Year 2 =	2022		
15c) Project Analysis Year 3 =	2023		

Cost Summary	2023	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$328	Ratepayer Impact Measure Test	(\$161,302)	0.39
Cost per Participant per Dth =	\$56.50	Utility Cost Test	(\$12,226)	0.89
Lifetime Energy Reduction (Dth)	22,371	Societal Test	\$288,088	3.27
Societal Cost per Dth	\$5.68	Participant Test	\$356,159	27.35

Multi-Family Energy Savings Program

2023 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	\$103,196	\$103,196	\$103,196	\$115,524
T & D	N/A	\$18,395	\$18,395	\$18,395	\$20,623
Marginal Energy	N/A	\$163,481	\$163,481	\$163,481	\$193,775
Environmental Externality	N/A	N/A	N/A	N/A	\$25,044
Subtotal	N/A	\$285,071	\$285,071	\$285,071	\$354,966
Participant Benefits					
Bill Reduction - Electric	\$939,782	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$1,784,198	N/A	N/A	\$1,784,198	\$1,784,198
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$126,016	N/A	N/A	\$126,016	\$142,349
Subtotal	\$2,849,996	N/A	N/A	\$1,910,214	\$1,926,548
Total Benefits	\$2,849,996	\$285,071	\$285,071	\$2,195,285	\$2,281,514
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$204,329	\$204,329	\$204,329	\$204,329
Advertising & Promotion	N/A	\$6,749	\$6,749	\$6,749	\$6,749
Measurement & Verification	N/A	\$17,486	\$17,486	\$17,486	\$17,486
Rebates	N/A	\$1,784,198	\$1,784,198	\$1,784,198	\$1,784,198
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$2,012,762	\$2,012,762	\$2,012,762	\$2,012,762
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$939,782	N/A	N/A
Subtotal	N/A	N/A	\$939,782	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$1,780,771	N/A	N/A	\$1,780,771	\$1,780,771
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$1,780,771	N/A	N/A	\$1,780,771	\$1,780,771
Total Costs	\$1,780,771	\$2,012,762	\$2,952,544	\$3,793,533	\$3,793,533
Net Benefit (Cost)	\$1,069,225	(\$1,727,692)	(\$2,667,474)	(\$1,598,248)	(\$1,512,020)
Benefit/Cost Ratio	1.60	0.14	0.10	0.58	0.60

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

2023

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	12.2 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.05 kW
Gross Annual kWh Saved at Customer	136 kWh
Net Annual kWh Saved at Generator	142 kWh

Program Summary All

Participants

Total Participants	4,133
Total Budget	\$2,012,762
Net coincident kW Saved at Generator	197 kW
Gross Annual kWh Saved at Customer	562,402 kWh
Net Annual kWh Saved at Generator	588,428 kWh

Utility Program Cost per kWh Lifetime	\$0.2814
Utility Program Cost per kW at Gen	\$10.196

Multi-Family Energy Savings Program

2023

ELECTRIC

ACTUAL

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	\$105,362	\$105,362	\$105,362	\$119,869
T & D	N/A	\$18,828	\$18,828	\$18,828	\$21,450
Marginal Energy	N/A	\$176,212	\$176,212	\$176,212	\$210,057
Environmental Externality	N/A	N/A	N/A	N/A	\$28,076
Subtotal	N/A	\$300,402	\$300,402	\$300,402	\$379,451
Participant Benefits					
Bill Reduction - Electric	\$972,417	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	\$2,522,109	N/A	N/A	\$2,522,109	\$2,522,109
Incremental Capital Savings	\$0	N/A	N/A	\$0	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0	\$0
Subtotal	\$3,494,526	N/A	N/A	\$2,522,109	\$2,522,109
Total Benefits	\$3,494,526	\$300,402	\$300,402	\$2,822,511	\$2,901,561
Costs					
Utility Project Costs					
Customer Services	N/A	\$0	\$0	\$0	\$0
Project Administration	N/A	\$127,719	\$127,719	\$127,719	\$127,719
Advertising & Promotion	N/A	\$0	\$0	\$0	\$0
Measurement & Verification	N/A	\$0	\$0	\$0	\$0
Rebates	N/A	\$2,522,109	\$2,522,109	\$2,522,109	\$2,522,109
Other	N/A	\$0	\$0	\$0	\$0
Subtotal	N/A	\$2,649,828	\$2,649,828	\$2,649,828	\$2,649,828
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	\$972,417	N/A	N/A
Subtotal	N/A	N/A	\$972,417	N/A	N/A
Participant Costs					
Incremental Capital Costs	\$2,220,733	N/A	N/A	\$2,220,733	\$2,220,733
Incremental O&M Costs	\$0	N/A	N/A	\$0	\$0
Subtotal	\$2,220,733	N/A	N/A	\$2,220,733	\$2,220,733
Total Costs	\$2,220,733	\$2,649,828	\$3,622,245	\$4,870,561	\$4,870,561

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant

Lifetime (Weighted on Generator kWh)	14.4 years
T & D Loss Factor (Energy)	7.96%
T & D Loss Factor (Demand)	9.84%
Net coincident kW Saved at Generator	0.09 kW
Gross Annual kWh Saved at Customer	302 kWh
Net Annual kWh Saved at Generator	328 kWh

Program Summary All Participants

Total Participants	1,822
Total Budget	\$2,649,828
Net coincident kW Saved at Generator	165 kW
Gross Annual kWh Saved at Customer	550,324 kWh
Net Annual kWh Saved at Generator	597,918 kWh

Utility Program Cost per kWh Lifetime	\$0.3078
Utility Program Cost per kW at Gen	\$16,079

Net Benefit (Cost)	\$1,273,794	(\$2,349,426)	(\$3,321,843)	(\$2,048,049)	(\$1,969,000)
Benefit/Cost Ratio	1.57	0.11	0.08	0.58	0.60

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

Attachment D: Detailed Technical Assumptions

Measure Description				Economic Assumptions								Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	P&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Affordable Efficient New Home Construction - MN	New Homes	11 MSR - Combo Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$13,900.00	\$13,819.71	1,274	0.200	296.8	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes	12 MSR - Combo Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$14,600.00	\$14,541.50	1,323	0.216	401.1	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes	13 MSR - Combo Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$14,500.00	\$14,400.69	1,329	0.217	416.2	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes	11 MSR - Gas Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$11,100.00	\$11,055.77	0	0.000	296.8	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	New Homes	12 MSR - Gas Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$11,700.00	\$11,633.20	0	0.000	296.8	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	New Homes	13 MSR - Gas Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$11,600.00	\$11,520.55	0	0.000	416.2	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	New Homes - 100% Electric Homes	11 MSR + Electrification - Electric Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$14,200.00	\$14,129.71	7,878	0.452	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes - 100% Electric Homes	12 MSR + Electrification - Electric Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$14,900.00	\$14,851.50	9,983	0.468	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes - 100% Electric Homes	13 MSR + Electrification - Electric Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$15,000.00	\$14,910.69	10,210	0.469	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes	20% to 25% improvement over code - Combo Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,000.00	\$4,452.55	1,455	0.451	32.5	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes	25% to 30% improvement over code - Combo Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,200.00	\$5,437.00	1,895	0.551	43.9	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes	30% to 35% improvement over code - Combo Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,500.00	\$10,541.50	1,911	0.525	34.9	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	3	3
Affordable Efficient New Home Construction - MN	New Homes	35% and greater improvement over code - Combo Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$2,000.00	\$14,763.57	2,176	0.488	14.3	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	5	5
Affordable Efficient New Home Construction - MN	New Homes	20% to 25% improvement over code - Gas Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,000.00	\$3,913.00	0	0.000	32.1	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	New Homes	25% to 30% improvement over code - Gas Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,200.00	\$4,700.30	0	0.000	43.3	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	New Homes	30% to 35% improvement over code - Gas Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,500.00	\$3,251.88	0	0.000	57.5	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	New Homes	35% and greater improvement over code - Gas Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$2,000.00	\$4,335.84	0	0.000	88.9	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	New Homes - 100% Electric Homes	20% to 25% improvement over code - 100% Electric Home - Electric Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,000.00	\$6,047.08	5,344	0.509	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes - 100% Electric Homes	25% to 30% improvement over code - 100% Electric Home - Electric Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,200.00	\$7,702.49	6,636	0.653	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes - 100% Electric Homes	30% to 35% improvement over code - 100% Electric Home - Electric Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,500.00	\$9,556.47	8,434	0.876	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	New Homes - 100% Electric Homes	35% and greater improvement over code - 100% Electric Home - Electric Only Customers	Energy Efficient Home	Reference Home Based upon Local Code	20	\$2,000.00	\$16,518.88	19,398	1.360	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	ENERGY STAR Refrigerator	Refrigerator Replacement	ENERGY STAR @ Refrigerators	Industry Standard	14	\$15.00	\$69.00	96	0.000	0.0	\$0.00	MN-RES-SFRF1	RES	Electric Only	100%	100%	100%	8	0
Affordable Efficient New Home Construction - MN	ENERGY STAR Clothes Dryer	ENERGY STAR Clothes Dryer	ENERGY STAR @ Clothes Dryer	Industry Standard	12	\$40.00	\$75.00	96	0.350	0.0	\$0.00	MN-RES-SFLT	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	ENERGY STAR Clothes Washer	Energy Star Front-loading Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Front-Loading Clothes Washer w/ electric DHW and Electric Dryer	Industry Standard Front-Loading Clothes Washer	11	\$40.00	\$69.00	96	0.000	0.0	\$0.00	MN-RES-FLAT	RES	Combo	100%	100%	100%	3	0
Affordable Efficient New Home Construction - MN	ENERGY STAR Clothes Washer	Energy Star Front-Loading Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Front-Loading Clothes Washer w/ Gas DHW and Electric Dryer	Industry Standard Front-Loading Clothes Washer	11	\$20.00	\$69.00	96	0.014	0.0	\$0.00	MN-RES-FLAT	RES	Combo	100%	100%	100%	5	5
Affordable Efficient New Home Construction - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier II or III thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$190.00	\$190.00	2	1.109	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	AC Rewards-DR	Residential Smart Thermostat	Utility Load Control for control period with Tier II or III thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$125.00	\$215.00	2	1.109	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & GAS	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	5.5	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Smart Thermostat	Install Energy Star certified smart thermostat - GAS Only	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	0	0.000	5.5	\$0.00	RES	Gas Only	100%	100%	100%	0	0	
Affordable Efficient New Home Construction - MN	ES Radon Fans	Energy Star Radon Fans	Energy Star Radon Fan - Radonaway RP145	Radonaway RP145	10	\$20.00	\$0.00	273	0.031	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$1.25	74	0.010	0.0	\$17.32	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Aerators - EWH	Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$1.50	91	0.013	0.0	\$17.32	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0	0

Measure Description				Economic Assumptions								Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Affordable Efficient New Home Construction - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$1.25	0	0.000	0.3	\$12.17		RES	Gas Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$1.50	0	0.000	0.4	\$17.32		RES	Gas Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	511	0.037	0.0	\$87.40	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	344	0.025	0.0	\$65.49	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	0	0.000	2.2	\$87.40		RES	Gas Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	0	0.000	1.5	\$65.49		RES	Gas Only	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Water Heater DR	Demand response capability on grid enabled electric resistance water heater	Demand response from electric resistance water heater	No management of water heater time of use	1	\$100.00	\$200.00	1	0.213	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0	0
Affordable Efficient New Home Construction - MN	Water Heater DR	Load Shift & Demand response capability on new heat pump water heater (CTA 2045)	Heat Pump Water Heater w/ DR Management	No management of water heater time of use	1	\$100.00	\$325.00	152	0.071	0.0	\$0.00	MN-RES-HPWH_DR_LOAD_SHIFT	RES	DR	100%	100%	100%	0	0
Business Energy Assessments - MN	Behavioral Industrial	Behavioral Changes	Behavior changes that reduce energy use	No change in behavior	3	\$464.91	\$0.00	23,245	1.445	0.0	\$0.00	MN-BUS-RECOM	Bus	Electric Only	100%	100%	100%		
Business Energy Assessments - MN	Behavioral Industrial	Behavioral Changes	Behavior changes that reduce energy use	No change in behavior	3	\$464.91	\$0.00	23,245	1.445	0.0	\$0.00	MN-BUS-RECOM	Bus	Electric Only	100%	100%	100%		
Business Energy Assessments - MN	Behavioral Commercial	Behavioral Changes	Behavior changes that reduce energy use	No change in behavior	3	\$1,859.62	\$0.00	92,981	5.778	0.0	\$0.00	MN-BUS-RECOM	Bus	Electric Only	100%	100%	100%		
Business Energy Assessments - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business Energy Assessments - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business Energy Assessments - MN	AC Rewards - Business	Business Smart Thermostat - DR Direct Install	Non installation of DR Capable Smart Thermostat	Non communicating thermostat	5	\$255.00	\$255.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business Energy Assessments - MN	AC Rewards - Business	Business Smart Thermostat - BYOT	Existing Dispatchable Device	Non communicating thermostat	5	\$100.00	\$100.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business Energy Assessments - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & GAS	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	7.7	\$0.00	MN-BUS-COOL_OUT	BUS	Combo	100%	100%	100%		
Business Energy Assessments - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC ONLY	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%		
Business Energy Assessments - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	911	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%		
Business Energy Assessments - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$5,274.00	\$0.00	986	164.289	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business Energy Assessments - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$5,274.00	\$0.00	986	164.289	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business Energy Assessments - MN	Custom BEA Industrial Project	Custom Industrial BEA Electric	High Efficiency Product/Systems	Less Efficient Product/Systems	18	\$6,715.77	\$696,770.00	146,206	14,200	0.0	\$18,000.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	12	0
Business Energy Assessments - MN	Custom BEA Industrial Project	Custom Industrial BEA Gas	High Efficiency Product/Systems	Less Efficient Product/Systems	19	\$2,949.00	\$10,707.00	0	0.000	989.7	\$0.00		BUS	Gas Only	100%	100%	100%	0	1
Business Energy Assessments - MN	Custom BEA Commercial Project	Custom Commercial BEA Electric	New Efficient Equipment	Less Efficient Product/Systems	17	\$7,752.07	\$34,850.64	101,300	19,617	0.0	\$0.00	MN-BUS-CUSTOM	Bus	Electric Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Custom BEA Commercial Project	Custom Commercial BEA Gas	New Efficient Equipment	Less Efficient Product/Systems	15	\$3,688.67	\$17,880.33	0	0.000	737.8	\$42.67	MN-BUS-CUSTOM	Bus	Gas Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Efficiency Controls Gas Project	Business Energy Assessments Controls Gas Project	New Building Controls	Old Building Controls	15	\$4,005.47	\$47,311.88	0	0.000	801.1	\$1,195.19		Bus	Gas Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Efficiency Controls Electric Project	Business Energy Assessments Controls Electric Project	New Building Controls	Old Building Controls	15	\$8,375.64	\$52,277.85	170,777	2,244	0.0	\$1,461.23	MN-BUS-RECM_OUT	Bus	Electric Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Industrial Prescriptive	Average Cooling Project	More efficient cooling equipment	Baseline System	20	\$21,168.33	\$10,480.25	60,846	62,210	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	3	0
Business Energy Assessments - MN	Industrial Prescriptive	Average Compressed Air/FSO Project	Optimized System	Old System	11	\$2,000.00	\$1,158.25	11,639	1,235	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	2	0
Business Energy Assessments - MN	Industrial Prescriptive	Average EMS	New Direct Digital Controls System	Old System	15	\$3,630.06	\$10,788.26	143,646	3,346	989.7	\$2,382.50	MN-BUS-EMS_OFPP	BUS	Electric Only	100%	100%	100%	2	6
Business Energy Assessments - MN	Industrial Prescriptive	Average Lighting Project	Optimized System	Old System	15	\$776.33	\$3,147.50	15,433	1,466	0.0	\$14.26	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	17	0
Business Energy Assessments - MN	Industrial Prescriptive	Average Motor Project	Optimized System	Old System	15	\$2,906.58	\$6,897.90	46,911	1,706	0.0	\$0.00	MN-BUS-MOTORASD	BUS	Electric Only	100%	100%	100%	38	0
Business Energy Assessments - MN	Industrial Prescriptive	Average Heating Project	New System	Old System	17	\$236.64	\$1,074.60	0	0.000	0.0	\$0.00		BUS	Gas Only	100%	100%	100%	0	3
Business Energy Assessments - MN	Commercial Prescriptive	Average Cooling Project	More efficient cooling equipment	Baseline System	20	\$24,535.65	\$28,196.15	211,955	20,190	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Commercial Prescriptive	Average Compressed Air/FSO Project	Efficient Equipment	Old System	11	\$7,456.56	\$9,340.91	62,980	7,132	0.0	\$9.38	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Commercial Prescriptive	Average Lighting Project	Efficient Equipment	Old System	15	\$6,926.00	\$25,670.06	130,959	19,684	0.0	\$641.69	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Commercial Prescriptive	Average Motor Project	Efficient Equipment	Old System	15	\$7,459.67	\$25,628.65	92,699	14,282	0.0	\$0.00	MN-BUS-MOTORASD	BUS	Electric Only	100%	100%	100%	0	0
Business Energy Assessments - MN	Commercial Prescriptive	Average Heating Project	Efficient Equipment	Old System	17	\$387.62	\$1,038.70	0	0.000	240.4	\$0.72		BUS	Gas Only	100%	100%	100%	0	0
Business Energy Assessments - MN	BEA Building Assessment	Building Assessment	Assessment Performed and Energy Efficient Improvements Implemented	Existing Building Pre-Assessment	0	\$3,500.00	\$5,000.00	0	0.000	0.0	\$0.00		BUS	Combo	100%	100%	100%	0	0
Business Energy Assessments - MN	BEA Targeted Building Assessment	Targeted Building Assessment	Assessment Performed and Energy Efficient Improvements Implemented	Existing Building Pre-Assessment	0	\$15,000.00	\$20,000.00	0	0.000	0.0	\$0.00		BUS	Combo	100%	100%	100%	0	0

Measure Description					Economic Assumptions								Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Business Energy Assessments - MN	Building Assessment RCx Implementation	Recommissioning Implementation	Post-Recommissioned Building	Pre-Recommissioned Building	7	\$3,782.02	\$14,400.34	118,214	3.695	320.6	\$374.36	MN-BUS-RECOM	BUS	Combo	100%	100%	100%	0	0
Business Energy Assessments - MN	Targeted Building Assessment RCx Implementation	Recommissioning Implementation	Post-Recommissioned Building	Pre-Recommissioned Building	7	\$6,303.37	\$24,000.57	197,023	6.159	534.4	\$623.93	MN-BUS-RECOM	BUS	Combo	100%	100%	100%	0	0
Business Energy Assessments - MN	BEA Industrial Streamlined Assessment	Industrial Streamlined Assessment	Assessment Performed and Energy Efficient Improvements Implemented	Existing Building Pre-Assessment	0	\$6,172.07	\$6,172.07	0	0.000	0.0	\$0.00	BUS	Combo	100%	100%	100%	0	0	
Business Energy Assessments - MN	Building Operator Certification	BOC	Energy Use After Class	Energy Usage Before Class	5	\$500.00	\$500.00	\$0.00	0.000	0.0	\$0.00	MN-BUS-RECOM	BUS	Combo	100%	100%	100%	6	0
Business Energy Assessments - MN	BEA Industrial Streamlined Assessment	Recommissioning Implementation	Post-Recommissioned Building	Pre-Recommissioned Building	7	\$0.00	\$250.00	21,741	0.000	260.6	\$0.00	MN-BUS-RECOM	BUS	Combo	100%	100%	100%	0	0
Business New Construction - MN	EDA	Energy Design Assistance - Gas	More Efficient than Code Building	Code-Compliant Building	20	\$10,043.00	\$161,290.57	0	0.000	2,014.1	\$0.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	0
Business New Construction - MN	EDA	Energy Design Assistance - Electric	More Efficient than Code Building	Code-Compliant Building	20	\$55,224.10	\$201,846.37	387,644	86,380	0.0	-\$104.84	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	0	0
Business New Construction - MN	EDA	Energy Design Assistance - Gas - 2023	More Efficient than Code Building	Code-Compliant Building	20	\$2,302.62	\$40,967.68	0	0.000	460.3	\$0.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	103
Business New Construction - MN	EDA	Energy Design Assistance - Electric - 2023	More Efficient than Code Building	Code-Compliant Building	20	\$42,584.26	\$160,789.76	307,286	69,110	0.0	\$0.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	103	0
Business New Construction - MN	EEB	Energy Efficient Buildings - Gas	More Efficient than Code Building	Code-Compliant Building	19	\$145.14	\$0.00	0	0.000	0.0	\$0.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	755
Business New Construction - MN	EEB	Energy Efficient Buildings - Electric	More Efficient than Code Building	Code-Compliant Building	18	\$3,345.92	\$6,020.00	71,799	0.286	0.0	\$0.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	720	0
Business New Construction - MN	Code Compliance	Code review of buildings to elevate reviewed buildings to code.	Code-Compliant Building	Non-Compliant Building	13	\$0.00	\$60,000.00	60,000	0.000	0.0	\$0.00	MN-BUS-CUSTOM	BUS	Combo	100%	100%	100%	19	19
Business New Construction - MN	Interrupted Rates	Participating Customer	Utility load control of at least 50 kW for control period	No control	5	\$0.00	\$0.00	329	164,289	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business New Construction - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch.	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business New Construction - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch.	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business New Construction - MN	AC Rewards - Business	Business Smart Thermostat - DR Direct Install	New Installation of DR Capable Smart Thermostat	Non-communicating thermostat	5	\$255.00	\$255.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business New Construction - MN	AC Rewards - Business	Business Smart Thermostat - BYOT	Existing Dispatchable Device	Non-communicating thermostat	5	\$100.00	\$100.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business New Construction - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & GAS	Energy Star Certified Thermostat	Miscellaneous or programmable thermostat	10	\$95.00	\$95.00	378	0.000	7.7	\$0.00	MN-BUS-COOL_OUT	BUS	Combo	100%	100%	100%		
Business New Construction - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC ONLY	Energy Star Certified Thermostat	Miscellaneous or programmable thermostat	10	\$95.00	\$95.00	378	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%		
Business New Construction - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Energy Star Certified Thermostat	Miscellaneous or programmable thermostat	10	\$95.00	\$95.00	911	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%		
Business New Construction - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$3,667.00	\$0.00	685	114,240	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business New Construction - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$3,667.00	\$0.00	685	114,240	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Business New Construction - MN	AC Rewards-DR	Residential Smart Thermostat - Multifamily - Direct Install	Utility Load Control for control period with Thermostat	Existing standard manual or Non-Utilized Tier 1 Thermostat	5	\$25.00	\$25.00	1	0.386	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	70%	100%		
Business New Construction - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo - Multifamily	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	43	0.982	1.4	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%		
Business New Construction - MN	EEB	Energy Efficient Buildings - Gas - 2023	More Efficient than Code Building	Code-Compliant Building	19	\$3,694.44	\$8,754.70	0	0.000	193.7	-\$26.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%		
Business New Construction - MN	EEB	Energy Efficient Buildings - Electric - 2023	More Efficient than Code Building	Code-Compliant Building	18	\$8,340.74	\$16,995.81	35,543	9.401	0.0	-\$130.09	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%		
Commercial Efficiency - MN	Behavioral Commercial	Behavioral Changes	Behavior changes that reduce energy use	No change in energy use	3	\$1,859.62	\$0.00	92,981	5.778	0.0	\$0.00	MN-BUS-RECOM	BUS	Electric Only	100%	100%	100%	0	0
Commercial Efficiency - MN	EDA	CE Parent for gas EDA projects	More Efficient than Code Building	Code-Compliant Building	20	\$10,043.00	\$161,290.57	0	0.000	2,014.1	\$0.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	0
Commercial Efficiency - MN	EDA	CE Parent for electric EDA projects	More Efficient than Code Building	Code-Compliant Building	20	\$55,224.10	\$201,846.37	387,644	86,380	0.0	-\$104.84	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	0	0
Commercial Efficiency - MN	EDA	CE Parent for gas EDA projects - 2023	More Efficient than Code Building	Code-Compliant Building	20	\$8,962.58	\$161,290.57	0	0.000	1,790.5	\$0.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	0
Commercial Efficiency - MN	EDA	CE Parent for electric EDA projects - 2023	More Efficient than Code Building	Code-Compliant Building	20	\$4,781.00	\$1,034.66	40,767	0.960	0.0	\$0.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	1	0
Commercial Efficiency - MN	EEB	CE Parent for gas EEB projects	More Efficient than Code Building	Code-Compliant Building	20	\$3,694.44	\$8,754.70	0	0.000	193.7	-\$26.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	0
Commercial Efficiency - MN	EEB	CE Parent for electric EEB projects	More Efficient than Code Building	Code-Compliant Building	20	\$8,340.74	\$16,995.81	40,755	10.476	0.0	-\$130.09	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	0	0
Commercial Efficiency - MN	Electric Rate Savings	Participating Customer	Utility load control of at least 50 kW for control period	No control	5	\$0.00	\$0.00	329	164,289	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Commercial Efficiency - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch.	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Commercial Efficiency - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch.	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Commercial Efficiency - MN	AC Rewards - Business	Business Smart Thermostat - DR Direct Install	New Installation of DR Capable Smart Thermostat	Non-communicating thermostat	5	\$255.00	\$255.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Commercial Efficiency - MN	AC Rewards - Business	Business Smart Thermostat - BYOT	Existing Dispatchable Device	Non-communicating thermostat	5	\$100.00	\$100.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0

Measure Description					Economic Assumptions								Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Commercial Efficiency - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & GAS	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	7.7	\$0.00	MN-BUS-COOL_OUT	BUS	Combo	100%	100%	100%	0	0
Commercial Efficiency - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC ONLY	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%	0	0
Commercial Efficiency - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	911	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%	0	0
Commercial Efficiency - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$6,559.00	\$0.00	1,226	204,320	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Commercial Efficiency - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$6,559.00	\$0.00	1,226	204,320	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Commercial Efficiency - MN	Custom Electric Commercial Efficiency Project	Custom Electric Commercial Efficiency Project	New Efficient Equipment	Less Efficient Product/Systems	17	\$15,234.83	\$81,750.00	98,020	37,946	0.0	\$0.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	29	0
Commercial Efficiency - MN	Custom Gas Commercial Efficiency Project	Custom Gas Commercial Efficiency Project	New Efficient Equipment	Less Efficient Product/Systems	15	\$4,215.00	\$20,000.00	0	0.000	143.3	\$0.00	BUS	Gas Only	100%	100%	100%	0	1	
Commercial Efficiency - MN	Efficiency Controls Gas Project	Commercial Efficiency Controls Gas Project	New Building Controls	Old Building Controls	15	\$6,329.00	\$300,000.00	0	0.000	1,844.3	\$0.00	BUS	Gas Only	100%	100%	100%	0	4	
Commercial Efficiency - MN	Efficiency Controls Electric Project	Commercial Efficiency Controls Electric Project	New Building Controls	Old Building Controls	15	\$5,545.84	\$23,981.54	119,880	5,920	0.0	\$440.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	25	0
Commercial Efficiency - MN	Data Center Efficiency Implementation	CE Data Center Custom Project	High Efficiency Product/System	Less Efficient Product/Systems	20	\$5,708.54	\$98,020.00	146,829	7,547	0.0	\$2,000.00	MN-BUS-Data Center Board	BUS	Electric Only	100%	100%	100%	0	0
Commercial Efficiency - MN	Commercial Efficiency Prescriptive	Average Cooling Project	More efficient cooling equipment	Baseline System	20	\$18,916.40	\$21,412.81	141,470	30,040	0.0	\$20.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	9	0
Commercial Efficiency - MN	Commercial Efficiency Prescriptive	Average Compressed Air/PSO Project	Optimized System	Old System	11	\$1,225.00	\$1,970.00	1,000	1,200	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	2	0
Commercial Efficiency - MN	Commercial Efficiency Prescriptive	Average Lighting Project	Optimized System	Old System	20	\$1,079.03	\$2,091.00	12,901	5,940	0.0	\$20.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	430	0
Commercial Efficiency - MN	Commercial Efficiency Prescriptive	Average Motor Project	Optimized System	Old System	15	\$3,489.60	\$10,638.75	50,140	5,201	0.0	\$0.00	MN-BUS-MOTORASD	BUS	Electric Only	100%	100%	100%	231	0
Commercial Efficiency - MN	Commercial Efficiency Prescriptive	Average Heating Project	New System	Old System	20	\$619.34	\$2,120.00	0	0.000	987.0	\$0.00	BUS	Gas Only	100%	100%	100%	0	90	
Commercial Efficiency - MN	Commercial Efficiency Study	Phase 2 Study	0	0	0	\$0.00	\$0.00	0	0.000	0.0	\$0.00	BUS	Combo	100%	100%	100%	0	0	
Commercial Efficiency - MN	RCx Implementation	Implementation of ECO's found in studies	Post-Recommissioned Building	Pre-Recommissioned Building	7	\$3,848.06	\$12,402.42	232,240	2,779	141.2	\$0.00	MN-BUS-RECOM	BUS	Combo	100%	100%	100%	0	0
Commercial Efficiency - MN	CE	System Optimization and Annual Achievement Bonuses	0	0	0	\$29,231.61	\$0.00	0	0.000	0.0	\$0.00	BUS	Combo	100%	100%	100%	7	0	
Commercial Efficiency - MN	EEB	Energy Efficient Buildings - Gas - 2023	More Efficient than Code Building	Code-Compliant Building	19	\$3,694.44	\$8,754.70	0	0.000	193.7	\$26.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	0
Commercial Efficiency - MN	EEB	Energy Efficient Buildings - Electric - 2023	More Efficient than Code Building	Code-Compliant Building	18	\$2,900.22	\$8,070.00	30,000	1,000	0.0	\$0.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	7	0
Commercial Streamlined Assessments - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.000	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Commercial Streamlined Assessments - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2,113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Commercial Streamlined Assessments - MN	AC Rewards - Business	Business Smart Thermostat - DR Direct Install	New Installation of DR Capable Smart Thermostat	Non communicating thermostat	5	\$255.00	\$255.00	14	2,081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Commercial Streamlined Assessments - MN	AC Rewards - Business	Business Smart Thermostat - BYOT	Existing Dispatchable Device	Non communicating thermostat	5	\$100.00	\$100.00	14	2,081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Commercial Streamlined Assessments - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & GAS	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	7.7	\$0.00	MN-BUS-COOL_OUT	BUS	Combo	100%	100%	100%		
Commercial Streamlined Assessments - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC ONLY	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%		
Commercial Streamlined Assessments - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	911	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%		
Commercial Streamlined Assessments - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$3,821.00	\$0.00	714	119,040	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Commercial Streamlined Assessments - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$3,821.00	\$0.00	714	119,040	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Commercial Streamlined Assessments - MN	Custom Turnkey Electric Project	Custom Turnkey Electric Project	New Efficient Equipment	Less Efficient Product/Systems	16	\$10,359.57	\$81,070.00	100,700	38,400	0.0	\$1,100.00	MN-BUS-01BAC	BUS	Electric Only	100%	100%	100%	19	0
Commercial Streamlined Assessments - MN	Custom Turnkey Gas Project	Custom Turnkey Gas Project	New Efficient Equipment	Less Efficient Product/Systems	17	\$4,552.00	\$20,000.00	0	0.000	1,930.0	\$0.00	BUS	Gas Only	100%	100%	100%	0	5	
Commercial Streamlined Assessments - MN	Turn Key Services Prescriptive	Average Cooling Project	More efficient cooling equipment	Baseline System	20	\$3,188.65	\$13,130.00	15,000	1,040	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	18	0
Commercial Streamlined Assessments - MN	Turn Key Services Prescriptive	Average Compressed Air/PSO Project	Efficient Equipment	Non-Optimized System	11	\$2,439.30	\$2,970.00	20,000	2,000	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	15	0
Commercial Streamlined Assessments - MN	Turn Key Services Prescriptive	Average Lighting Project	Optimized System	Old System	20	\$1,643.76	\$1,180.00	11,000	1,700	0.0	\$140.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	554	0
Commercial Streamlined Assessments - MN	Turn Key Services Prescriptive	Average Motor Project	Efficient Equipment	Old System	15	\$3,357.55	\$10,000.00	40,000	1,200	0.0	\$0.00	MN-BUS-MOTORASD	BUS	Electric Only	100%	100%	100%	53	0
Commercial Streamlined Assessments - MN	Turn Key Services Prescriptive	Average Heating Project	New System	Old System	20	\$2,587.76	\$10,000.00	1,376	0.000	986.0	\$0.00	BUS	Gas Only	100%	100%	100%	2	9	
Commercial Streamlined Assessments - MN	Commercial Streamlined Assessment	Streamlined Assessment	Assessment Performed and Energy Efficient Improvements Implemented	Existing Building Pre-Assessment	0	\$1,500.00	\$1,750.00	0	0.000	0.0	\$0.00	BUS	Combo	100%	100%	100%	0	0	
Commercial Streamlined Assessments - MN	Commercial Streamlined Assessment	Recommissioning Implementation	Post-Recommissioned Building	Pre-Recommissioned Building	7	\$0.00	\$250.00	21,741	0.000	280.6	\$0.00	MN-BUS-RECOM	BUS	Combo	100%	100%	100%	0	0

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Compressed Air Efficiency - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$4,458.00	\$0.00	833	138.880	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%			
Compressed Air Efficiency - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$4,458.00	\$0.00	833	138.880	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%			
Compressed Air Efficiency - MN	ECO	Non-Custom Opportunity identified in a study	Optimized System	Non-Optimized System	5	\$0.00	\$2,568.00	106.530	12.275	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%			
Compressed Air Efficiency - MN	Supply Side Study	Supply-side compressed air study with leak fixes	Leak & Waste Found and Repaired	Existing System with Leaks & Waste that have not been repaired	5	\$5,317.00	\$7,443.00	58.574	6.460	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%			
Compressed Air Efficiency - MN	Cycling Dryers	Cycling or Variable Speed Refrigerated Dryer	New Cycling Refrigerated Dryer	New Non-Cycling Refrigerated Dryer	20	\$1,308.22	\$1,760.96	78.948	3.750	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	9	0	
Compressed Air Efficiency - MN	Dryer Purge Demand Controls	Dryer Purge Demand Controls on a Heatless Desiccant Dryer	Purge Control for Heatless Desiccant Dryers	No Purge Control for Heatless Desiccant Dryers	20	\$1,862.00	\$3,372.00	78.597	8.562	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	0	0	
Compressed Air Efficiency - MN	Mist Eliminators	Mist Eliminator Filter w/ rated pressure drop of 1 psig or less	New Mist Eliminator Filter	New General Purpose Filter	11	\$1,845.00	\$3,333.00	76.137	3.278	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	3	0	
Compressed Air Efficiency - MN	No Air Loss Drain	New No-Air Loss Drains	New No-Air Loss Drains	New Electronic Solenoid/Timed Drains	13	\$585.71	\$948.43	11.988	1.480	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	14	0	
Compressed Air Efficiency - MN	New VFD Compressor	10HP VFD Air Compressor - New	New 10HP VFD Compressor	New 10HP Fixed Speed Compressor w/ modulation or load no-load control	20	\$1,400.00	\$3,734.00	5.213	0.348	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	5	0	
Compressed Air Efficiency - MN	New VFD Compressor	15HP VFD Air Compressor - New	New 15HP VFD Compressor	New 15HP Fixed Speed Compressor w/ modulation or load no-load control	20	\$3,000.00	\$6,750.00	78.223	0.876	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	3	0	
Compressed Air Efficiency - MN	New VFD Compressor	20HP VFD Air Compressor - New	New 20HP VFD Compressor	New 20HP Fixed Speed Compressor w/ modulation or load no-load control	20	\$6,000.00	\$13,800.00	20.743	0.320	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	1	0	
Compressed Air Efficiency - MN	New VFD Compressor	25HP VFD Air Compressor - New	New 25HP VFD Compressor	New 25HP Fixed Speed Compressor w/ modulation or load no-load control	20	\$5,000.00	\$8,888.00	38.244	0.348	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	3	0	
Compressed Air Efficiency - MN	New VFD Compressor	30HP VFD Air Compressor - New	New 30HP VFD Compressor	New 30HP Fixed Speed Compressor w/ modulation or load no-load control	20	\$4,500.00	\$7,113.00	25.843	0.340	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	7	0	
Compressed Air Efficiency - MN	New VFD Compressor	40HP VFD Air Compressor - New	New 40HP VFD Compressor	New 40HP Fixed Speed Compressor w/ modulation or load no-load control	20	\$5,968.61	\$7,928.00	30.948	0.380	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	7	0	
Compressed Air Efficiency - MN	Demand Side Study	Demand-side compressed air and vacuum system studies	Study Completed	No Study Completed	5	\$3,753.00	\$5,003.00	0	0.000	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	0	0	
Compressed Air Efficiency - MN	Custom Compressed Air Project	Custom compressed air, blower, and vacuum opportunities. With Study	New Equipment	Old or less efficient systems or equipment	19	\$4,426.41	\$4,207.16	30.230	0.320	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	31	0	
Compressed Air Efficiency - MN	Custom Compressed Air Project	Custom compressed air, blower, and vacuum opportunities. Without Study	New Equipment	Old or less efficient systems or equipment	20	\$14,467.50	\$84,323.00	181.888	33.077	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	10	0	
CPP/TOU Pilot - MN	Critical Peak Pricing	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No participation in program	1	\$0.00	\$0.00	3,798	488.478	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
CPP/TOU Pilot - MN	Critical Peak Pricing	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No participation in program	1	\$0.00	\$0.00	3,798	488.478	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
Custom Efficiency - MN	Custom Custom Electric Project	Custom Efficiency Electric	High Efficiency Product/System	Less Efficient Product/System	18	\$23,958.41	\$288,912.00	480,000	40,000	0.0	\$16,200.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	11	0	
Custom Efficiency - MN	Custom Gas Project	Custom Efficiency Gas	High Efficiency Product/System	Less Efficient Product/System	19	\$22,234.50	\$60,144.00	0	0.000	4,444.4	\$0.00	BUS	Gas Only	100%	100%	100%	0	2		
Custom Efficiency - MN	In-Depth Study	Custom Studies Electric	0	0	0	\$12,972.79	\$22,074.46	0	0.000	0.0	\$0.00	BUS	Electric Only	100%	100%	100%				
Custom Efficiency - MN	In-Depth Study	Custom Studies Gas	0	0	0	\$15,653.25	\$22,463.67	0	0.000	0.0	\$0.00	BUS	Gas Only	100%	100%	100%				
Data Center Efficiency - MN	EDA	New Construction, addition or renovation for Data Centers	Highly efficient data center	Standard efficiency new data center	20	\$40,444.44	\$96,780.28	483.333	42.222	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%			
Data Center Efficiency - MN	Electric Rate Savings	Participating Customer	Utility load control of at least 50 kW for control period	No control	5	\$0.00	\$0.00	329	164.289	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%			
Data Center Efficiency - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$8,259.00	\$0.00	1,544	257.280	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%			
Data Center Efficiency - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$8,259.00	\$0.00	1,544	257.280	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%			

Measure Description			Economic Assumptions										Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Data Center Efficiency - MN	Computer VDI	Zero & Thin Client Installations	Server & software at data center, along with thin-client or zero-client device, to replace desktop CPUs (e.g., VMware vSphere thin-client system, Palo-Logic zero-client system) meeting Energy Star 6.0 specification	Desktop computers meeting ENERGY STAR 3.0 specifications	10	\$10.00	\$117.00	711	0.007	0.0	\$305.00	MN-BUS-LITE_CL	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	Data Center Efficiency Implementation	Data Center Measures - Study Identified	High Efficiency Product/System	Less Efficient Product/System	20	\$5,708.54	\$86,625.00	146,829	7,547	0.0	\$2,000.00	MN-BUS-Data Center Stand	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	Data Center Efficiency Implementation	Data Center Measures - Customer Identified	High Efficiency Product/System	Less Efficient Product/System	20	\$5,708.54	\$86,625.00	146,829	7,547	0.0	\$0.00	MN-BUS-Data Center Stand	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	Data Center Efficiency Implementation	Data Center Measures - On Site	High Efficiency Product/System	Less Efficient Product/System	20	\$5,708.54	\$86,625.00	146,829	7,547	0.0	\$2,000.00	MN-BUS-Data Center Stand	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	Data Center Efficiency Prescriptive	Average Cooling Project	Efficient Equipment	Old System	20	\$1,643.22	\$1,748.35	21,212	1,380	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	6	0
Data Center Efficiency - MN	Data Center Efficiency Prescriptive	Average Lighting Project	Efficient Equipment	Old System	20	\$405.00	\$1,976.40	16,177	2,057	0.0	\$86.30	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0
Data Center Efficiency - MN	Data Center Efficiency Prescriptive	Average Motor Project	Efficient Equipment	Old System	15	\$4,422.52	\$13,580.80	120,589	10,059	0.0	\$0.00	MN-BUS-MOTORASD	BUS	Electric Only	100%	100%	100%	28	0
Data Center Efficiency - MN	Data Center Efficiency Prescriptive	Average Computer Project	Efficient Equipment	Old System	10	\$4,717.89	\$9,199.89	10,031	1,372	0.0	\$2,356.46	MN-BUS-FLAT	BUS	Electric Only	0%	0%	0%		
Data Center Efficiency - MN	CRAC Units	Downflow, Air-Cooled w/ Economizer, 65,000 ≤ Net Sensible Btuh < 240,000	More efficient CRAC unit	CRAC unit w/ Code efficiency	20	\$1,457.88	\$4,047.71	23,280	3,455	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	CRAC Units	Downflow, Air-Cooled w/ Economizer, 240,000 ≤ Net Sensible Btuh < 760,000	More efficient CRAC unit	CRAC unit w/ Code efficiency	20	\$3,195.20	\$15,417.12	91,298	12,455	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	CRAC Units	Upflow, Air-Cooled w/ Economizer, 240,000 ≤ Net Sensible Btuh < 760,000	More efficient CRAC unit	CRAC unit w/ Code efficiency	20	\$3,301.40	\$14,863.08	94,984	12,658	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	CRAC Units	Downflow, Glycol-Cooled, 65,000 ≤ Net Sensible Btuh < 240,000	More efficient CRAC unit	CRAC unit w/ Code efficiency	20	\$893.00	\$7,541.97	15,302	1,747	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	CRAC Units	Upflow, Glycol-Cooled w/ Economizer, 240,000 ≤ Net Sensible Btuh < 760,000	More efficient CRAC unit	CRAC unit w/ Code efficiency	20	\$1,656.48	\$13,186.20	28,681	3,859	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	Plate & Frame Heat Exchangers	Chilled Water Systems Waterside Economizer	Chilled water system with waterside economizer	Chilled water system without economizer	20	\$21,200.00	\$65,570.00	180,351	0.000	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%		
Data Center Efficiency - MN	In-Depth Study	Data Center Efficiency Study	Study Performed	0	\$7,350.00	\$9,800.00	0	0.000	0.0	\$0.00		BUS	Electric Only	100%	100%	100%			
Efficiency Controls - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.906	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Efficiency Controls - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Efficiency Controls - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$4,171.00	\$0.00	780	129,920	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Efficiency Controls - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$4,171.00	\$0.00	780	129,920	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Efficiency Controls - MN	Efficiency Controls Gas Project	Efficiency Controls - Gas	New Building Controls	Old Building Controls	15	\$2,393.39	\$5,866.80	0	0.000	271.3	\$408.76	BUS	Gas Only	100%	100%	100%	0	10	
Efficiency Controls - MN	Efficiency Controls Electric Project	Efficiency Controls - Electric	New Building Controls	Old Building Controls	15	\$7,966.40	\$28,633.20	60,198	5,944	0.0	\$111.34	MN-BUS-REC_OUT	BUS	Electric Only	100%	100%	100%	15	0
Efficiency Controls - MN	Demand Control	RTU Economizer Control with Demand Control Ventilation	RTU With Demand Control	RTU Without Demand Control	15	\$947.14	\$1,559.00	1,020	1,376	0.0	\$0.00	MN-BUS-Cool with Economizer	BUS	Electric Only	100%	100%	100%	7	0
Efficient New Home Construction - MN	ENERGY STAR Refrigerator	Refrigerator Replacement	ENERGY STAR ® Refrigerators	Industry Standard	14	\$15.00	\$60.00	46	0.000	0.0	\$0.00	MN-RES-SFRF1	Res	Electric Only	100%	100%	100%	1,326.00	0.00
Efficient New Home Construction - MN	ENERGY STAR Clothes Dryer	ENERGY STAR Clothes Dryer	Energy Star Clothes Dryer w/ 4.4 Cu Ft.	Industry Standard	12	\$40.00	\$160.00	46	0.142	0.0	\$0.00	MN-RES-SFLT	Res	Electric Only	100%	100%	100%	119.00	0.00
Efficient New Home Construction - MN	ENERGY STAR Clothes Washer	Energy Star Front-loading Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Front-Loading Clothes Washer w/ electric DHW and Electric Dryer	Standard Front-Loading Clothes Washer	11	\$40.00	\$160.00	14	0.026	0.0	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	19.00	0.00
Efficient New Home Construction - MN	ENERGY STAR Clothes Washer	Energy Star Front-Loading Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Front-Loading Clothes Washer w/ Gas DHW and Electric Dryer	Standard Front-Loading Clothes Washer	11	\$20.00	\$80.00	14	0.026	0.0	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	30.00	30.00
Efficient New Home Construction - MN	ENERGY STAR Clothes Washer	Energy Star Top-loading Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Top-Loading Clothes Washer w/ electric DHW and Electric Dryer	Standard Top-Loading Clothes Washer	11	\$40.00	\$160.00	14	0.027	0.0	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	49.00	0.00
Efficient New Home Construction - MN	ENERGY STAR Clothes Washer	Energy Star Top-Loading Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Top-Loading Clothes Washer w/ Gas DHW and Electric Dryer	Standard Top-Loading Clothes Washer	11	\$20.00	\$80.00	14	0.026	0.0	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	20.00	20.00
Efficient New Home Construction - MN	New Homes	Low Income Envelope Improvements - Combo	Energy Efficient Home	Reference Home Based upon Local Code	20	\$568.31	\$3,624.95	1,143	0.365	24.1	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes	Low Income Envelope Improvements - Electric Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$100.00	\$446.36	1,180	0.396	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes	Low Income Envelope Improvements - Gas Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$563.42	\$3,064.94	0	0.000	22.3	\$0.00	MN-RES-HMEFF	RES	Gas Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes	10% to 15% improvement over code - Combo	Energy Efficient Home	Reference Home Based upon Local Code	20	\$250.00	\$1,900.00	1,078	0.237	6.1	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	397.00	397.00
Efficient New Home Construction - MN	New Homes	15% to 20% improvement over code - Combo	Energy Efficient Home	Reference Home Based upon Local Code	20	\$500.00	\$3,350.00	1,307	0.283	13.9	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	952.00	952.00
Efficient New Home Construction - MN	New Homes	20% to 25% improvement over code - Combo	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,000.00	\$6,120.00	1,589	0.445	25.9	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	915.00	915.00
Efficient New Home Construction - MN	New Homes	25% to 30% improvement over code - Combo	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,200.00	\$8,160.00	2,140	0.608	36.9	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	202.00	202.00
Efficient New Home Construction - MN	New Homes	30% to 35% improvement over code - Combo	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,500.00	\$9,900.00	2,467	0.698	45.9	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	35.00	35.00
Efficient New Home Construction - MN	New Homes	35% and greater improvement over code - Combo	Energy Efficient Home	Reference Home Based upon Local Code	20	\$2,000.00	\$12,400.00	3,264	1.188	63.9	\$0.00	MN-RES-HMEFF	RES	Combo	100%	100%	100%	4.00	4.00

Measure Description				Economic Assumptions									Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Efficient New Home Construction - MN	New Homes	10% to 15% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$100.00	\$748.77	1,000	0.000	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	106.00	0.00
Efficient New Home Construction - MN	New Homes	15% to 20% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$100.00	\$692.28	1,000	0.000	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	278.00	0.00
Efficient New Home Construction - MN	New Homes	20% to 25% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$100.00	\$1,113.00	1,000	0.014	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	190.00	0.00
Efficient New Home Construction - MN	New Homes	25% to 30% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$100.00	\$1,021.06	1,000	0.000	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	45.00	0.00
Efficient New Home Construction - MN	New Homes	30% to 35% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$100.00	\$1,021.07	1,000	0.000	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	6.00	0.00
Efficient New Home Construction - MN	New Homes	35% and greater improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$100.00	\$2,108.97	2,100	0.200	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	1.00	0.00
Efficient New Home Construction - MN	New Homes	10% to 15% improvement over code - Gas Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$250.00	\$1,000.00	0	0.000	11.0	\$0.00	RES	Gas Only	100%	100%	100%	0.00	22.00	
Efficient New Home Construction - MN	New Homes	15% to 20% improvement over code - Gas Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$500.00	\$0,000.00	0	0.000	20.0	\$0.00	RES	Gas Only	100%	100%	100%	0.00	97.00	
Efficient New Home Construction - MN	New Homes	20% to 25% improvement over code - Gas Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,000.00	\$0,000.00	0	0.000	30.0	\$0.00	RES	Gas Only	100%	100%	100%	0.00	70.00	
Efficient New Home Construction - MN	New Homes	25% to 30% improvement over code - Gas Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,200.00	\$0,000.00	0	0.000	40.0	\$0.00	RES	Gas Only	100%	100%	100%	0.00	3.00	
Efficient New Home Construction - MN	New Homes	30% to 35% improvement over code - Gas Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,500.00	\$3,251.88	0	0.000	57.6	\$0.00	RES	Gas Only	100%	100%	100%	0.00	0.00	
Efficient New Home Construction - MN	New Homes	35% and greater improvement over code - Gas Only	Energy Efficient Home	Reference Home Based upon Local Code	20	\$2,000.00	\$7,784.54	0	0.000	88.9	\$0.00	RES	Gas Only	100%	100%	100%	0.00	0.00	
Efficient New Home Construction - MN	New Homes - 100% Electric Homes	10% to 15% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$250.00	\$3,515.79	3,800	0.285	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes - 100% Electric Homes	15% to 20% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$500.00	\$4,677.00	4,335	0.371	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes - 100% Electric Homes	20% to 25% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,000.00	\$6,047.08	5,344	0.509	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes - 100% Electric Homes	25% to 30% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,200.00	\$7,702.49	6,630	0.653	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes - 100% Electric Homes	30% to 35% improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$1,500.00	\$9,956.47	8,434	0.676	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	New Homes - 100% Electric Homes	35% and greater improvement over code - Electric Only Customer	Energy Efficient Home	Reference Home Based upon Local Code	20	\$2,000.00	\$0,000.00	0.000	0.000	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	2.00	0.00
Efficient New Home Construction - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier II or III Thermostat	Existing standard manual or Non Utilized Tier I Thermostat	5	\$190.00	\$190.00	2	1.109	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	AC Rewards-DR	Residential Smart Thermostat	Utility Load Control for control period with Tier II or III Thermostat	Existing standard manual or Non Utilized Tier I Thermostat	5	\$125.00	\$215.00	2	1.109	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & GAS	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$675.00	800	0.000	20.0	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	42.00	42.00
Efficient New Home Construction - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$100.00	800	0.000	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	43.00	0.00
Efficient New Home Construction - MN	Smart Thermostat	Install Energy Star certified smart thermostat - GAS ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$200.00	0	0.000	10.0	\$0.00	RES	Gas Only	100%	100%	100%	0.00	10.00	
Efficient New Home Construction - MN	ES Radon Fans	Energy Star Radon Fans	Energy Star Radon Fan - Radonaway RP145	Radonaway RP145	10	\$20.00	\$0.00	273	0.031	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$1.25	74	0.010	0.0	\$12.17	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	Aerators - EWH	Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$1.50	91	0.013	0.0	\$17.32	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$1.25	0	0.000	0.3	\$17.17	RES	Gas Only	100%	100%	100%	0.00	0.00	
Efficient New Home Construction - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$1.50	0	0.000	0.4	\$17.12	RES	Gas Only	100%	100%	100%	0.00	0.00	
Efficient New Home Construction - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	511	0.027	0.0	\$97.40	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	344	0.025	0.0	\$85.49	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Efficient New Home Construction - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	0	0.000	2.2	\$97.40	RES	Gas Only	100%	100%	100%	0.00	0.00	

Measure Description				Economic Assumptions											Customer Information		Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Efficient New Home Construction - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	0	0.000	1.5	\$65.49		Res	Gas Only	100%	100%	100%	0.00	0.00	
Efficient New Home Construction - MN	Water Heater DR	Demand response capability on grid enabled electric resistance water heater	Demand response from electric resistance water heater	No management of water heater time of use	1	\$100.00	\$200.00	1	0.213	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Efficient New Home Construction - MN	Water Heater DR	Load Shift & Demand response capability on new heat pump water heater (CTA 2045)	Heat Pump Water Heater w/ DR Management	No management of water heater time of use	1	\$100.00	\$325.00	152	0.071	0.0	\$0.00	MN-RES-HPWH_DR_LOAD_SHI FT	RES	DR	100%	100%	100%	0.00	0.00	
Efficient New Home Construction - MN	Water Heater DR	Load Shift & Demand response capability on new heat pump water heater (CTA 2045) - Annual Re Enrollment	Heat Pump Water Heater w/ DR Management - Re Enrollment of Existing Customer	No management of water heater time of use	1	\$25.00	\$0.00	152	0.071	0.0	\$0.00	MN-RES-HPWH_DR_LOAD_SHI FT	RES	DR	100%	100%	100%	0.00	0.00	
EIS - MN	Behavioral EIS	Behavioral Changes	Behavior changes that reduce energy use	No change in behavior	3	\$3,371.87	\$0.00	92,981	5.778	1,512.3	\$0.00	MN-BUS-RECOM	Bus	Electric Only	100%	100%	100%	0.00	0.00	
EIS - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0.00	0.00	
EIS - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0.00	0.00	
EIS - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$3,657.00	\$0.00	684	113.920	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0.00	0.00	
EIS - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$3,657.00	\$0.00	684	113.920	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0.00	0.00	
EIS - MN	Custom EIS Project	Custom EIS Project	New Equipment	Less Efficient Product/System	16	\$6,267.13	\$54,391.36	489,338	30.970	0.0	\$0.00	MN-BUS-RECM_OUT	Bus	Electric Only	100%	100%	100%	8	0	
EIS - MN	RCx Implementation	Recommissioning Implementation	Pre-Recommended Building	Pre-Recommended Building	7	\$6,303.37	\$24,000.57	197,023	6.159	534.4	\$823.93	MN-BUS-RECOM	Bus	Combo	100%	100%	100%	0	0	
EIS - MN	EIS - Prescriptive	Average Cooling Project	More efficient cooling equipment	Baseline System	20	\$2,783.44	\$1,261.99	661	0.866	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	2	0	
EIS - MN	EIS - Prescriptive	Average Lighting Project	Efficient Equipment	Old System	20	\$475.96	\$1,548.16	75,660	1.237	0.0	\$0.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	13	0	
EIS - MN	EIS - Prescriptive	Average Motor Project	Efficient Equipment	Old System	15	\$1,951.04	\$8,868.16	33,973	4.440	0.0	\$0.00	MN-BUS-MOTORASD	BUS	Electric Only	100%	100%	100%	24	0	
EIS - MN	EIS - Prescriptive	Average Heating Project	Efficient Equipment	Old System	20	\$397.66	\$1,251.52	0	0.000	782.0	\$0.00	BUS	Gas Only	100%	100%	100%	0	0		
EIS - MN	Custom EIS Gas Project	Custom EIS Gas Project	New Efficient Equipment	Less Efficient Product/System	15	\$0.00	\$63.59	0	0.000	961.3	\$0,371.58	0	BUS	Gas Only	100%	100%	100%	0	1	
EIS - MN	Efficiency Controls Electric Project	EIS Efficiency Controls Electric Project	New Building Controls	Old Building Controls	15	\$0.00	\$948.59	98,071	0.685	0.0	\$0.00	MN-BUS-RECM_OUT	Bus	Electric Only	100%	100%	100%	1	0	
EIS - MN	Efficiency Controls Gas Project	EIS Efficiency Controls Gas Project	New Building Controls	Old Building Controls	15	\$4,005.47	\$47,311.88	0	0.000	801.1	\$1,195.19	0	Bus	Gas Only	100%	100%	100%	0.00	0.00	
EIS - MN	EIS Prescriptive	Average Compressed Air/FSO Project	Optimized System	Old System	11	\$5,569.00	\$13,880.63	52,930	7.257	0.0	\$0.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	0.00	0.00	
EIS - MN	Energy Information Installation	Energy Information Installation	New EIS	No EIS		\$12,495.71	\$42,319.36							Combo	100%	100%	100%	0.00	0.00	
Electric Rate Savings - MN	Electric Rate Savings	Participating Customer	Utility load control of at least 50 kW for control period	No control	5	\$0.00	\$0.00	50	50,808	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	645	0	
Energy Efficient Showerhead - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2021	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.64	\$1.64	74	0.010	0.0	\$12.17	MN-RES-SFWHT	Res	Electric Only	100%	30%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2022	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.64	\$1.64	74	0.010	0.0	\$12.17	MN-RES-SFWHT	Res	Electric Only	100%	30%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2023	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.64	\$1.64	99	0.008	0.0	\$8.98	MN-RES-SFWHT	Res	Electric Only	100%	30%	100%	906.28	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2021	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	64	0.009	0.0	\$12.22	MN-RES-SFWHT	Res	Electric Only	100%	40%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2022	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	64	0.009	0.0	\$12.22	MN-RES-SFWHT	Res	Electric Only	100%	40%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2023	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	94	0.006	0.0	\$6.95	MN-RES-SFWHT	Res	Electric Only	100%	35%	100%	903.16	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Secondary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2021	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	64	0.009	0.0	\$12.22	MN-RES-SFWHT	Res	Electric Only	100%	30%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Secondary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2022	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	64	0.009	0.0	\$12.22	MN-RES-SFWHT	Res	Electric Only	100%	30%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - EWH	Secondary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater - 2023	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	95	0.006	0.0	\$8.97	MN-RES-SFWHT	Res	Electric Only	100%	35%	100%	767.28	0.00	
Energy Efficient Showerhead - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2021	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.64	\$1.64	0	0.000	0.3	\$12.17		Res	Gas Only	100%	30%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2022	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.64	\$1.64	0	0.000	0.3	\$12.17		Res	Gas Only	100%	30%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2023	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.64	\$1.64	0	0.000	0.3	\$12.17		Res	Gas Only	100%	30%	100%	0.00	3,598.72	
Energy Efficient Showerhead - MN	Aerators - GWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2021	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	0	0.000	0.3	\$12.22		Res	Gas Only	100%	40%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - GWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2022	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	0	0.000	0.3	\$12.22		Res	Gas Only	100%	40%	100%	0.00	0.00	
Energy Efficient Showerhead - MN	Aerators - GWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2023	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	0	0.000	0.3	\$12.22		Res	Gas Only	100%	35%	100%	0.00	3,575.84	
Energy Efficient Showerhead - MN	Aerators - GWH	Secondary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2021	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	0	0.000	0.3	\$12.22		Res	Gas Only	100%	30%	100%	0.00	0.00	

Measure Description			Economic Assumptions										Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Energy Efficient Showerhead - MN	Aerators - GWH	Secondary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2022	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	0	0.000	0.3	\$12.22		Res	Gas Only	100%	30%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Aerators - GWH	Secondary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater - 2023	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.52	\$0.52	0	0.000	0.3	\$12.22		Res	Gas Only	100%	35%	100%	0.00	3,035.72
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2021	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2022	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2023	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	505	0.036	0.0	\$96.95	MN-RES-SFWHT	Res	Electric Only	100%	64%	100%	14,695.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2021	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2022	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2023	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	368	0.027	0.0	\$97.75	MN-RES-SFWHT	Res	Electric Only	100%	64%	100%	761.28	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2021	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2022	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2023	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	505	0.036	0.0	\$97.25	MN-RES-SFWHT	Res	Electric Only	100%	64%	100%	9.92	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2021	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2022	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2023	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	368	0.026	0.0	\$98.00	MN-RES-SFWHT	Res	Electric Only	100%	64%	100%	3.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2021	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2022	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Primary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2023	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	510	0.037	0.0	\$97.35	MN-RES-SFWHT	Res	Electric Only	100%	64%	100%	4.12	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2021	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2022	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - EWH	Secondary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater - 2023	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	368	0.026	0.0	\$98.00	MN-RES-SFWHT	Res	Electric Only	100%	64%	100%	3.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2021	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	0	0.000	2.2	\$97.40		Res	Gas Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2022	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	0	0.000	2.2	\$97.40		Res	Gas Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2023	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	0	0.000	2.2	\$97.40		Res	Gas Only	100%	64%	100%	0.00	104,762.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2021	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	0	0.000	1.5	\$65.49		Res	Gas Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2022	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	0	0.000	1.5	\$65.49		Res	Gas Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2023	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.25	\$3.25	0	0.000	1.5	\$97.35		Res	Gas Only	100%	64%	100%	0.00	3,023.72
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2021	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	0	0.000	2.2	\$97.40		Res	Gas Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2022	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$6.65	0	0.000	2.2	\$97.40		Res	Gas Only	100%	75%	100%	0.00	0.00

Measure Description				Economic Assumptions								Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2023	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$8.65	0	0.000	2.1	\$65.65		Res	Gas Only	100%	64%	100%	0.00	45.08
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2021	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$8.65	0	0.000	1.5	\$65.45		Res	Gas Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2022	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$8.65	0	0.000	1.5	\$65.45		Res	Gas Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2023	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$2.66	\$8.65	0	0.000	1.5	\$65.45		Res	Gas Only	100%	64%	100%	0.00	4.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2021	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	0	0.000	2.2	\$97.40		Res	Gas Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2022	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	0	0.000	2.2	\$97.40		Res	Gas Only	100%	75%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Primary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2023	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	0	0.000	2.2	\$97.40		Res	Gas Only	100%	64%	100%	0.00	11.88
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2021	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	0	0.000	1.5	\$65.45		Res	Gas Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2022	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	0	0.000	1.5	\$65.45		Res	Gas Only	100%	50%	100%	0.00	0.00
Energy Efficient Showerhead - MN	Showerheads - GWH	Secondary Styled Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater - 2023	1.5 GPM Styled Showerhead	2.5 GPM Showerhead	10	\$1.26	\$4.25	0	0.000	1.5	\$65.45		Res	Gas Only	100%	64%	100%	0.00	8.00
Foodbank Energy Efficiency Distribution - MN	Aerators - GWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with unknown DHW heater (GWH portion)	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	15	\$0.65	\$1.40	0	0.000	4.5	\$13.50		Res	Gas Only	100%	43%	100%		
Foodbank Energy Efficiency Distribution - MN	Aerators - EWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with unknown DHW heater (EWH portion)	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	15	\$0.65	\$1.40	0	0.000	4.5	\$13.50	MN-BUS-FLAT	Res	Electric Only	100%	43%	100%		
Foodbank Energy Efficiency Distribution - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with unknown DHW heater (GWH portion)	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$6.22	\$9.25	0	0.000	2.1	\$97.40		Res	Gas Only	100%	48%	100%		
Foodbank Energy Efficiency Distribution - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with unknown DHW heater (EWH portion)	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$6.22	\$9.25	0	0.000	2.1	\$97.40	MN-BUS-FLAT	Res	Electric Only	100%	48%	100%		
Foodbank Energy Efficiency Distribution - MN	Home Lighting - LI Kit Giveaways	4 x 9W A-lamp	LED Nightlight	Incandescent Lamp	15	\$3.51	\$3.51	100	0.000	0.0	\$0.00	MN-BUS-FLAT	Res	Electric Only	100%	92%	100%		
Foodbank Energy Efficiency Distribution - MN	Home Lighting - LI Kit Giveaways	LED Nightlight	LED Nightlight	Incandescent Lamp	5	\$1.89	\$1.89	50	0.000	0.0	\$0.00	MN-BUS-FLAT	Res	Electric Only	100%	92%	100%		
Foodservice Equipment - MN	Dishwasher Combo	Dishwashers - Primary Fuel: Elec; Secondary Fuel: Gas	ENERGY STAR qualified unit	Conventional unit as defined by ENERGY STAR	12	\$170.64	\$339.65	2,056	0.333	16.8	\$81.50	MN-BUS-FLAT	Bus	Combo	100%	100%	100%		
Foodservice Equipment - MN	Dishwasher Combo	Dishwashers - Primary Fuel: Gas; Secondary Fuel: Elec	ENERGY STAR qualified unit	Conventional unit as defined by ENERGY STAR	14	\$212.43	\$567.74	4,842	0.631	26.3	\$98.52	MN-BUS-FLAT	Bus	Combo	100%	100%	100%		
Foodservice Equipment - MN	Dishwasher Electric	Dishwashers - Primary Fuel: Elec; Secondary Fuel: Elec	ENERGY STAR qualified unit	Conventional unit as defined by ENERGY STAR	14	\$250.00	\$175.00	11,800	0.440	0.0	\$180.00	MN-BUS-FLAT	Bus	Electric Only	100%	100%	100%	6	0
Foodservice Equipment - MN	Dishwasher Electric	Dishwashers - Primary Fuel: Elec; Secondary Fuel: None	ENERGY STAR qualified unit	Conventional unit as defined by ENERGY STAR	15	\$250.00	\$25.00	1,998	0.260	0.0	\$246.46	MN-BUS-FLAT	Bus	Electric Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Dishwasher Gas	Dishwashers - Primary Fuel: Gas; Secondary Fuel: Gas	ENERGY STAR qualified unit	Conventional unit as defined by ENERGY STAR	10	\$250.00	\$120.00	0	0.000	7.1	\$28.52		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Dishwasher Gas	Dishwashers - Primary Fuel: Gas; Secondary Fuel: None	ENERGY STAR qualified unit	Conventional unit as defined by ENERGY STAR	10	\$250.00	\$50.00	0	0.000	10.6	\$68.97		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Food Service	Comb-Oven	Combination Oven	Steamer	12	\$1,700.00	\$1,700.00	0	0.000	186.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	10
Foodservice Equipment - MN	Food Service	Commercial Gas Fryer	High Efficiency Unit	Standard Efficiency Unit	12	\$321.43	\$1,475.41	0	0.000	30.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	7
Foodservice Equipment - MN	Food Service	Convection Oven	Deck Oven	Deck Oven	12	\$423.78	\$1,847.50	0	0.000	35.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	22
Foodservice Equipment - MN	Food Service	Conveyor Oven	Conveyor Oven	Pizza Deck Oven	12	\$750.00	\$5,733.00	0	0.000	254.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Food Service	High Efficiency Charbroiler	High Efficiency Charbroiler	Standard Charbroiler	12	\$300.00	\$1,860.00	0	0.000	64.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Food Service	High Efficiency Salamander Broiler	High Efficiency Salamander Broiler	Standard Salamander Broiler	12	\$150.00	\$1,357.20	0	0.000	31.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Food Service	Pasta Cooker	Pasta Cooker	Gas Range	12	\$200.00	\$4,702.00	0	0.000	170.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	1
Foodservice Equipment - MN	Food Service	Rotating Rack Oven	Rotating Rack Oven	Deck Oven	12	\$500.00	\$1,910.00	0	0.000	160.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	2
Foodservice Equipment - MN	Food Service	Rotisserie Oven	Rotisserie Oven - Infrared	Rotisserie Oven	12	\$500.00	\$2,189.40	0	0.000	45.4	\$0.00		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Food Service	Upright Broiler	Upright Broiler	Standard Radiant Broiler	12	\$600.00	\$1,272.00	0	0.000	31.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Food Service Electric	Hot Food Holding Cabinet	ENERGY STAR qualified unit	Conventional unit as defined by ENERGY STAR	12	\$400.00	\$1,113.00	0.000	0.000	0.0	\$0.00	MN-BUS-FLAT	Bus	Electric Only	100%	100%	100%	3	0
Foodservice Equipment - MN	Steam Cooker	3 Pan Steam Cooker	Energy Star 3 Pan Steam Cooker	Non-Energy Star 3 Pan Steam Cooker	12	\$700.00	\$1,640.00	0	0.000	145.0	\$180.00		Bus	Gas Only	100%	100%	100%	0	3
Foodservice Equipment - MN	Steam Cooker	4 Pan Steam Cooker	Energy Star 4 Pan Steam Cooker	Non-Energy Star 4 Pan Steam Cooker	12	\$402.64	\$2,270.00	0	0.000	100.7	\$250.49		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Steam Cooker	5 Pan Steam Cooker	Energy Star 5 Pan Steam Cooker	Non-Energy Star 5 Pan Steam Cooker	12	\$456.38	\$2,270.00	0	0.000	113.9	\$365.61		Bus	Gas Only	100%	100%	100%	0	0

Measure Description				Economic Assumptions									Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCKW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Foodservice Equipment - MN	Steam Cooker	6+ Pan Steam Cooker	Energy Star 6+ Pan Steam Cooker	Non-Energy Star 6+ Pan Steam Cooker	12	\$209.32	\$2,270.00	0	0.000	127.3	\$438.73		Bus	Gas Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	Bus	DR	100%	100%	100%	0	0
Foodservice Equipment - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	Bus	DR	100%	100%	100%	0	0
Foodservice Equipment - MN	AC Rewards - Business	Business Smart Thermostat - DR Direct Install	New Installation of DR Capable Smart Thermostat	Non communicating thermostat	5	\$255.00	\$255.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	Bus	DR	100%	100%	100%	0	0
Foodservice Equipment - MN	AC Rewards - Business	Business Smart Thermostat - BYOT	Existing Dispatchable Device	Non communicating thermostat	5	\$100.00	\$100.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	Bus	DR	100%	100%	100%	0	0
Foodservice Equipment - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & GAS	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	7.7	\$0.00	MN-BUS-COOL_OUT	Bus	Combo	100%	100%	100%	0	0
Foodservice Equipment - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC ONLY	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	Bus	Electric Only	100%	100%	100%	0	0
Foodservice Equipment - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	911	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	Bus	Electric Only	100%	100%	100%	0	0
Foodservice Equipment - MN	Demand Control Ventilation	Demand Controlled Ventilation - Electric Only or Gas Only or Combo Customer	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	20	\$486.07	\$1,500.00	11,298	1.828	14.4	\$0.00	MN-BUS-FLAT	Bus	Combo	100%	100%	100%	7	7
Home Energy Insights - MN	Behavioral Residential	Online Energy Feedback & Tools	Treatment	Control	1	\$0.00	\$0.00	66	0.000	2.4	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	27,916.00	27,916.00
Home Energy Insights - MN	Behavioral Residential	ROLL-UP: Existing Participant - 2021	Treatment	Control	1	\$0.00	\$0.00	171	0.042	0.5	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	ROLL-UP: New Participant - 2021	Treatment	Control	1	\$0.00	\$0.00	115	0.024	0	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	ROLL-UP: Existing Participant - 2022	Treatment	Control	1	\$0.00	\$0.00	167	0.039	0.5	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	ROLL-UP: New Participant - 2022	Treatment	Control	1	\$0.00	\$0.00	103	0.024	0.3	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	ROLL-UP: Existing Participant - 2023	Treatment	Control	1	\$0.00	\$0.00	116	0.030	0.5	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	266,797.00	195,506.00
Home Energy Insights - MN	Behavioral Residential	ROLL-UP: New Participant - 2023	Treatment	Control	1	\$0.00	\$0.00	79	0.030	0.2	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	301,671.00	301,671.00
Home Energy Insights - MN	Behavioral Residential	Behavioral Adjustments-Online Group Savings	Treatment	Control	0	\$0.00	\$0.00	66	0.000	0.0	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	27,916.00	27,916.00
Home Energy Insights - MN	Behavioral Residential	Behavioral Adjustments Rollup: Existing Participants 2021 Savings	Treatment	Control	0	\$0.00	\$0.00	-114	-0.028	-0.3	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	Behavioral Adjustments Rollup: New Participant 2021 Savings	Treatment	Control	0	\$0.00	\$0.00	-76	-0.016	-0.2	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	Behavioral Adjustments Rollup: Existing Participants 2022 Savings	Treatment	Control	0	\$0.00	\$0.00	-105	-0.026	-0.3	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	Behavioral Adjustments Rollup: New Participant 2022 Savings	Treatment	Control	0	\$0.00	\$0.00	-68	-0.016	-0.2	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Insights - MN	Behavioral Residential	Behavioral Adjustments Rollup: Existing Participants 2023 Savings	Treatment	Control	0	\$0.00	\$0.00	106	0.016	0.2	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	266,797.00	195,506.00
Home Energy Insights - MN	Behavioral Residential	Behavioral Adjustments Rollup: New Participant 2023 Savings	Treatment	Control	0	\$0.00	\$0.00	9	0.000	0.0	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	301,671.00	301,671.00
Behavioral Demand Response - MN	Behavioral Residential	Behavioral Demand Response	Treatment	Control	1	\$0.00	\$0.00	9	0.000	0.0	\$0.00	MN-RES-PEAK_CNT	Res	Electric Only	100%	100%	100%	765,500.00	0.00
Home Energy Insights - MN	High Bill Alerts	High Bill Alert	Customer enrolled in High Bill Alerts	Customer not enrolled in High Bill Alerts	1	\$0.00	\$0.00	9	0.000	0.1	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	100%	100%	49,851.00	9,388.00
Home Energy Savings Program - MN	Advanced Power Strip	Advanced Power Strip	Tier 1 Advanced Power Strip	Standard Power Strip	7	\$19.72	\$26.00	66	0.000	0.0	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	75%	100%	930.00	0.00
Home Energy Savings Program - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$5.20	\$9.20	74	0.019	0.0	\$12.12	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	25.00	0.00
Home Energy Savings Program - MN	Aerators - EWH	Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$5.20	\$9.20	66	0.019	0.0	\$12.12	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	15.00	0.00
Home Energy Savings Program - MN	Aerators - EWH	Renter Kit Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.22	\$1.22	74	0.010	0.0	\$12.12	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Aerators - EWH	Renter Kit Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$0.48	\$0.48	64	0.009	0.0	\$12.22	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Aerators - EWH	Secondary 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	2.2 GPM Bathroom Faucet Aerator	10	\$5.20	\$5.20	91	0.013	0.0	\$17.32	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$5.20	\$5.20	0	0.000	0.3	\$12.17		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$5.20	\$5.20	0	0.000	0.4	\$17.32		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Aerators - GWH	Renter Kit Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.22	\$1.22	0	0.000	0.3	\$17.17		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Aerators - GWH	Renter Kit Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.48	\$0.48	0	0.000	0.3	\$17.22		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Aerators - GWH	Secondary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$5.20	\$5.20	0	0.000	0.4	\$17.32		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Air Sealing - Electric Heating and Cooling	Air sealing in homes with electric heating / electric cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$401.76	\$999.19	4,492	0.180	0.0	\$0.00	MN-RES-Cooling_DX_Heating_El	Res	Electric Only	100%	100%	100%	3.00	0.00
Home Energy Savings Program - MN	Air Sealing - Electric Heating Only	Air sealing in homes with electric heating / no cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$401.76	\$401.76	4,493	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Air Sealing - Gas Heating / Electric Cooling	Air sealing in homes with gas heating / electric cooling for combo customers	Home with bypass air sealing performed	Existing home without air sealing	10	\$401.76	\$999.99	66	0.112	18.6	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	110.00	110.00
Home Energy Savings Program - MN	Air Sealing - Gas Heating / Electric Cooling	Air sealing in homes with gas heating / electric cooling for gas-only customers	Home with bypass air sealing performed	Existing home without air sealing	10	\$401.76	\$401.76	54	0.103	14.7	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Air Sealing - Gas Heating Only	Air sealing in homes with gas heating / no cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$401.76	\$999.99	0	0.000	16.4	\$0.00		Res	Gas Only	100%	100%	100%	0.00	52.00
Home Energy Savings Program - MN	Attic Insulation - Electric Heating and Cooling	Attic insulation in homes with electric heating / electric cooling	Home with R49 or more attic insulation	Existing home with R71 soft avg attic areas and R19 avg basement insulation	20	\$2,348.72	\$3,941.56	1,206	0.063	0.0	\$0.00	MN-RES-Cooling_DX_Heating_El	Res	Electric Only	100%	100%	100%	3.00	0.00

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Home Energy Savings Program - MN	Attic Insulation - Electric Heating Only	Attic insulation in homes with electric heating / no cooling	Home with R49 or more attic insulation	Existing home with 971 sqft avg attic area and R19 avg baseline insulation	20	\$2,999.65	\$2,999.65	1,754	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Attic Insulation - Gas Heating / Electric Cooling	Attic insulation in homes with gas heating / electric cooling for combo customers	Home with R49 or more attic insulation	Existing home with 971 sqft avg attic area and R19 avg baseline insulation	20	\$3,073.59	\$3,073.59	95	0.086	8.4	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	110.00	110.00	
Home Energy Savings Program - MN	Attic Insulation - Gas Heating / Electric Cooling	Attic insulation in homes with gas heating / electric cooling for gas-only customers	Home with R49 or more attic insulation	Existing home with 971 sqft avg attic area and R19 avg baseline insulation	20	\$2,476.38	\$2,476.38	42	0.081	8.5	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Attic Insulation - Gas Heating Only	Attic insulation in homes with gas heating / no cooling	Home with R49 or more attic insulation	Existing home with 971 sqft avg attic area and R19 avg baseline insulation	20	\$2,894.97	\$2,894.97	0	0.000	11.8	\$0.00		Res	Gas Only	100%	100%	100%	0.00	49.00	
Home Energy Savings Program - MN	Boiler	95% Efficient Boiler	95% Efficient Boiler	94% Efficient Boiler	20	\$9,070.00	\$9,070.00	0	0.000	96.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	42.00	
Home Energy Savings Program - MN	Dehumidifier Recycling	Dehumidifier removal and Recycling	Removal of dehumidifier	Removal of dehumidifier	5	\$15.00	\$15.00	624	0.426	0.0	\$0.00	MN-RES-Cooling_DX	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	ECM Furnace Fan	EC Fan Motor on Retrofit Residential Furnace no AC	Furnace Fan without AC retrofitted with ECM	Existing furnace without AC with non-EC Motor	7	\$845.00	\$845.00	433	0.055	0.0	-\$3.50	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	ECM Furnace Fan	EC Fan Motor on Retrofit Residential Furnace with AC	Furnace Fan with AC retrofitted with ECM	Existing furnace with AC and non-EC Motor	7	\$845.00	\$845.00	538	0.134	0.0	-\$3.50	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	ENERGY STAR Dehumidifier	≤ 50 pints/day dehumidifier	ENERGY STAR Dehumidifier (see website)	Non-ENERGY STAR Dehumidifier (see website)	10	\$288.00	\$288.00	119	0.028	0.00	\$0.00	MN-RES-SPWHT	Res	Electric Only	100%	100%	100%	56.00	0.00	
Home Energy Savings Program - MN	ENERGY STAR Refrigerator	Freezer Replacement	ENERGY STAR ® Freezers	Industry Standard	11	\$405.00	\$405.00	349	0.040	0.00	\$0.00	MN-RES-SPRF1	Res	Electric Only	100%	100%	100%	258.00	0.00	
Home Energy Savings Program - MN	ENERGY STAR Refrigerator	Refrigerator Replacement	ENERGY STAR ® Refrigerators	Industry Standard	14	\$705.00	\$705.00	46	0.003	0.00	\$0.00	MN-RES-SPRF1	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Furnace	Replace Furnace AFUE 80 to 95 (SF)	95% Efficient Furnace	80% Efficient Furnace	18	\$4,500.00	\$4,511.00	0	0.000	16.8	\$0.00		RES	Gas Only	100%	100%	100%	0.00	108.00	
Home Energy Savings Program - MN	Home Lighting DI	LED A19 10W	LED A19 10W	EISA Standard Bulb	20	\$4.80	\$4.80	120	0.000	0.00	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	999.00	0.00	
Home Energy Savings Program - MN	Home Lighting DI	LED A19 10W	LED A19 10W	Existing CFL Bulb	20	\$4.80	\$4.80	4	0.001	0.00	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Home Lighting DI	LED Candelabra 6W	LED Candelabra 6W	EISA Specialty Bulb	20	\$4.90	\$4.90	369	0.044	0.00	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	256.00	0.00	
Home Energy Savings Program - MN	Home Lighting DI	LED Globe 6W	LED Globe 6W	EISA Specialty Bulb	20	\$4.90	\$4.90	360	0.043	0.00	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	310.00	0.00	
Home Energy Savings Program - MN	Home Lighting DI	Renter Kit 11W LED	11W LED	EISA Specialty Bulb	20	\$4.81	\$4.81	32	0.004	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Home Lighting DI	Renter Kit 9W LED	9W LED	EISA Specialty Bulb	20	\$3.19	\$3.19	34	0.004	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	HP Water Heater	Heat Pump Water Heater - Non- Refrigerant Based Cooling Natural Gas Heat	High Efficiency Heat Pump Water Heater	Existing Electric Water Heater	10	\$4,600.00	\$4,600.00	3,060	0.260	0.0	-\$15.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	16.00	0.00	
Home Energy Savings Program - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling ASHP Heat	High Efficiency Heat Pump Water Heater	Existing Electric Water Heater	10	\$4,600.00	\$4,600.00	2,018	0.267	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Electric Resistance Heat	High Efficiency Heat Pump Water Heater	Existing Electric Water Heater	10	\$4,600.00	\$4,600.00	1,727	0.267	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Natural Gas Heat	High Efficiency Heat Pump Water Heater	Existing Electric Water Heater	10	\$4,600.00	\$4,600.00	2,336	0.267	0.0	-\$15.73	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling ASHP Heat	High Efficiency Heat Pump Water Heater	Existing Electric Water Heater	10	\$4,600.00	\$4,600.00	2,035	0.269	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Electric Resistance Heat	High Efficiency Heat Pump Water Heater	Existing Electric Water Heater	10	\$4,600.00	\$4,600.00	1,743	0.269	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Mini-Split Heat Pump	Mini-Split Heat Pump	Residential Mini-Split Heat Pump ≤ 2 Tons (Nominal 1.8 Tons with 18.9 SEER, 12.9 EER, 10.2 HSPF (unadjusted)) replacing a electric resistance heat backup	Spot Cooling Solution needed with Existing Electric Resistance Heating	15	\$9,000.00	\$9,000.00	4,012	0.981	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Mini-Split Heat Pump	Mini-Split Heat Pump	Residential Mini-Split Heat Pump ≤ 2 Tons (Nominal 1.8 Tons with 18.9 SEER, 12.9 EER, 10.2 HSPF (unadjusted)) replacing a MSHSP or new spot cooling need.	MSHP size 1.8 tons, 14 SEER, 8.19 EER, 8.2 HSPF (unadjusted)	15	\$9,000.00	\$9,100.00	390	0.980	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	4.00	0.00	
Home Energy Savings Program - MN	Refrigerator Recycling	Freezer Removal and Recycling	Removal of freezer	Existing primary unit - age mostly >10 years	7	\$75.00	\$75.00	833	0.095	0.00	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Refrigerator Recycling	Refrigerator Removal and Recycling	Removal of Primary and Secondary Refrigerator	Existing Primary and Secondary Unit - age mostly > 15 years	8	\$75.00	\$75.00	398	0.027	0.00	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	100%	100%	625.00	0.00	
Home Energy Savings Program - MN	Res ASHP	Installation of new ASHP 16 SEER, 13 EER, 9 HSPF 2 tons w/ Electric Resistance Heat Backup	Quality Installation of new ASHP 16 SEER, 13 EER, 9 HSPF 2 tons w/ Electric Resistance Heat Backup	Non-Quality Installation of ASHP 14 SEER, 8.19 EER, ASHP 2 tons	18	\$9,942.00	\$11,000.00	4,417	0.910	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	2.00	0.00	
Home Energy Savings Program - MN	Residential Boiler Tune Up	Boiler Tune Up	Existing Boiler	Existing Boiler	2	\$305.50	\$305.50	0	0.000	5.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Residential Furnace Tune Up	Furnace Tune Up	Existing Furnace with Tune Up -5% improvement in efficiency	Existing Furnace	2	\$270.00	\$270.00	0	0.000	3.1	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00	
Home Energy Savings Program - MN	Room Air Conditioner Recycling	Wall Air Conditioner Removal and Recycling	Removal of Standard 10,000 Btu/h Window AC Unit	Existing Window AC Unit	5	\$50.00	\$50.00	542	0.761	0.00	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	14.00	

Measure Description					Economic Assumptions								Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Home Energy Savings Program - MN	Room Air Conditioner Recycling	Window Air Conditioner Removal and Recycling	Removal of Standard 10,000 Btu/hr Window AC Unit	Existing Window AC Unit	6	\$50.00	\$50.00	499	0.720		\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Saver's Switch	Residential AC Switch	Utility Load Control for control period with smart switch	No Control, No Switch	15	\$10.00	\$10.00	1	0.748		\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$47.00	\$47.00	119	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	25.00	0.00
Home Energy Savings Program - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$15.00	\$15.00	119	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	1.00	0.00
Home Energy Savings Program - MN	Showerheads - EWH	Renter Kit Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.22	\$3.22	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Showerheads - EWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$47.00	\$47.00	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$15.00	\$15.00	344	0.025	0.0	\$65.49	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	25.00	0.00
Home Energy Savings Program - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$47.00	\$47.00	0	0.000	2.2	\$97.40		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$15.00	\$15.00	0	0.000	2.2	\$97.40		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Showerheads - GWH	Renter Kit Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.22	\$3.22	0	0.000	2.2	\$97.40		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Showerheads - GWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$47.00	\$47.00	0	0.000	1.5	\$65.49		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$15.00	\$15.00	0	0.000	1.5	\$65.49		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & GAS	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	5.5	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Wall AC	Wall Air Conditioner Replacement	Average Energy Star Wall AC with Louvers 10,000 Btu/hr 10.8 EER Window AC Unit	Existing Window AC Unit	9	\$727.50	\$727.50	98	0.232		\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	237.00	0.00
Home Energy Savings Program - MN	Wall Insulation - Electric Heating and Cooling	Wall insulation in homes with electric heating / electric cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$2,374.40	\$2,374.40	0.000	0.000	0.0	\$0.00	MN-RES-Cooling_DX_Heating_Elec	Res	Electric Only	100%	100%	100%	1.00	0.00
Home Energy Savings Program - MN	Wall Insulation - Electric Heating Only	Wall insulation in homes with electric heating / no cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$2,374.40	\$2,374.40	6.867	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Wall Insulation - Gas Heating / Electric Cooling	Wall insulation in homes with gas heating / electric cooling for combo customers	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$2,417.96	\$2,417.96	198	0.000	27.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	41.00	41.00
Home Energy Savings Program - MN	Wall Insulation - Gas Heating / Electric Cooling	Wall insulation in homes with gas heating / electric cooling for gas-only customers	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$1,111.47	\$1,111.47	62	0.119	12.5	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Wall Insulation - Gas Heating Only	Wall insulation in homes with gas heating / no cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$2,876.75	\$2,876.75	0	0.000	33.7	\$0.00		Res	Gas Only	100%	100%	100%	0.00	30.00
Home Energy Savings Program - MN	Water Heater	High Efficiency Storage Water Heater	80% UEF High Efficiency Storage Water Heater - Medium Draw	Minimum Efficiency Storage Water Heater	13	\$3,000.00	\$3,000.00	0	0.000	3.5	\$0.00		RES	Gas Only	100%	100%	100%	0.00	165.00
Home Energy Savings Program - MN	Water Heater	High Efficiency Storage Water Heater	80% UEF High Efficiency Storage Water Heater - High Draw	Minimum Efficiency Storage Water Heater	13	\$3,200.00	\$3,200.00	0	0.000	1.8	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Weatherstripping - Electric Heating and Cooling	Weatherstripping in homes with electric heating / electric cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack/ leakage rate	Existing door with 0.55 CFM/linear ft of crack/ leakage rate	10	\$32.00	\$32.00	322	0.012	0.0	\$0.00	MN-RES-Cooling_DX_Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Weatherstripping - Electric Heating Only	Weatherstripping in homes with electric heating / no cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack/ leakage rate	Existing door with 0.55 CFM/linear ft of crack/ leakage rate	10	\$32.00	\$32.00	316	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for combo customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack/ leakage rate	Existing door with 0.55 CFM/linear ft of crack/ leakage rate	10	\$32.00	\$32.00	4	0.000	1.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	2.00	2.00
Home Energy Savings Program - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for gas-only customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack/ leakage rate	Existing door with 0.55 CFM/linear ft of crack/ leakage rate	10	\$32.00	\$32.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Weatherstripping - Gas Heating Only	Weatherstripping in homes with gas heating / no cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack/ leakage rate	Existing door with 0.55 CFM/linear ft of crack/ leakage rate	10	\$32.00	\$32.00	0	0.000	1.8	\$0.00		Res	Gas Only	100%	100%	100%	0.00	0.00
Home Energy Savings Program - MN	Window AC	Window Air Conditioner Replacement	Average Energy Star Window AC with Louvers 10,000 Btu/hr 10.8 EER Window AC Unit	Existing Window AC Unit	9	\$627.50	\$627.50	98	0.232		\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	524.00	0.00
Home Energy Squad - MN	Advanced Power Strip	Advanced Power Strip	Tier 1 Advanced Power Strip	Standard Power Strip	7	\$25.00	\$25.00	68	0.005	0.0	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	100%	100%	0.00	0.00
Home Energy Squad - MN	Advanced Power Strip	Advanced Power Strip	Tier 2 Advanced Power Strip	Standard Power Strip	8	\$40.00	\$40.00	118	0.015	0.0	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	100%	100%	0.00	0.00

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Home Energy Squad - MN	ENERGY STAR Dehumidifier	>50 pints/day dehumidifier	ENERGY STAR Dehumidifier high capacity	Standard efficiency dehumidifier (Current Federal Standard)	12	\$35.00	\$0.00	176	0.110	0.0	\$0.00	MN-RES-ESTARREF	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	ENERGY STAR Dehumidifier	≤ 50 pints/day dehumidifier	ENERGY STAR Dehumidifier low capacity	Standard efficiency dehumidifier (Current Federal Standard)	12	\$35.00	\$0.00	102	0.047	0.0	\$0.00	MN-RES-ESTARREF	Res	Electric Only	100%	100%	100%	11.00	0.00	
Home Energy Squad - MN	Weatherstripping - Electric Heating and Cooling	Weatherstripping in homes with electric heating / electric cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$12.00	\$12.00	144	0.048	0.0	\$0.00	MN-RES-Cooling_DX_Heating_EI ec	Res	Electric Only	100%	100%	100%	32.00	0.00	
Home Energy Squad - MN	Weatherstripping - Electric Heating and Cooling	A la carte weatherstripping in homes with electric heating / electric cooling	Additional weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Additional existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$0.00	\$12.00	96	0.020	0.0	\$0.00	MN-RES-Cooling_DX_Heating_EI ec	Res	Electric Only	100%	100%	100%	11.00	0.00	
Home Energy Squad - MN	Weatherstripping - Electric Heating Only	Weatherstripping in homes with electric heating / no cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$12.00	\$12.00	144	0.048	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	5.00	0.00	
Home Energy Squad - MN	Weatherstripping - Electric Heating Only	A la carte weatherstripping in homes with electric heating / no cooling	Additional weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Additional existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$0.00	\$12.00	316	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for combo customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$12.00	\$12.00	4	0.000	0.4	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	4,014.00	4,014.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for gas-only customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$12.00	\$12.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for electric-only customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$12.00	\$12.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	A la carte weatherstripping in homes with gas heating / electric cooling for combo customers	Additional weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Additional existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$0.00	\$12.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	A la carte weatherstripping in homes with gas heating / electric cooling for gas-only customers	Additional weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Additional existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$0.00	\$12.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	A la carte weatherstripping in homes with gas heating / electric cooling for electric-only customers	Additional weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Additional existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$0.00	\$12.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating Only	Weatherstripping in homes with gas heating / no cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$12.00	\$12.00	0	0.000	1.4	\$0.00		Res	Gas Only	100%	100%	100%	0.00	273.00	
Home Energy Squad - MN	Weatherstripping - Gas Heating Only	A la carte weatherstripping in homes with gas heating / no cooling	Additional weatherstripped door achieving 0.18 CFM/linear ft of crack / leakage rate	Additional existing door with 0.55 CFM/linear ft of crack / leakage rate	10	\$0.00	\$12.00	0	0.000	1.4	\$0.00		Res	Gas Only	100%	100%	100%	0.00	85.00	
Home Energy Squad - MN	Home Energy Squad Service	Home Energy Squad Service	The One Energy Squad Service	0	0	\$0.00	\$70.00	0	0.000	0.0	\$0.00		Combo		100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Home Lighting DI	LED - A-lamp (9W)	9w Standard LED (60w Equivalent)	EISA Standard Bulb	20	\$2.65	\$2.65	34	0.004	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Home Lighting DI	LED - A-lamp (15W)	15w Standard LED (100w Equivalent)	EISA Standard Bulb	20	\$2.65	\$2.65	56	0.007	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Home Lighting DI	LED - Flood (10W)	10W VALUE led (60W Equivalent)	EISA Specialty Bulb	20	\$2.65	\$2.65	32	0.004	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Home Lighting DI	LED - Globe (9W)	9w Globe LED Dim	EISA Specialty Bulb	15	\$2.65	\$2.65	23	0.003	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Home Lighting DI	LED - Candelabra (5W)	LED - Candelabra (5W)	EISA Specialty Bulb	15	\$2.65	\$2.65	21	0.003	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Home Lighting DI	Replace Compact Fluorescent Lamps (CFLs) with LEDs	A-Line LED	Existing CFL	20	\$2.65	\$2.65	10	0.001	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Home Lighting DI	Replace Compact Fluorescent Lamps (CFLs) with LEDs	Specialty LED	Existing CFL	17	\$2.65	\$2.65	3	0.000	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier 1 or 8 thermostat	Existing standard model or Non-Utility Tier 1 Thermostat	5	\$25.00	\$14.00	4	0.000	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	414.00	0.00	
Home Energy Squad - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	AC Rewards-EE	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	2,361	0.180	0.0	\$0.00	MN-RES-HEFF	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	AC Rewards-EE	Install Energy Star certified smart thermostat - AC & GAS	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	5.5	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	AC Rewards-EE	Install Energy Star certified smart thermostat - AC ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Programmable Thermostat	Install Programmable T-stat (Elec Cooling & Gas Heat)	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.0 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$35.00	\$12.00	47	0.000	0.4	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	248.00	248.00	

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Home Energy Squad - MN	Programmable Thermostat	Install Second Programmable Thermostat	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$0.00	\$99.00	96	0.00	1.2	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	3.00	3.00	
Home Energy Squad - MN	Programmable Thermostat	Programming of Existing T-stat (Elec Cooling & Gas Heat)	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Base modeled home w/ 10 SEER AC and no setup temp	10	\$0.00	\$0.00	96	0.00	2.2	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	152.00	152.00	
Home Energy Squad - MN	Saver's Switch	Residential AC Switch	Utility Load Control for control period with smart switch	No Control, No Backlog	15	\$90.00	\$90.00	1	0.748	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$125.00	1,370	0.160	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & GAS	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$79.00	0	0.00	0.0	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	640.00	640.00	
Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$125.00	76	0.180	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - GAS ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$19.00	0	0.000	5.5	\$0.00		RES	Gas Only	100%	100%	100%	0.00	21.00	
Home Energy Squad - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$0.00	96	0.00	0.0	\$10.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	41.00	0.00	
Home Energy Squad - MN	Aerators - EWH	Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$0.00	96	0.00	0.0	\$10.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	231.00	0.00	
Home Energy Squad - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$0.00	0	0.000	0.0	\$10.00		Res	Gas Only	100%	100%	100%	0.00	164.00	
Home Energy Squad - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$0.00	0	0.000	0.0	\$10.00		Res	Gas Only	100%	100%	100%	0.00	820.00	
Home Energy Squad - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$0.00	310	0.00	0.0	\$0.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	212.00	0.00	
Home Energy Squad - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$0.00	300	0.00	0.0	\$0.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	60.00	0.00	
Home Energy Squad - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	511	0.007	0.0	\$0.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Showerheads - EWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	344	0.025	0.0	\$0.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$0.00	0	0.000	0.0	\$0.00		Res	Gas Only	100%	100%	100%	0.00	742.00	
Home Energy Squad - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$0.00	0	0.000	1.0	\$0.00		Res	Gas Only	100%	100%	100%	0.00	211.00	
Home Energy Squad - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	0	0.000	2.2	\$0.00		Res	Gas Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Showerheads - GWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	0	0.000	1.5	\$0.00		Res	Gas Only	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Water Heater DR	Demand response capability on grid enabled electric resistance water heater	Demand response from electric resistance water heater	No management of water heater time of use	1	\$100.00	\$200.00	1	0.213	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Home Energy Squad - MN	Water Heater Setback	Gas Water Heater Setback	setback WH setpoint to 120 F	Existing WH at setpoint of 120 F	9	\$0.00	\$0.00	0	0.000	0.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	555.00	
Home Energy Squad - MN	Water Heater Setback	Electric Water Heater Setback	setback WH setpoint to 120 F	Existing WH at setpoint of 130 F	2	\$0.00	\$0.00	161	0.007	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00	
Home Lighting - MN	Residential Home Lighting - Residential Customers	LED Bulb - A-Line	LED Bulb Purchase - A-Line	Incandescent Equivalent (Post-EISA)	20	\$1.43	\$1.30	96	0.00	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	99%	100%	4,853,242.00	0.00	
Home Lighting - MN	Residential Home Lighting - Business Customers	LED Bulb - A-Line	LED Bulb Purchase - A-Line	Incandescent Equivalent (Post-EISA)	4	\$1.43	\$1.30	300	0.00	0.0	\$0.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	203,314.00	0.00	
Home Lighting - MN	Residential Home Lighting - Residential Customers	LED Bulb - Specialty	LED Bulb Purchase - Specialty	Incandescent Equivalent (Exempt/Post-EISA)	20	\$1.55	\$1.40	96	0.00	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	99%	100%	808,297.00	0.00	
Home Lighting - MN	Residential Home Lighting - Business Customers	LED Bulb - Specialty	LED Bulb Purchase - Specialty	Incandescent Equivalent (Exempt/Post-EISA)	5	\$1.56	\$1.40	300	0.00	0.0	\$0.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	51,593.00	0.00	
Home Lighting - MN	Residential Home Lighting - Residential Customers	LED Tubes (Linear Lamps)	LED Linear Tube	Fluorescent Lamp	20	\$2.00	\$1.40	15	0.00	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	99%	100%	4,012.00	0.00	
Home Lighting - MN	Residential Home Lighting - Business Customers	LED Tubes (Linear Lamps)	LED Linear Tube	Fluorescent Lamp	9	\$3.28	\$1.60	30	0.00	0.0	\$0.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	29,798.00	0.00	
HVACR - MN	Ozone Laundry	Ozone Washer Extractor	New ozone laundry system (ventilator injection or Bubble Diffusion) is added-on to new or existing commercial washing machine using hot water heated with natural gas	new or existing commercial washing machine using hot water heated with natural gas	10	\$3,412.50	\$6,700.00	0	0.000	100.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	4	

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
HVACR - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
HVACR - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
HVACR - MN	AC Rewards - Business	Business Smart Thermostat - DR Direct Install	New Installation of DR Capable Smart Thermostat	Non communicating thermostat	5	\$255.00	\$255.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
HVACR - MN	AC Rewards - Business	Business Smart Thermostat - BYOT	Existing Dispatchable Device	Non communicating thermostat	5	\$100.00	\$100.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
HVACR - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & GAS	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	7.7	\$0.00	MN-BUS-COOL_OUT	BUS	Combo	100%	100%	100%	0	0	
HVACR - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC ONLY	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	911	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Custom Cooling Project	Custom Cooling Projects	New Efficient Equipment	Existing or New inefficient Equipment	18	\$8,843.85	\$8,558.07	93,404	18,134	0.0	\$1.87	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Custom Motors Project	Custom Motors Project	New Equipment	Existing or New inefficient Equipment	17	\$6,751.12	\$28,584.28	74,886	13,571	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Custom Heating Project	Custom Heating Project	New Efficient Equipment	Less Efficient Product/Systems	18	\$663.88	\$6,612.75	0	0.000	132.8	\$0.00	BUS	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Custom Refrigeration Project	Custom Refrigeration Project	New Efficient Equipment	Less Efficient Product/Systems	16	\$12,257.79	\$71,019.11	154,882	24,504	0.0	\$7,781.68	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	DX	DX Units < 5.4 tons	DX unit size 3.75 tons, 12.30 EER, 15.08 SEER	DX unit size 3.75 tons, 11.05 EER, 13.00 SEER	20	\$441.57	\$171.63	388	0.438	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	324	324	
HVACR - MN	DX	DX Units 5.4 - 11.3 tons	DX unit size 7.98 tons, 12.01 EER, 14.08 SEER	DX unit size 7.98 tons, 11.00 EER, 11.20 SEER	20	\$2,104.51	\$1,603.35	2,082	0.438	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	132	0	
HVACR - MN	DX	DX Units 11.4 - 19.9 tons	DX unit size 14.65 tons, 11.87 EER, 14.44 SEER	DX unit size 14.65 tons, 10.80 EER, 11.00 SEER	20	\$5,287.70	\$3,653.97	4,973	0.438	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	38	0	
HVACR - MN	DX	DX Units 20 - 63.3 tons	DX unit size 31.74 tons, 11.38 EER, 13.94 SEER	DX unit size 31.74 tons, 9.80 EER, 9.90 SEER	20	\$9,009.91	\$3,947.16	13,993	0.438	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	25	0	
HVACR - MN	DX	DX Units > 63.3 tons	DX unit size 89.99 tons, 10.87 EER, 15.10 SEER	DX unit size 89.99 tons, 9.80 EER, 9.90 SEER	20	\$16,762.40	\$9,734.80	24,739	0.438	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	2	0	
HVACR - MN	WSHP	Water Source Heat Pumps	WSHP unit size 2.81 tons, 14.20 EER, 15.78 SEER	WSHP unit size 2.81 tons, 13.00 EER, 13.33 SEER	20	\$330.79	\$93.00	388	0.541	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	7	0	
HVACR - MN	DX	PTAC Units	PTAC unit size 0.44 tons, 13.14 EER, 15.40 SEER	PTAC unit size 0.44 tons, 12.21 EER, 14.38 SEER	20	\$1,625.68	\$1,780.98	1,987	0.171	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	13	0	
HVACR - MN	Chiller	Scroll/Screw Chiller < 75 tons	Chiller size 55 tons, 0.70 FLV kW/ton, 0.59 PLV kW/ton	Chiller size 78.3 tons, 0.78 FLV kW/ton, 0.62 PLV kW/ton	20	\$1,155.00	\$7,150.00	716	3.960	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Chiller	Scroll/Screw chiller 75 to 150 tons	Chiller size 78.3 tons, 0.70 FLV kW/ton, 0.58 PLV kW/ton	Chiller size 225 tons, 0.68 FLV kW/ton, 0.58 PLV kW/ton	20	\$4,725.00	\$20,250.00	4,208	16,200	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Chiller	Scroll/Screw chiller > 150 tons	Chiller size 500 tons, 0.54 FLV kW/ton, 0.50 PLV kW/ton	Chiller size 500 tons, 0.62 FLV kW/ton, 0.54 PLV kW/ton	20	\$10,500.00	\$20,000.00	9,351	36,000	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Chiller	Centrifugal Chillers < 150 tons	Chiller size 75.00 tons, 0.60 FLV kW/ton, 0.58 PLV kW/ton	Chiller size 75.00 tons, 0.63 FLV kW/ton, 0.60 PLV kW/ton	20	\$85.00	\$9,750.00	283	1.978	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Chiller	Centrifugal Chillers 150 - 300 tons	Chiller size 250.00 tons, 0.58 FLV kW/ton, 0.38 PLV kW/ton	Chiller size 250.00 tons, 0.63 FLV kW/ton, 0.60 PLV kW/ton	20	\$9,163.16	\$29,839.35	49,971	17,800	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	1	0	
HVACR - MN	Chiller	Centrifugal Chillers 300 - 600 tons	Chiller size 385.63 tons, 0.55 FLV kW/ton, 0.35 PLV kW/ton	Chiller size 385.63 tons, 0.58 FLV kW/ton, 0.55 PLV kW/ton	20	\$9,813.19	\$32,778.13	39,055	15,510	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Chiller	Centrifugal Chillers > 600 tons	Chiller size 1,000.00 tons, 0.54 FLV kW/ton, 0.35 PLV kW/ton	Chiller size 1,000.00 tons, 0.57 FLV kW/ton, 0.54 PLV kW/ton	20	\$24,612.02	\$43,880.00	100,438	31,788	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	1	0	
HVACR - MN	Chiller	Air-Cooled Chillers < 150 tons	Chiller size 88.61 tons, 10.95 EER, 16.16 SEER	Chiller size 88.61 tons, 9.58 EER, 12.50 SEER	20	\$3,202.77	\$1,598.16	1,930	0.438	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	22	0	
HVACR - MN	Chiller	Air-Cooled Chillers > 150 tons	Chiller size 258.87 tons, 10.45 EER, 17.83 SEER	Chiller size 258.87 tons, 9.58 EER, 12.75 SEER	20	\$28,162.96	\$81,520.00	91,588	34,970	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	3	0	
HVACR - MN	Chiller VFD	Chiller VFD Retrofit	VFD Chiller size 688 tons, 0.56 FLV kW/ton, 0.38 PLV kW/ton	Constant Speed Chiller size 688 tons, 0.56 FLV kW/ton, 0.49 PLV kW/ton	15	\$11,088.04	\$48,336.11	216,690	-10,448	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	MN ERV	ERV install on RTU/AHU for reduced cooling & heating load	70% Sensible Effectiveness Heat Recovery on 5041 CFM OA (Cooling Mode)	No heat recovery on 5041 CFM OA	15	\$3,640.00	\$3,640.00	1,174	0.141	0.0	\$0.00	MN-BUS-COOLING	BUS	Combo	100%	100%	100%	2	0	
HVACR - MN	Mini Split	Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 10.50 HSPF	MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	18	\$480.68	\$913.25	1,391	1.286	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	49	0	
HVACR - MN	Mini Split	Mini-Split AC - Data Center	MSHG size 2.2 tons, 17.78 SEER	MSHG size 2.2 tons, 14 SEER	48	\$107.84	\$542.29	2,926	0.959	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 0 - 0.499 MMBTUH	80% Efficient Boiler	80% Efficient Boiler	20	\$5,881.61	\$19,939.50	0	0.000	988.7	\$0.00	BUS	Gas Only	100%	100%	100%	0	36		
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 0.5 - 0.999 MMBTUH	80% Efficient Boiler	80% Efficient Boiler	20	\$10,075.37	\$16,474.86	0	0.000	1674.0	\$0.00	BUS	Gas Only	100%	100%	100%	0	14		

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units		
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 1 - 1.999 MMBTUH	85% Efficient Boiler	85% Efficient Boiler	20	\$964.00	\$4,400.00	0	0.000	207.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 2 - 2.499 MMBTUH	85% Efficient Boiler	85% Efficient Boiler	20	\$1,600.00	\$5,000.00	0	0.000	240.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 2.5 - 3.999 MMBTUH	85% Efficient Boiler	82% Efficient Boiler	20	\$2,400.00	\$5,000.00	0	0.000	352.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 4 - 5.999 MMBTUH	85% Efficient Boiler	82% Efficient Boiler	20	\$3,200.00	\$10,000.00	0	0.000	281.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 6 - 7.999 MMBTUH	85% Efficient Boiler	80% Efficient Boiler	20	\$4,800.00	\$15,000.00	0	0.000	422.4	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Non-condensing 8 - 9.999 MMBTUH	85% Efficient Boiler	82% Efficient Boiler	20	\$6,400.00	\$20,000.00	0	0.000	563.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 0 - 0.499 MMBTUH	88% Efficient Boiler	80% Efficient Boiler	20	\$980.00	\$1,600.00	0	0.000	52.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 0.5 - 0.999 MMBTUH	88% Efficient Boiler	80% Efficient Boiler	20	\$2,170.00	\$6,200.00	0	0.000	145.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 1 - 1.999 MMBTUH	88% Efficient Boiler	80% Efficient Boiler	20	\$4,690.00	\$7,700.00	0	0.000	322.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 2 - 2.499 MMBTUH	88% Efficient Boiler	80% Efficient Boiler	20	\$7,000.00	\$14,500.00	0	0.000	481.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 2.5 - 3.999 MMBTUH	88% Efficient Boiler	82% Efficient Boiler	20	\$10,255.00	\$14,500.00	0	0.000	650.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 4 - 5.999 MMBTUH	88% Efficient Boiler	80% Efficient Boiler	20	\$17,640.00	\$34,800.00	0	0.000	946.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 6 - 7.999 MMBTUH	88% Efficient Boiler	82% Efficient Boiler	20	\$21,000.00	\$43,500.00	0	0.000	1,126.4	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Hot Water Boiler - Condensing 8 - 9.999 MMBTUH	88% Efficient Boiler	82% Efficient Boiler	20	\$28,000.00	\$58,000.00	0	0.000	1,501.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Condensing Boiler Upgrade; 0 - 0.499 MMBTUH; for space heating	88% Efficient Boiler	85% Efficient Boiler	20	\$2,030.00	\$4,600.00	0	0.000	95.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Condensing Boiler Upgrade; 0.500 - 0.999 MMBTUH; for space heating	88% Efficient Boiler	78% Efficient Boiler	20	\$4,900.00	\$11,200.00	0	0.000	207.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Condensing Boiler Upgrade; 1 - 1.999 MMBTUH; for space heating	88% Efficient Boiler	78% Efficient Boiler	20	\$7,000.00	\$15,000.00	0	0.000	296.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Condensing Boiler Upgrade; 2 - 3.999 MMBTUH; for space heating	88% Efficient Boiler	78% Efficient Boiler	20	\$17,620.00	\$28,500.00	0	0.000	757.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Condensing Boiler Upgrade; 4 - 5.999 MMBTUH; for space heating	88% Efficient Boiler	78% Efficient Boiler	20	\$28,000.00	\$53,000.00	0	0.000	1,184.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Condensing Boiler Upgrade; 6 - 7.999 MMBTUH; for space heating	88% Efficient Boiler	78% Efficient Boiler	20	\$42,000.00	\$79,500.00	0	0.000	1,776.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Condensing Boiler Upgrade; 8 - 9.999 MMBTUH; for space heating	88% Efficient Boiler	78% Efficient Boiler	20	\$56,000.00	\$108,000.00	0	0.000	2,368.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Low Pressure Steam Boiler; 0 - 0.499 MMBTUH	84% Efficient Boiler	79% Efficient Boiler	20	\$230.00	\$1,320.00	0	0.000	56.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Low Pressure Steam Boiler; 0.5 - 4.999 MMBTUH	84% Efficient Boiler	79% Efficient Boiler	20	\$1,755.00	\$3,188.00	0	0.000	427.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	Low Pressure Steam Boiler; 5 - 9.999 MMBTUH	84% Efficient Boiler	79% Efficient Boiler	20	\$1,427.88	\$3,988.00	0	0.000	348.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	4		
HVACR - MN	Boiler	High Pressure Steam Boiler; 0 - 0.499 MMBTUH	83% Efficient Boiler	79% Efficient Boiler	20	\$150.00	\$1,320.00	0	0.000	29.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	High Pressure Steam Boiler; 0.5 - 4.999 MMBTUH	83% Efficient Boiler	79% Efficient Boiler	20	\$2,205.00	\$3,188.00	0	0.000	426.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler	High Pressure Steam Boiler; 5 - 9.999 MMBTUH	83% Efficient Boiler	79% Efficient Boiler	20	\$4,155.00	\$16,500.00	0	0.000	1,012.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Furnace	90% Efficient Furnaces	79% Eff Furnace	79% Eff Furnace	20	\$100.00	\$1,264.30	0	0.000	12.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Furnace	92% Efficient Furnaces	79% Eff Furnace	79% Eff Furnace	20	\$288.71	\$1,716.00	0	0.000	32.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	7		
HVACR - MN	Furnace	94% Efficient Furnaces	79% Eff Furnace	79% Eff Furnace	20	\$2,952.83	\$4,188.50	0	0.000	48.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	19		
HVACR - MN	Furnace	96% Efficient Furnaces	79% Eff Furnace	79% Eff Furnace	20	\$243.07	\$617.50	0	0.000	7.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	270		
HVACR - MN	Unit Heater	Non-Condensing Power Vent (83% efficiency)	Non-condensing power vent unit heater	Condensing standard forced-air unit heater	20	\$192.92	\$676.00	0	0.000	63.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	6		
HVACR - MN	Unit Heater	Condensing (>90% efficiency)	Condensing power vents unit heater	Non-condensing standard forced-air unit heater	20	\$2,160.00	\$3,857.50	0	0.000	148.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	2		
HVACR - MN	Unit Heater Infrared	Infrared	Infrared Heater	Non-condensing standard forced-air unit heater	15	\$100.00	\$65.76	\$60	0.000	6.7	\$0.00	MN-BUS-ECM	Bus	Combo	100%	100%	100%	1	1		
HVACR - MN	Boiler Tune Up	Non-Condensing Boiler Tune-Up <= 300 MBTUH	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	Existing boiler Poorly functioning at 78% efficiency	2	\$108.75	\$436.00	0	0.000	11.4	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler Tune Up	Non-Condensing Boiler Tune-Up 301 - 1 MMBTUH	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	Existing boiler Poorly functioning at 78% efficiency	2	\$108.25	\$433.00	0	0.000	24.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler Tune Up	Non-Condensing Boiler Tune-Up 1 - 10 MMBTUH	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	Existing boiler Poorly functioning at 78% efficiency	2	\$174.25	\$687.00	0	0.000	100.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler Tune Up	Non-Condensing Boiler Tune-Up >= 10 MMBTUH	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	Existing boiler Poorly functioning at 78% efficiency	2	\$182.50	\$730.00	0	0.000	333.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler Tune Up	Condensing Boiler Tune-Up	Condensing Boiler Tune-up - 0.8% additive improvement in efficiency; Boiler now at 88% average annual operating efficiency	Existing condensing boiler Poorly functioning at 87.2% efficiency	2	\$96.45	\$675.00	0	0.000	46.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	650		
HVACR - MN	Water Heater	Commercial Water Heaters - Tankless	90% Efficient Tankless Water Heater	80% Efficient Storage Water Heater	20	\$1,050.00	\$1,443.59	0	0.000	132.4	-\$800.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Water Heater	Commercial Water Heaters - Storage	90% Efficient Storage Water Heater	80% Efficient Storage Water Heater	15	\$902.57	\$6,996.75	0	0.000	217.9	-\$480.00		Bus	Gas Only	100%	100%	100%	0	30		
HVACR - MN	Boiler Controls	Outdoor Air Reset on Non-Condensing Boiler <= 300MBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$200.00	\$1,390.00	0	0.000	36.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	21		
HVACR - MN	Boiler Controls	Outdoor Air Reset on Non-Condensing Boiler 301 - 1 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$200.00	\$1,271.00	0	0.000	35.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler Controls	Outdoor Air Reset on Non-Condensing Boiler 1 - 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$200.00	\$1,504.00	0	0.000	145.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler Controls	Outdoor Air Reset on Non-Condensing Boiler >= 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$200.00	\$1,500.00	0	0.000	1,324.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Boiler Controls	Stack Dampers on Non-Condensing Boiler <= 300MBTUH	81% Efficient Boiler	80% Efficient existing boiler	12	\$261.02	\$1,640.00	0	0.000	22.9	\$0.00		Bus	Gas Only	100%	100%	100%	0	18		

Measure Description			Economic Assumptions											Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
HVACR - MN	Boiler Controls	Stack Dampers on Non-Condensing Boiler 301 - 1 MMBTUH	81% Efficient Boiler	80% Efficient existing boiler	12	\$127.00	\$968.00	0	0.000	12.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Stack Dampers on Non-Condensing Boiler 1 - 10 MMBTUH	81% Efficient Boiler	80% Efficient existing boiler	12	\$200.00	\$800.00	0	0.000	46.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Stack Dampers on Non-Condensing Boiler >= 10 MMBTUH	81% Efficient Boiler	80% Efficient existing boiler	12	\$250.00	\$2,000.00	0	0.000	462.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Modulating Burners on Non-Condensing Boiler <= 300MBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$4,457.50	\$11,488.50	0	0.000	284.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	4	
HVACR - MN	Boiler Controls	Modulating Burners on Non-Condensing Boiler 301 - 1 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$810.00	\$34,667.00	0	0.000	35.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Modulating Burners on Non-Condensing Boiler 1 - 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$3,300.00	\$30,004.00	0	0.000	145.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Modulating Burners on Non-Condensing Boiler >= 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$7,000.00	\$58,530.00	0	0.000	1,324.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Turbulators on Non-Condensing Boiler <= 300MBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$400.00	\$3,125.00	0	0.000	16.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Turbulators on Non-Condensing Boiler 301 - 1 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$400.00	\$3,125.00	0	0.000	35.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Turbulators on Non-Condensing Boiler 1 - 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$400.00	\$3,125.00	0	0.000	145.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Turbulators on Non-Condensing Boiler >= 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	20	\$400.00	\$3,125.00	0	0.000	1,324.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	O2 Trim Control on Non-Condensing Boiler <= 300MBTUH	82% Efficient Boiler	80% Efficient existing boiler	20	\$1,827.75	\$7,311.00	0	0.000	11.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	O2 Trim Control on Non-Condensing Boiler 301 - 1 MMBTUH	82% Efficient Boiler	80% Efficient existing boiler	20	\$1,827.75	\$7,311.00	0	0.000	24.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	O2 Trim Control on Non-Condensing Boiler 1 - 10 MMBTUH	82% Efficient Boiler	80% Efficient existing boiler	20	\$1,827.75	\$7,311.00	0	0.000	98.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	O2 Trim Control on Non-Condensing Boiler >= 10 MMBTUH	82% Efficient Boiler	80% Efficient existing boiler	20	\$1,827.75	\$7,311.00	0	0.000	893.5	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Linkageless Controls on Non-Condensing Boiler <= 300MBTUH	83% Efficient Boiler	80% Efficient existing boiler	16	\$855.00	\$10,385.00	0	0.000	36.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	2	
HVACR - MN	Boiler Controls	Linkageless Controls on Non-Condensing Boiler 301 - 1 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	16	\$162.00	\$1,216.73	0	0.000	35.7	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Linkageless Controls on Non-Condensing Boiler 1 - 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	16	\$660.00	\$4,965.30	0	0.000	145.6	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Boiler Controls	Linkageless Controls on Non-Condensing Boiler >= 10 MMBTUH	83% Efficient Boiler	80% Efficient existing boiler	16	\$6,000.00	\$45,136.16	0	0.000	1,324.1	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Steam Traps	Steam Traps - Low Pressure	New Steam Traps	Existing Boiler, malfunctioning steam traps	5	\$1,497.50	\$60,638.97	0	0.000	1,129.8	\$0.00		Bus	Gas Only	100%	100%	100%	0	12	
HVACR - MN	Steam Traps	Steam Traps - High Pressure	New Steam Traps	Existing Boiler, malfunctioning steam traps	5	\$50.00	\$316.96	0	0.000	85.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Pipe Insulation	Pipe Insulation 105-200 Degree	100 ft of pipe with new insulation	100 ft of pipe with no or old insulation	13	\$1,318.13	\$3,178.96	0	0.000	63.0	\$0.00		Bus	Gas Only	100%	100%	100%	0	8	
HVACR - MN	Pipe Insulation	Pipe Insulation 201-250 Degree	101 ft of pipe with new insulation	101 ft of pipe with no or old insulation	13	\$1,428.75	\$3,160.75	0	0.000	66.3	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Pipe Insulation	Pipe Insulation 251-350 Degree	102 ft of pipe with new insulation	102 ft of pipe with no or old insulation	13	\$1,686.25	\$996.71	0	0.000	130.2	\$0.00		Bus	Gas Only	100%	100%	100%	0	0	
HVACR - MN	Destratification Fans	Destratification Fans	HVLS Destratification Fan, 14 ft x 26 ft	No destratification fan	15	\$2,000.00	\$7,320.00	0	0.000	87.8	\$0.00		Bus	Cross Fuel	100%	100%	100%	0	0	
HVACR - MN	Retrofit Refrigerated	LED Refrigerated Case Lighting	LED Strip lighting	T8 or T12 Fluorescent	20	\$45.00	\$163.75	692	0.081	0.0	\$0.00	MN-BUS-Light Refrigerated	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	1 HP Enhanced Efficiency Motor	1 HP motor 78 more efficient than NEMA Premium	1 HP NEMA Premium motor	20	\$15.00	\$194.12	24	0.004	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	1.5 HP Enhanced Efficiency Motor	1.5 HP motor 78 more efficient than NEMA Premium	1.5 HP NEMA Premium motor	20	\$15.00	\$148.55	26	0.006	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	2 HP Enhanced Efficiency Motor	2 HP motor 78 more efficient than NEMA Premium	2 HP NEMA Premium motor	20	\$15.00	\$152.09	40	0.008	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	3 HP Enhanced Efficiency Motor	3 HP motor 78 more efficient than NEMA Premium	3 HP NEMA Premium motor	20	\$20.00	\$165.78	63	0.012	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	5 HP Enhanced Efficiency Motor	5 HP motor 78 more efficient than NEMA Premium	5 HP NEMA Premium motor	20	\$20.00	\$183.25	101	0.021	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	7.5 HP Enhanced Efficiency Motor	7.5 HP motor 78 more efficient than NEMA Premium	7.5 HP NEMA Premium motor	20	\$30.00	\$263.65	168	0.030	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	10 HP Enhanced Efficiency Motor	10 HP motor 78 more efficient than NEMA Premium	10 HP NEMA Premium motor	20	\$35.00	\$313.62	224	0.041	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	15 HP Enhanced Efficiency Motor	15 HP motor 78 more efficient than NEMA Premium	15 HP NEMA Premium motor	20	\$45.00	\$441.22	373	0.060	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	20 HP Enhanced Efficiency Motor	20 HP motor 78 more efficient than NEMA Premium	20 HP NEMA Premium motor	20	\$60.00	\$534.64	474	0.079	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	25 HP Enhanced Efficiency Motor	25 HP motor 78 more efficient than NEMA Premium	25 HP NEMA Premium motor	20	\$75.00	\$661.36	577	0.103	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	30 HP Enhanced Efficiency Motor	30 HP motor 78 more efficient than NEMA Premium	30 HP NEMA Premium motor	20	\$90.00	\$763.56	632	0.116	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	40 HP Enhanced Efficiency Motor	40 HP motor 78 more efficient than NEMA Premium	40 HP NEMA Premium motor	20	\$110.00	\$963.09	1,040	0.161	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	50 HP Enhanced Efficiency Motor	50 HP motor 78 more efficient than NEMA Premium	50 HP NEMA Premium motor	20	\$137.50	\$1,097.83	1,223	0.204	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	60 HP Enhanced Efficiency Motor	60 HP motor 78 more efficient than NEMA Premium	60 HP NEMA Premium motor	20	\$160.00	\$1,513.84	1,548	0.241	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	75 HP Enhanced Efficiency Motor	75 HP motor 78 more efficient than NEMA Premium	75 HP NEMA Premium motor	20	\$187.50	\$1,835.34	2,297	0.311	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Motors	100 HP Enhanced Efficiency Motor	100 HP motor 78 more efficient than NEMA Premium	100 HP NEMA Premium motor	20	\$250.00	\$2,219.55	2,706	0.414	0.0	\$0.00	MN-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	

Program	Measure Group	Measure Description			Economic Assumptions								Customer Information		Stipulated Factors			2023 Electric Units	2023 Gas Units
		Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCKW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)		
HVACR - MN	Motors	125 HP Enhanced Efficiency Motor	125 hp motor 75 name efficient than NEMA Premium	125 hp NEMA Premium motor	15	\$312.50	\$2,783.49	2,749	0.538	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	150 HP Enhanced Efficiency Motor	150 hp motor 75 name efficient than NEMA Premium	150 hp NEMA Premium motor	15	\$375.00	\$3,287.22	3,777	0.641	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	200 HP Enhanced Efficiency Motor	200 hp motor 75 name efficient than NEMA Premium	200 hp NEMA Premium motor	15	\$450.00	\$4,084.78	5,537	0.821	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	250 HP Enhanced Efficiency Motor	250 hp motor 75 name efficient than NEMA Premium	250 hp NEMA Premium motor	15	\$562.50	\$5,030.61	6,528	1.062	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	300 HP Enhanced Efficiency Motor	300 hp motor 75 name efficient than NEMA Premium	300 hp NEMA Premium motor	15	\$675.00	\$6,196.20	10,017	1.309	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	350 HP Enhanced Efficiency Motor	350 hp motor 75 name efficient than NEMA Premium	350 hp NEMA Premium motor	15	\$787.50	\$10,114.75	11,922	1.460	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	400 HP Enhanced Efficiency Motor	400 hp motor 75 name efficient than NEMA Premium	400 hp NEMA Premium motor	15	\$900.00	\$11,547.97	13,663	1.613	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	450 HP Enhanced Efficiency Motor	450 hp motor 75 name efficient than NEMA Premium	450 hp NEMA Premium motor	15	\$1,012.50	\$13,102.94	15,328	1.877	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	500 HP Enhanced Efficiency Motor	500 hp motor 75 name efficient than NEMA Premium	500 hp NEMA Premium motor	15	\$1,125.00	\$13,566.70	17,070	2.162	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	VFDs	1 HP Variable Frequency Drive	1 hp centrifugal fan or pump coupled with a VFD	1 hp centrifugal fan or pump without a VFD	15	\$550.00	\$5,900.00	1,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	8	0
HVACR - MN	VFDs	1.5 HP Variable Frequency Drive	1.5 hp centrifugal fan or pump coupled with a VFD	1.5 hp centrifugal fan or pump without a VFD	15	\$514.29	\$5,300.00	1,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	7	0
HVACR - MN	VFDs	2 HP Variable Frequency Drive	2 hp centrifugal fan or pump coupled with a VFD	2 hp centrifugal fan or pump without a VFD	15	\$680.00	\$4,800.00	2,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	10	0
HVACR - MN	VFDs	3 HP Variable Frequency Drive	3 hp centrifugal fan or pump coupled with a VFD	3 hp centrifugal fan or pump without a VFD	15	\$1,464.52	\$11,400.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	31	0
HVACR - MN	VFDs	5 HP Variable Frequency Drive	5 hp centrifugal fan or pump coupled with a VFD	5 hp centrifugal fan or pump without a VFD	15	\$1,092.86	\$6,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	28	0
HVACR - MN	VFDs	7.5 HP Variable Frequency Drive	7.5 hp centrifugal fan or pump coupled with a VFD	7.5 hp centrifugal fan or pump without a VFD	15	\$1,290.00	\$7,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	25	0
HVACR - MN	VFDs	10 HP Variable Frequency Drive	10 hp centrifugal fan or pump coupled with a VFD	10 hp centrifugal fan or pump without a VFD	15	\$1,763.16	\$8,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	38	0
HVACR - MN	VFDs	15 HP Variable Frequency Drive	15 hp centrifugal fan or pump coupled with a VFD	15 hp centrifugal fan or pump without a VFD	15	\$1,933.52	\$9,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	34	0
HVACR - MN	VFDs	20 HP Variable Frequency Drive	20 hp centrifugal fan or pump coupled with a VFD	20 hp centrifugal fan or pump without a VFD	15	\$2,543.58	\$9,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	39	0
HVACR - MN	VFDs	25 HP Variable Frequency Drive	25 hp centrifugal fan or pump coupled with a VFD	25 hp centrifugal fan or pump without a VFD	15	\$3,440.00	\$10,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	25	0
HVACR - MN	VFDs	30 HP Variable Frequency Drive	30 hp centrifugal fan or pump coupled with a VFD	30 hp centrifugal fan or pump without a VFD	15	\$3,680.00	\$10,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	15	0
HVACR - MN	VFDs	40 HP Variable Frequency Drive	40 hp centrifugal fan or pump coupled with a VFD	40 hp centrifugal fan or pump without a VFD	15	\$4,000.00	\$9,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	15	0
HVACR - MN	VFDs	50 HP Variable Frequency Drive	50 hp centrifugal fan or pump coupled with a VFD	50 hp centrifugal fan or pump without a VFD	15	\$9,312.50	\$10,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	8	0
HVACR - MN	VFDs	60 HP Variable Frequency Drive	60 hp centrifugal fan or pump coupled with a VFD	60 hp centrifugal fan or pump without a VFD	15	\$5,333.33	\$11,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	9	0
HVACR - MN	VFDs	75 HP Variable Frequency Drive	75 hp centrifugal fan or pump coupled with a VFD	75 hp centrifugal fan or pump without a VFD	15	\$8,125.00	\$10,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	8	0
HVACR - MN	VFDs	100 HP Variable Frequency Drive	100 hp centrifugal fan or pump coupled with a VFD	100 hp centrifugal fan or pump without a VFD	15	\$6,000.00	\$9,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	2	0
HVACR - MN	VFDs	125 HP Variable Frequency Drive	125 hp centrifugal fan or pump coupled with a VFD	125 hp centrifugal fan or pump without a VFD	15	\$10,500.00	\$10,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	4	0
HVACR - MN	VFDs	150 HP Variable Frequency Drive	150 hp centrifugal fan or pump coupled with a VFD	150 hp centrifugal fan or pump without a VFD	15	\$7,000.00	\$11,000.00	10,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	4	0
HVACR - MN	VFDs	200 HP Variable Frequency Drive	200 hp centrifugal fan or pump coupled with a VFD	200 hp centrifugal fan or pump without a VFD	15	\$8,000.00	\$12,471.35	220,703	32.066	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	1 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$67.50	\$69.00	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	8	0
HVACR - MN	Motors	1.5 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$125.00	\$69.15	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	4	0
HVACR - MN	Motors	2 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$266.67	\$1,000.00	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	12	0
HVACR - MN	Motors	3 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$161.72	\$1,000.00	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	16	0
HVACR - MN	Motors	5 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$160.00	\$69.00	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	30	0
HVACR - MN	Motors	7.5 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$243.00	\$1,000.00	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	25	0
HVACR - MN	Motors	10 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$290.00	\$1,000.00	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	33	0
HVACR - MN	Motors	15 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$375.00	\$1,000.00	100	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	17	0
HVACR - MN	Motors	20 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$488.75	\$2,000.00	1,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	20	0
HVACR - MN	Motors	25 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$796.25	\$3,000.00	1,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	12	0
HVACR - MN	Motors	30 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$625.00	\$3,000.00	1,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	4	0

Measure Description						Economic Assumptions						Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
HVACR - MN	Motors	40 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$685.71	\$1,680.00	1,680	0.26	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	7	0
HVACR - MN	Motors	50 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$1,090.91	\$2,400.00	2,400	0.40	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	11	0
HVACR - MN	Motors	60 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$900.00	\$3,600.00	3,600	0.57	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	3	0
HVACR - MN	Motors	75 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$1,125.00	\$4,500.00	4,500	0.70	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Motors	100 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$1,500.00	\$7,144.15	5,644	0.92	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	2	0
HVACR - MN	Motors	125 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$1,875.00	\$8,750.00	7,275	1.08	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	2	0
HVACR - MN	Motors	150 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$2,250.00	\$9,566.66	7,816	1.46	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Motors	200 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$2,500.00	\$11,333.33	9,333	1.90	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Motors	250 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$3,125.00	\$13,935.15	6,140	0.76	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	300 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$3,125.00	\$16,722.72	4,997	0.524	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	350 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$3,125.00	\$26,199.40	7,153	0.876	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	400 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$5,000.00	\$29,856.70	10,800	1.210	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	450 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$5,000.00	\$33,407.70	9,197	1.128	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Motors	500 HP Upgrade Motor	NEMA Premium Efficient Motor	EPACT Efficient Motor	15	\$5,000.00	\$34,526.40	6,828	0.873	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	1 HP Well Water Pump Variable Frequency Drive	1 hp well water pump coupled with a VFD	1 hp well water pump without a VFD	15	\$100.00	\$2,182.10	184	0.046	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	1.5 HP Well Water Pump Variable Frequency Drive	1.5 hp well water pump coupled with a VFD	1.5 hp well water pump without a VFD	15	\$100.00	\$2,483.50	276	0.069	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	2 HP Well Water Pump Variable Frequency Drive	2 hp well water pump coupled with a VFD	2 hp well water pump without a VFD	15	\$100.00	\$2,741.03	369	0.092	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	3 HP Well Water Pump Variable Frequency Drive	3 hp well water pump coupled with a VFD	3 hp well water pump without a VFD	15	\$320.00	\$2,836.03	716	0.142	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Well Pump VFD	5 HP Well Water Pump Variable Frequency Drive	5 hp well water pump coupled with a VFD	5 hp well water pump without a VFD	15	\$360.00	\$1,402.36	714	0.148	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Well Pump VFD	7.5 HP Well Water Pump Variable Frequency Drive	7.5 hp well water pump coupled with a VFD	7.5 hp well water pump without a VFD	15	\$150.00	\$4,234.18	1,382	0.346	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	10 HP Well Water Pump Variable Frequency Drive	10 hp well water pump coupled with a VFD	10 hp well water pump without a VFD	15	\$4,410.00	\$12,312.37	2,647	0.276	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Well Pump VFD	15 HP Well Water Pump Variable Frequency Drive	15 hp well water pump coupled with a VFD	15 hp well water pump without a VFD	15	\$520.00	\$1,399.30	71,980	0.486	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Well Pump VFD	20 HP Well Water Pump Variable Frequency Drive	20 hp well water pump coupled with a VFD	20 hp well water pump without a VFD	15	\$1,120.00	\$8,937.98	98,088	0.930	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Well Pump VFD	25 HP Well Water Pump Variable Frequency Drive	25 hp well water pump coupled with a VFD	25 hp well water pump without a VFD	15	\$550.00	\$6,292.12	19,227	3.798	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	30 HP Well Water Pump Variable Frequency Drive	30 hp well water pump coupled with a VFD	30 hp well water pump without a VFD	15	\$680.00	\$9,949.98	101,488	10.480	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Well Pump VFD	40 HP Well Water Pump Variable Frequency Drive	40 hp well water pump coupled with a VFD	40 hp well water pump without a VFD	15	\$825.00	\$7,344.33	20,023	2.850	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	50 HP Well Water Pump Variable Frequency Drive	50 hp well water pump coupled with a VFD	50 hp well water pump without a VFD	15	\$1,000.00	\$7,903.80	47,438	6.346	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	60 HP Well Water Pump Variable Frequency Drive	60 hp well water pump coupled with a VFD	60 hp well water pump without a VFD	15	\$1,225.00	\$8,392.40	45,862	6.046	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	75 HP Well Water Pump Variable Frequency Drive	75 hp well water pump coupled with a VFD	75 hp well water pump without a VFD	15	\$1,475.00	\$9,031.71	48,110	6.898	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	100 HP Well Water Pump Variable Frequency Drive	100 hp well water pump coupled with a VFD	100 hp well water pump without a VFD	15	\$1,700.00	\$9,828.29	31,817	5.129	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Well Pump VFD	125 HP Well Water Pump Variable Frequency Drive	125 hp well water pump coupled with a VFD	125 hp well water pump without a VFD	15	\$3,500.00	\$13,959.30	76,828	6.526	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	2	0
HVACR - MN	Well Pump VFD	150 HP Well Water Pump Variable Frequency Drive	150 hp well water pump coupled with a VFD	150 hp well water pump without a VFD	15	\$3,500.00	\$11,388.10	179,207	30.684	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	1	0
HVACR - MN	Well Pump VFD	200 HP Well Water Pump Variable Frequency Drive	200 hp well water pump coupled with a VFD	200 hp well water pump without a VFD	15	\$2,375.00	\$12,471.35	140,873	17.828	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	1 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	19	\$120.00	\$29.70	97	0.017	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	1.5 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$160.00	\$324.90	146	0.025	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	2 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$180.00	\$366.79	223	0.032	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	3 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$200.00	\$405.08	305	0.047	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	5 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$220.00	\$495.27	484	0.074	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	7.5 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$240.00	\$511.59	686	0.108	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	10 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$260.00	\$557.78	936	0.140	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	15 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$300.00	\$586.01	1,169	0.177	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	20 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$320.00	\$545.64	1,477	0.229	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	25 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$360.00	\$645.32	1,794	0.281	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fan Efficiency (FEI)	30 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$380.00	\$695.06	2,461	0.344	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCKW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
HVACR - MN	Fan Efficiency (FEI)	40 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$420.00	\$609.63	3,303	0.448	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	50 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$460.00	\$943.13	4,020	0.582	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	60 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$500.00	\$944.69	5,420	0.969	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	75 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$540.00	\$1,150.85	6,352	0.812	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	100 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$600.00	\$1,287.82	8,034	1.102	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	125 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$640.00	\$1,095.45	10,128	1.352	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	150 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$820.00	\$1,392.99	12,344	1.641	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	200 HP Efficient Fan	Efficient Fan with Qualifying FEI	Fan with Baseline FEI	20	\$1,100.00	\$1,840.38	14,963	1.855	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	1 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$4,550.00	\$2,620.46	3,368	0.765	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	2	0	
HVACR - MN	Fan Efficiency (FEI)	1.5 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$560.00	\$2,718.31	1,490	0.256	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	2 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$580.00	\$3,019.32	2,239	0.239	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	3 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$600.00	\$3,305.09	3,192	0.495	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	5 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$820.00	\$3,395.48	5,391	0.822	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	7.5 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$990.00	\$4,585.74	7,772	1.210	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	10 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$1,260.00	\$5,098.48	10,727	1.604	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	15 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$1,550.00	\$5,743.76	15,552	2.366	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	20 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$1,820.00	\$6,266.13	20,209	3.128	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	25 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$2,360.00	\$6,898.24	24,797	3.888	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	30 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$2,780.00	\$7,208.23	33,292	4.856	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	40 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$3,420.00	\$7,964.99	45,511	6.187	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	50 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$3,960.00	\$8,597.51	63,132	7.693	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	60 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$4,500.00	\$9,030.05	74,574	9.203	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	75 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$5,540.00	\$9,982.36	89,276	11.415	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	100 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$6,800.00	\$10,950.26	110,816	15.174	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	125 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$7,840.00	\$11,582.14	142,076	18.966	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	150 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$7,820.00	\$12,486.98	170,589	22.872	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fan Efficiency (FEI)	200 HP Efficient Fan and integrated VFD	Variable Speed Efficient Fan with Qualifying FEI and Integrated VFD	Constant Speed Fan with Baseline FEI	15	\$9,100.00	\$14,209.42	224,002	30.184	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Refrigeration Fans	PMSM - Medium Temp Display Case	PMSM Motor	Shaded Pole Motor	15	\$40.00	\$93.30	430	0.048	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Refrigeration Fans	PMSM - Low Temp Display Case	PMSM Motor	Shaded Pole Motor	15	\$40.00	\$93.30	598	0.058	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Refrigeration Fans	ECM Motors - Medium Temp Display Case	ECM Motor	Shaded Pole Motor	15	\$1,830.00	\$6,733.99	16,471	1.946	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	4	0	
HVACR - MN	Refrigeration Fans	ECM Motors - Low Temp Display Case	ECM Motor	Shaded Pole Motor	15	\$1,847.50	\$6,490.89	25,499	2.986	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	4	0	
HVACR - MN	Refrigeration Fans	ECM Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	Shaded Pole Motor	15	\$587.10	\$2,390.00	8,987	0.979	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	62	0	
HVACR - MN	Refrigeration Fans	ECM Motors - Low Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	Shaded Pole Motor	15	\$70.00	\$269.01	937	0.107	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Refrigeration Fans	ECM Motors - Medium Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	PSC	15	\$70.00	\$269.01	605	0.068	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Refrigeration Fans	ECM Motors - Low Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	PSC	15	\$70.00	\$269.01	715	0.082	0.0	\$0.00	MV-BUS-FLAT	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Circ. Pumps	1/20 HP Circulator Pump	1/20 HP Circulator Pump with a PSC	1/20 HP Circulator Pump with a PSC	15	\$50.00	\$142.24	412	0.074	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Circ. Pumps	1/15 HP Circulator Pump	1/15 HP Circulator Pump with a PSC	1/15 HP Circulator Pump with a PSC	15	\$50.00	\$144.55	549	0.086	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Circ. Pumps	1/8 HP Circulator Pump	1/8 HP Circulator Pump with a PSC	1/8 HP Circulator Pump with a PSC	15	\$150.00	\$317.46	938	0.306	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	2	0	
HVACR - MN	Fractional HP Circ. Pumps	1/4 HP Circulator Pump	1/4 HP Circulator Pump with a PSC	1/4 HP Circulator Pump with a PSC	15	\$50.00	\$189.86	2,869	0.368	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Circ. Pumps	1/3 HP Circulator Pump	1/3 HP Circulator Pump with a PSC	1/3 HP Circulator Pump with a PSC	15	\$100.00	\$181.37	2,746	0.441	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Circ. Pumps	1/2 HP Circulator Pump	1/2 HP Circulator Pump with a PSC	1/2 HP Circulator Pump with a PSC	15	\$100.00	\$204.38	4,719	0.736	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Circ. Pumps	3/4 HP Circulator Pump	3/4 HP Circulator Pump with a PSC	3/4 HP Circulator Pump with a PSC	15	\$100.00	\$238.90	6,176	1.104	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Circ. Pumps	7/8 HP Circulator Pump	7/8 HP Circulator Pump with a PSC	7/8 HP Circulator Pump with a PSC	15	\$100.00	\$296.16	7,208	1.286	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Fractional HP Fan Motors	1/20 HP Fan Motor	1/20 HP Fan with an ECM	1/20 HP Fan with a PSC	15	\$50.00	\$142.24	163	0.059	0.0	\$0.00	MV-BUS-MOTORS	Bus	Electric Only	100%	100%	100%	0	0	

Measure Description				Economic Assumptions									Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
HVACR - MN	Fractional HP Fan Motors	1/15 HP Fan Motor	1/15 HP Fan with an ECM	1/15 HP Fan with a PSC	15	\$50.00	\$144.54	230	0.076	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fractional HP Fan Motors	1/8 HP Fan Motor	1/8 HP Fan with an ECM	1/8 HP Fan with a PSC	15	\$50.00	\$158.35	562	0.199	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fractional HP Fan Motors	1/4 HP Fan Motor	1/4 HP Fan with an ECM	1/4 HP Fan with a PSC	15	\$50.00	\$169.66	555	0.190	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fractional HP Fan Motors	1/3 HP Fan Motor	1/3 HP Fan with an ECM	1/3 HP Fan with a PSC	15	\$100.00	\$181.36	686	0.226	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fractional HP Fan Motors	1/2 HP Fan Motor	1/2 HP Fan with an ECM	1/2 HP Fan with a PSC	15	\$100.00	\$204.38	872	0.299	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fractional HP Fan Motors	3/4 HP Fan Motor	3/4 HP Fan with an ECM	3/4 HP Fan with a PSC	15	\$100.00	\$239.89	1,014	0.348	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Fractional HP Fan Motors	7/8 HP Fan Motor	7/8 HP Fan with an ECM	7/8 HP Fan with a PSC	15	\$100.00	\$256.15	1,050	0.360	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	1 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$100.00	\$187.35	374	0.088	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	1.5 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$120.00	\$214.51	548	0.100	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	2 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$120.00	\$236.14	728	0.133	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	3 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$160.00	\$270.38	1,061	0.193	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	5 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$180.00	\$320.68	1,793	0.321	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	7.5 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$200.00	\$367.18	2,595	0.473	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	10 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$220.00	\$404.21	3,439	0.627	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	15 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$280.00	\$482.82	5,105	0.931	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	20 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$280.00	\$509.49	6,776	1.286	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	25 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$320.00	\$548.91	8,423	1.536	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	30 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$340.00	\$583.37	10,087	1.839	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	40 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$380.00	\$642.20	13,404	2.444	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	50 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$400.00	\$691.89	16,667	3.039	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	60 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$420.00	\$735.33	19,938	3.635	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	75 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$480.00	\$792.23	24,836	4.528	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	100 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$500.00	\$872.12	33,016	6.000	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	125 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$540.00	\$939.60	41,266	7.524	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	150 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$580.00	\$998.60	49,529	8.994	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	200 HP Efficient Pump	Pump at least 0.02 PEI better than minimum efficiency	Pump at minimum efficiency	20	\$640.00	\$1,051.35	65,673	11.974	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	1 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$500.00	\$2,412.74	2,371	0.432	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	1.5 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$520.00	\$2,757.52	3,477	0.634	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	2 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$520.00	\$3,031.63	4,617	0.942	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	3 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$580.00	\$3,464.96	6,732	1.227	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	5 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$780.00	\$4,069.95	11,186	2.039	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	7.5 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$850.00	\$4,517.00	15,245	2.780	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	10 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$1,220.00	\$4,965.93	20,204	3.684	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	15 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$1,510.00	\$5,675.44	29,988	5.468	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	20 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$1,880.00	\$6,239.50	39,809	7.258	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	25 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$2,320.00	\$6,715.35	49,484	9.022	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	30 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$2,740.00	\$7,130.97	59,256	10.804	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Pump Efficiency (PEI)	40 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$3,360.00	\$7,639.70	78,744	14.357	0.0	\$0.00	MV-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0

Measure Description				Economic Assumptions										Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
HVACR - MN	Pump Efficiency (PEI)	50 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$3,900.00	\$8,437.60	97,912	17,852	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Pump Efficiency (PEI)	60 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$4,420.00	\$8,959.81	117,127	21,356	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Pump Efficiency (PEI)	75 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$5,460.00	\$9,643.14	145,903	26,602	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Pump Efficiency (PEI)	100 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$6,500.00	\$10,801.55	193,961	35,365	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Pump Efficiency (PEI)	125 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$7,540.00	\$11,410.08	242,426	44,201	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Pump Efficiency (PEI)	150 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$7,580.00	\$12,116.28	299,795	52,638	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Pump Efficiency (PEI)	200 HP Efficient Pump With Integrated VFD	Pump at least 0.02 PEI better than minimum efficiency with a VFD	Pump at minimum efficiency	15	\$8,640.00	\$13,293.37	385,810	70,344	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Anti-Sweat Heater Controls	Anti-Sweat Heater Controls, Medium Temperature Case	Anti-Sweat Heater Controls	Anti-Sweat Heaters running constantly	12	\$60.00	\$180.00	965	0.068	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Anti-Sweat Heater Controls	Anti-Sweat Heater Controls, Low Temperature Case	Anti-Sweat Heater Controls	Anti-Sweat Heaters running constantly	12	\$5,430.00	\$10,589.58	101,038	19,039	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	2	0	
HVACR - MN	No Heat Case Doors	No Heat Case Doors - Medium Temp	No Heat Case Doors	Anti-Sweat Heaters running constantly	12	\$1,250.00	\$3,497.96	15,960	1,934	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	4	0	
HVACR - MN	No Heat Case Doors	No Heat Case Doors - Low Temp	No Heat Case Doors	Anti-Sweat Heaters running constantly	12	\$8,062.50	\$16,590.26	111,944	12,139	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	4	0	
HVACR - MN	Evaporator Fan Motor Controller	Evaporator Fan Motor Controller (EFMC) (Cooler)	Evaporator fan motor control on medium temp walk-in	No fan motor controls on medium temp walk-in	15	\$75.83	\$791.58	99	0.080	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	6	0	
HVACR - MN	Evaporator Fan Motor Controller	Evaporator Fan Motor Controller (EFMC) (Freezer)	Evaporator fan motor control on low temp walk-in	No fan motor controls on low temp walk-in	15	\$35.00	\$351.49	274	0.032	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Medium-temp Enclosed Reach-In Case	Medium-temp Enclosed Reach-In Case (per linear foot)	Medium-temp Reach-In Cases with Doors	Medium-temp Open Reach-In Cases	15	\$2,030.00	\$3,589.82	26,143	0.212	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	3	0	
HVACR - MN	Medium-temp Enclosed Reach-In Case	New Medium-temp Enclosed Reach-In Case (per linear foot)	New Medium-temp Reach-In Cases with Doors	New Medium-temp Open Reach-In Cases	15	\$70.00	\$337.58	970	0.111	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Retrofit of open multi-deck cases with solid glass doors	Retrofit of open multi-deck cooler cases with solid glass doors (per linear foot of case)	Closed Case with Doors	Open Case with No Doors	12	\$100.00	\$497.92	514	0.059	6.7	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Retrofit of open multi-deck cases with solid glass doors	Retrofit of open multi-deck freezer cases with solid glass doors (per linear foot of case)	Closed Case with Doors	Open Case with No Doors	12	\$150.00	\$497.92	1,583	0.178	8.3	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Walk-in Freezer Defrost Controls	Controls that only operate defrost when needed in a Walk-in Freezer	Delayed Defrost Controls Installed in Walk-in Freezer	Walk-in Freezer with Electric Defrost on Timer Controls	15	\$986.70	\$1,491.98	10,490	1,191	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	10	0	
HVACR - MN	Floating Head Pressure Controls	Floating head pressure controls added onto a commercial refrigeration system	Electronic solenoids connected to floating head pressure controls to reduce minimum head pressure	Mechanical solenoids set at fixed head pressure	15	\$2,511.00	\$4,185.00	85,563	0.000	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	In-Depth Study	Cooling Studies	0	0	0	\$12,725.00	\$17,650.00	0	0.000	0.0	\$0.00	BUS	Electric Only	100%	100%	100%	0	0		
HVACR - MN	In-Depth Study	Motors Studies	0	0	0	\$10,875.00	\$14,500.00	0	0.000	0.0	\$0.00	BUS	Electric Only	100%	100%	100%	0	0		
HVACR - MN	In-Depth Study	Heating Studies	0	0	0	\$15,653.25	\$22,463.67	0	0.000	0.0	\$0.00	BUS	Electric Only	100%	100%	100%	0	0		
HVACR - MN	Assessment	Refrigeration Assessment	0	0	0	\$3,000.00	\$3,000.00	0	0.000	0.0	\$0.00	BUS	Electric Only	100%	100%	100%	0	0		
HVACR - MN	In-Depth Study	Refrigeration Study	0	0	0	\$12,972.79	\$22,074.46	0	0.000	0.0	\$0.00	BUS	Electric Only	100%	100%	100%	0	0		
HVACR - MN	Aerators	Sink Aerator - restroom, elec water heating (per aerator)	8 gallons per minute restroom faucet aerator	2.2 gallons per minute faucet	9	\$8.00	\$8.00	1,933	0.004	0.0	\$360.96	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Aerators	Sink Aerator - kitchen, elec water heating (per aerator)	1.5 gallons per minute kitchen faucet aerator	2.2 gallons per minute faucet	9	\$440.00	\$440.00	0	0.000	79.6	\$360.96	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	2	
HVACR - MN	Aerators	CHW Pre-Rinse Sprayer - electric water heating	1.28 gallons per minute sprayer	1.60 gallons per minute sprayer	5	\$45.00	\$45.00	455	0.001	0.0	\$87.35	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Aerators	Faucet Aerator (Restroom), gas water heating	5 gallons per minute restroom faucet aerator	2.2 gallons per minute faucet	9	\$600.00	\$600.00	0	0.000	88.3	\$360.96	BUS	Gas Only	100%	100%	100%	0	2		
HVACR - MN	Aerators	Faucet Aerator (Kitchen), gas water heating	1.5 gallons per minute kitchen faucet aerator	2.2 gallons per minute faucet	9	\$8.00	\$8.00	0	0.000	1.6	\$52.75	BUS	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Aerators	CHW Pre-Rinse Sprayer - gas water heating	1.28 gallons per minute sprayer	1.60 gallons per minute sprayer	5	\$45.00	\$45.00	0	0.000	1.9	\$87.35	BUS	Gas Only	100%	100%	100%	0	0		
HVACR - MN	Strip Curtains - Direct Install	Strip Curtains - Doorway to Freezer Space	Installation of new strip curtain at least 0.06 inches thick added to a walk-in freezer covering entire doorway when open	Walk-in freezer than previously had either no strip curtain installed or an old, ineffective strip curtain installed	4	\$270.83	\$270.83	4,620	0.527	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Auto Closers - Direct Install	Auto-Close Doors - Walk-in Cooler	Installation of new automatic, hydraulic-type door closer on main walk-in cooler door	Walk-in cooler without an automatic closure	8	\$156.82	\$156.82	943	0.137	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Auto Closers - Direct Install	Auto-Close Doors - Walk-in Freezer	Installation of new automatic, hydraulic-type door closer on main walk-in freezer door	Walk-in freezer without an automatic closure	8	\$156.82	\$156.82	2,307	0.309	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Direct Install Refrigerated	LED Ref and Frz Screw In Fixture Retrofit	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$1,594.69	\$7,107.16	26,988	0.876	0.0	\$0.00	MN-BUS-Light Refrigerated	BUS	Electric Only	100%	100%	100%	4	0	
HVACR - MN	DX ACCU	DX ACCU > 11.3 tons	Minimum ACCU for refrigerated walk-in freezers to 11.3 tons	Min. 11.3 tons walk-in freezers	10	\$3,909.69	\$1,801.94	3,527	2.110	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	0	0	
HVACR - MN	Mini Split	Mini-Split AC	Minimum Mini-Split AC	Mini-Split AC	10	\$107.84	\$542.29	2,926	0.559	0.0	\$0.00	MN-BUS-FLAT	BUS	Electric Only	100%	100%	100%	0	0	

Measure Description					Economic Assumptions								Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
HVACR - MN	Integrated Drives	1HP Switched Reluctance Motor with controller	1 HP Switched reluctance motor with a Softstart Motorized Drive with variable	1 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$415.00	\$1,034.00	844	0.177	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	1.5 HP Switched Reluctance Motor with controller	1.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	1.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$415.00	\$1,073.00	1,603	0.251	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	2HP Switched Reluctance Motor with controller	2 HP Switched reluctance motor with a Softstart Motorized Drive with variable	2 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$415.00	\$1,132.00	1,787	0.344	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	3HP Switched Reluctance Motor with controller	3 HP Switched reluctance motor with a Softstart Motorized Drive with variable	3 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$420.00	\$1,282.00	2,676	0.499	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	5HP Switched Reluctance Motor with controller	5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$620.00	\$2,271.00	5,568	0.864	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	7.5 HP Switched Reluctance Motor with controller	7.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	7.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$780.00	\$3,030.00	8,270	1.276	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	10 HP Switched Reluctance Motor with controller	10 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$1,035.00	\$3,500.00	9,113	1.598	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	15 HP Switched Reluctance Motor with controller	15 HP Switched reluctance motor with a Softstart Motorized Drive with variable	15 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$1,295.00	\$4,619.00	13,479	2.363	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	20 HP Switched Reluctance Motor with controller	20 HP Switched reluctance motor with a Softstart Motorized Drive with variable	20 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$1,660.00	\$5,409.00	18,028	3.038	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	1HP ECM	1 HP Switched reluctance motor with a Softstart Motorized Drive with variable	1 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$415.00	\$2,598.78	906	0.190	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	1.5 HP ECM	1.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	1.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$415.00	\$2,752.19	1,713	0.268	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	2HP ECM	2 HP Switched reluctance motor with a Softstart Motorized Drive with variable	2 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$415.00	\$2,915.60	1,841	0.354	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	3HP ECM	3 HP Switched reluctance motor with a Softstart Motorized Drive with variable	3 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$420.00	\$3,388.43	2,737	0.510	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	5HP ECM	5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$620.00	\$3,594.60	5,725	0.889	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	7.5 HP ECM	7.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	7.5 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$780.00	\$4,592.88	8,371	1.291	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
HVACR - MN	Integrated Drives	10 HP ECM	10 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10 HP Switched reluctance motor with a Softstart Motorized Drive with variable	10	\$1,035.00	\$5,648.33	9,409	1.600	0.0	\$0.00	MN-BUS-MOTORS	BUS	Electric Only	100%	100%	100%	0	0
Insulation Rebates - MN	Attic Insulation - Electric Heating and Cooling	Attic insulation in homes with electric heating / electric cooling	Home with R49 or more attic insulation	Existing home with R19 or less attic insulation	20	\$314.59	\$2,900.99	1,200	0.280	0.0	\$0.00	MN-RES-Cooling_DX_Heating_EI etc	Res	Electric Only	100%	100%	100%	26.00	0.00
Insulation Rebates - MN	Attic Insulation - Electric Heating Only	Attic insulation in homes with electric heating / no cooling	Home with R49 or more attic insulation	Existing home with R19 or less attic insulation	20	\$314.59	\$2,900.99	1,200	0.280	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	9.00	0.00
Insulation Rebates - MN	Attic Insulation - Gas Heating / Electric Cooling	Attic insulation in homes with gas heating / electric cooling for combo customers	Home with R49 or more attic insulation	Existing home with R19 or less attic insulation	20	\$336.83	\$6,198.90	98	0.008	7.9	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	929.00	929.00
Insulation Rebates - MN	Attic Insulation - Gas Heating Only	Attic insulation in homes with gas heating / no cooling	Home with R49 or more attic insulation	Existing home with R19 or less attic insulation	20	\$322.59	\$1,432.96	0	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Gas Only	100%	100%	100%	0.00	6.00
Insulation Rebates - MN	Attic Insulation - Gas Heating / Electric Cooling	Attic insulation in homes with gas heating / electric cooling for gas-only customers	Home with R49 or more attic insulation	Existing home with R19 or less attic insulation	20	\$326.91	\$2,111.96	50	0.096	10.1	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Insulation Rebates - MN	Attic Insulation - Gas Heating / Electric Cooling	Attic insulation in homes with gas heating / electric cooling for electric-only customers	Home with R49 or more attic insulation	Existing home with R19 or less attic insulation	20	\$60.00	\$2,243.57	57	0.110	11.6	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Insulation Rebates - MN	Wall Insulation - Electric Heating and Cooling	Wall insulation in homes with electric heating / electric cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$300.00	\$2,610.50	7,216	0.287	0.0	\$0.00	MN-RES-Cooling_DX_Heating_EI etc	Res	Electric Only	100%	100%	100%	0.00	0.00
Insulation Rebates - MN	Wall Insulation - Electric Heating Only	Wall insulation in homes with electric heating / no cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$300.00	\$3,248.89	6,867	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Insulation Rebates - MN	Wall Insulation - Gas Heating / Electric Cooling	Wall insulation in homes with gas heating / electric cooling for combo customers	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$283.49	\$3,701.90	298	0.000	14.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	108.00	108.00

Measure Description				Economic Assumptions										Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Insulation Rebates - MN	Wall Insulation - Gas Heating Only	Wall insulation in homes with gas heating / no cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$291.20	\$2,830.03	0	0.000	45.0	\$0.00		Res	Gas Only	100%	100%	100%	0.00	0.00	
Insulation Rebates - MN	Wall Insulation - Gas Heating / Electric Cooling	Wall insulation in homes with gas heating / electric cooling for gas-only customers	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$210.00	\$3,512.00	198	0.360	40.0	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Insulation Rebates - MN	Wall Insulation - Gas Heating / Electric Cooling	Wall insulation in homes with gas heating / electric cooling for electric-only customers	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$25.00	\$3,343.07	185	0.356	37.4	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Insulation Rebates - MN	Air Sealing - Electric Heating and Cooling	Air sealing in homes with electric heating / electric cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$150.00	\$924.26	1,988	0.420	0.0	\$0.00	MN-RES-Cooling_DX_Heating_EI	Res	Electric Only	100%	100%	100%	24.00	0.00	
Insulation Rebates - MN	Air Sealing - Electric Heating Only	Air sealing in homes with electric heating / no cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$150.00	\$1,798.00	3,794	0.790	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	5.00	0.00	
Insulation Rebates - MN	Air Sealing - Gas Heating / Electric Cooling	Air sealing in homes with gas heating / electric cooling for combo customers	Home with bypass air sealing performed	Existing home without air sealing	10	\$148.49	\$912.44	26	0.112	11.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	889.00	889.00	
Insulation Rebates - MN	Air Sealing - Gas Heating Only	Air sealing in homes with gas heating / no cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$148.41	\$926.90	0	0.000	26.9	\$0.00		Res	Gas Only	100%	100%	100%	0.00	21.00	
Insulation Rebates - MN	Air Sealing - Gas Heating / Electric Cooling	Air sealing in homes with gas heating / electric cooling for gas-only customers	Home with bypass air sealing performed	Existing home without air sealing	10	\$145.05	\$942.25	91	0.175	26.1	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Insulation Rebates - MN	Air Sealing - Gas Heating / Electric Cooling	Air sealing in homes with gas heating / electric cooling for electric-only customers	Home with bypass air sealing performed	Existing home without air sealing	10	\$15.00	\$1,109.89	90	0.174	25.7	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00	
Insulation Rebates - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier I or II thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$190.00	\$190.00	2	1.108	0.0	\$0.00	MN-RES-PEAK_CMT	RES	DR	100%	100%	100%	0.00	0.00	
Insulation Rebates - MN	AC Rewards-EE	Direct Install Smart Thermostat - EE & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$99.49	16	0.088	4.6	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	3.00	3.00	
Lighting - MN	Custom Lighting Project	Custom Lighting	High Efficiency Lighting	Existing Lower Efficiency Lighting	17	\$6,854.04	\$14,189.58	\$1,989	0.000	0.0	\$99.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	7	0	
Lighting - MN	Network Lighting Controls	Networked Lighting Controls	Lighting Fixture with networked lighting controls (Ethernet/LAN)	Lighting Fixture with standard controls	16	\$13,544.00	\$2,027.86	3,398	0.000	0.0	\$9.99	MN-BUS-Light-Network-Controls	BUS	Electric Only	100%	100%	100%	1	0	
Lighting - MN	Lighting Controls	Occupancy Sensor	Sensor	Manual Switch	3	\$342.39	\$2,339.95	3,938	0.000	0.0	\$9.99	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	33	0	
Lighting - MN	Lighting Controls	PhotoCell Sensor	Sensor	Manual Switch	3	\$46.00	\$2,019.25	3,825	0.000	0.0	\$9.99	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	2	0	
Lighting - MN	Lighting Controls	Occupancy & Photo Cell Sensor	Sensor	Manual Switch	3	\$671.68	\$2,188.35	4,232	0.000	0.0	\$9.99	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	16	0	
Lighting - MN	Retrofit Flat	LED Stairwell Fixtures	LED Stairwell Fixture	HD or Fluorescent Fixture	20	\$698.25	\$2,623.34	1,411	0.282	0.0	\$10.26	MN-BUS-Light-Flat	BUS	Electric Only	100%	100%	100%	14	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 75-94W	LED High Bay Fixture	HD Fixture	20	\$1,435.39	\$4,719.96	21,897	0.441	0.0	\$69.00	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	32	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 95-189W	LED High Bay Fixture	HD Fixture	20	\$3,445.87	\$5,669.80	31,444	0.707	0.0	\$174.35	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	75	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 190-290W	LED High Bay Fixture	HD Fixture	20	\$9,285.45	\$17,997.34	148,337	3.288	0.0	\$274.96	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	38	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 291-464W	LED High Bay Fixture	HD Fixture	20	\$200.00	\$891.65	1,441	0.296	0.0	\$5.82	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 465-625W	LED High Bay Fixture	HD Fixture	20	\$250.00	\$1,421.20	3,303	0.597	0.0	\$13.34	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 75-94W	LED High Bay Kit	HD Fixture	20	\$30.00	\$144.02	484	0.086	0.0	\$1.96	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 95-189W	LED High Bay Kit	HD Fixture	20	\$30.00	\$127.24	1,104	0.196	0.0	\$4.46	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 190-290W	LED High Bay Kit	HD Fixture	20	\$40.00	\$370.24	1,188	0.211	0.0	\$4.80	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 291-464W	LED High Bay Kit	HD Fixture	20	\$8,798.18	\$20,631.51	196,206	38.115	0.0	\$931.74	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	11	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 465-625W	LED High Bay Kit	HD Fixture	20	\$4,857.50	\$8,788.34	101,088	17,950	0.0	\$669.70	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	1	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 75-94W (Fluorescent Baseline)	LED High Bay Fixture	Fluorescent Fixture	20	\$4,738.89	\$21,179.84	65,876	11,416	0.0	\$270.40	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	9	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 95-189W (Fluorescent Baseline)	LED High Bay Fixture	Fluorescent Fixture	20	\$90.00	\$356.36	651	0.116	0.0	\$2.63	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 190-290W (Fluorescent Baseline)	LED High Bay Fixture	Fluorescent Fixture	20	\$1,000.00	\$992.52	1,397	0.248	0.0	\$5.64	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 291-464W (Fluorescent Baseline)	LED High Bay Fixture	Fluorescent Fixture	20	\$130.00	\$891.65	1,774	0.315	0.0	\$7.16	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture - 465-625W (Fluorescent Baseline)	LED High Bay Fixture	Fluorescent Fixture	20	\$165.00	\$1,421.20	2,227	0.396	0.0	\$9.00	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 75-94W (Fluorescent Baseline)	LED High Bay Kit	Fluorescent Fixture	20	\$30.00	\$144.02	379	0.067	0.0	\$1.53	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 95-189W (Fluorescent Baseline)	LED High Bay Kit	Fluorescent Fixture	20	\$3,736.13	\$14,719.98	36,294	6,866	0.0	\$171.36	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	60	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 190-290W (Fluorescent Baseline)	LED High Bay Kit	Fluorescent Fixture	20	\$4,061.54	\$24,611.56	95,749	6,560	0.0	\$197.17	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	13	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 291-464W (Fluorescent Baseline)	LED High Bay Kit	Fluorescent Fixture	20	\$50.00	\$534.99	1,774	0.315	0.0	\$7.16	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit High Bay	LED High Bay Fixture Kit - 465-625W (Fluorescent Baseline)	LED High Bay Kit	Fluorescent Fixture	20	\$105.00	\$882.72	2,227	0.396	0.0	\$9.00	MN-BUS-Light-High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit Exterior	LED Street Lighting - 30-44W	LED Street Lighting	HD Fixture	20	\$15.00	\$384.82	240	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit Exterior	LED Street Lighting - 45-55W	LED Street Lighting	HD Fixture	20	\$25.00	\$420.42	384	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit Exterior	LED Street Lighting - 56-79W	LED Street Lighting	HD Fixture	20	\$150.00	\$1,712.90	1,286	0.200	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	1	0	
Lighting - MN	Retrofit Exterior	LED Street Lighting - 80-109W	LED Street Lighting	HD Fixture	20	\$25.00	\$280.41	533	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit Exterior	LED Street Lighting - 110-139W	LED Street Lighting	HD Fixture	20	\$40.00	\$562.34	814	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit Exterior	LED Street Lighting - 140-209W	LED Street Lighting	HD Fixture	20	\$150.00	\$1,712.90	1,286	0.200	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	2	0	
Lighting - MN	Retrofit Exterior	LED Area Lighting - 45-85W	LED Area Lighting	HD Fixture	20	\$187.71	\$1,877.80	3,809	0.696	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	12	0	
Lighting - MN	Retrofit Exterior	LED Area Lighting - 66-99W	LED Area Lighting	HD Fixture	20	\$179.38	\$1,893.60	3,953	0.698	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	14	0	
Lighting - MN	Retrofit Exterior	LED Area Lighting - 90-119W	LED Area Lighting	HD Fixture	20	\$307.86	\$2,160.25	4,496	0.800	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	42	0	
Lighting - MN	Retrofit Exterior	LED Area Lighting - 120-140W	LED Area Lighting	HD Fixture	20	\$405.63	\$3,113.86	7,498	1.370	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	20	0	
Lighting - MN	Retrofit Exterior	LED Area Lighting - 141-199W	LED Area Lighting	HD Fixture	20	\$497.22	\$3,998.96	9,496	1.690	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	27	0	
Lighting - MN	Retrofit Exterior	LED Area Lighting - 200-550W	LED Area Lighting	HD Fixture	20	\$1,087.50	\$2,713.90	6,411	1.160	0.0	\$9.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	48	0	
Lighting - MN	Retrofit Troffer	LED Troffer Fixture	LED Troffer Fixture	Fluorescent Fixture	20	\$1,401.53	\$4,766.05	17,684	0.416	0.0	\$9.99	MN-BUS-Light-Troffer	BUS	Electric Only	100%	100%	100%	616	0	
Lighting - MN	Retrofit Troffer	LED Troffer Retrofit Kit	LED Troffer Kit	Fluorescent Fixture	20	\$289.30	\$198.11	3,096	0.580	0.0	\$9.99	MN-BUS-Light-Troffer	BUS	Electric Only	100%	100%	100%	59	0	
Lighting - MN	Retrofit Exterior	LED Exterior Wall Pack ≤25W	LED Exterior Wall Packs	HD Wall Pack Fixture	20	\$91.74	\$493.93	1,390	0.250	0.0	\$9.99	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	41	0	
Lighting - MN	Retrofit Exterior	LED Exterior Wall Pack 26W - 60W	LED Exterior Wall Packs	HD Wall Pack Fixture	20	\$208.09	\$1,479.86	3,249	0.590	0.0	\$9.99	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	106	0	

Measure Description						Economic Assumptions							Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	P&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Lighting - MN	Retrofit Exterior	LED Exterior Wall Pack 61W - 150W	LED Exterior Wall Packs	HD Wall Pack Fixture	20	\$407.66	\$2698.00	11,078	0.006	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	62	0
Lighting - MN	Retrofit Flat	LED Parking Garage Wall Pack <= 25W	LED Parking Garage Wall Packs	Fluorescent Fixture	20	\$30.00	\$274.04	842	0.006	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Flat	LED Parking Garage Wall Pack 26W - 60W	LED Parking Garage Wall Packs	Fluorescent Fixture	20	\$840.00	\$8,441.64	25,073	0.006	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	1	0
Lighting - MN	Retrofit Flat	LED Parking Garage Wall Pack 61W - 150W	LED Parking Garage Wall Packs	Fluorescent Fixture	20	\$1,200.00	\$1,997.96	38,333	0.006	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	1	0
Lighting - MN	Retrofit Exterior	LED Outdoor Canopy or Soffit lighting 25W - 60W	LED Outdoor Canopy Lighting	HD Fixture	20	\$217.76	\$2,574.00	11,040	0.006	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	29	0
Lighting - MN	Retrofit Exterior	LED Outdoor Canopy or Soffit lighting 61W - 150W	LED Outdoor Canopy Lighting	HD Fixture	20	\$884.86	\$9,391.56	48,171	0.006	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	45	0
Lighting - MN	Retrofit Troffer	LED Linear Ambient <=35W	LED Linear Ambients	Fluorescent Fixture	20	\$644.86	\$8,441.64	1,960	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	138	0
Lighting - MN	Retrofit Troffer	LED Linear Ambient 36-60W	LED Linear Ambients	Fluorescent Fixture	20	\$634.49	\$8,441.64	11,000	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	78	0
Lighting - MN	Retrofit Troffer	LED Linear Ambient >=61W	LED Linear Ambients	Fluorescent Fixture	20	\$365.90	\$2,178.00	6,601	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	171	0
Lighting - MN	Retrofit Flat	LED Exit Sign	LED Exit Sign	Incandescent Exit Sign	20	\$284.29	\$878.08	2,000	0.040	0.0	\$10.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	35	0
Lighting - MN	Retrofit Refrigerated	LED Ref and Frz Cases 9' or 6' doors	LED Linear Tubes	Fluorescent Tubes	20	\$45.00	\$163.76	602	0.001	0.0	\$0.00	MN-BUS-Light Refrigerated	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type A 2 foot	LED Linear Tubes	Fluorescent Tubes	10	\$48.19	\$218.12	302	0.147	0.0	\$0.00	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	35	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type B 2 foot	LED Linear Tubes	Fluorescent Tubes	10	\$420.02	\$8,277.38	18,807	0.006	0.0	\$0.00	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	35	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type C 2 foot	LED Linear Tubes	Fluorescent Tubes	20	\$5.00	\$21.65	34	0.006	0.0	\$0.14	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type A 4 foot	LED Linear Tubes	Fluorescent Tubes	10	\$327.36	\$1,684.17	15,660	0.006	0.0	\$0.00	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	169	0
Lighting - MN	Retrofit Tube	LED Linear Tube B 4 foot	LED Linear Tubes	Fluorescent Tubes	10	\$1,042.90	\$8,441.64	37,140	0.006	0.0	\$0.00	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	352	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type C 4 foot	LED Linear Tubes	Fluorescent Tubes	20	\$542.50	\$8,277.38	2,000	0.006	0.0	\$0.00	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	6	0
Lighting - MN	Retrofit Tube	LED Tube Type A 4 foot T5	LED Linear Tubes	T5 Fluorescent Tubes	10	\$2.00	\$13.73	180	0.002	0.0	\$0.75	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Tube	LED Tube Type B 4 foot T5	LED Linear Tubes	T5 Fluorescent Tubes	10	\$3.00	\$23.68	184	0.003	0.0	\$0.77	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Tube	LED Tube Type C 4 foot T5	LED Linear Tubes	T5 Fluorescent Tubes	20	\$5.00	\$34.67	131	0.004	0.0	\$0.55	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit High Bay	LED Lamps - 30-39W (HD Base)	LED Screw-in Lamps	HD Lamp	8	\$225.00	\$878.08	2,000	0.003	0.0	\$0.00	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	6	0
Lighting - MN	Retrofit High Bay	LED Lamps - 40-49W (HD Base)	LED Screw-in Lamps	HD Lamp	8	\$40.00	\$67.38	1,080	0.161	0.0	\$3.27	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit High Bay	LED Lamps - 50-79W (HD Base)	LED Screw-in Lamps	HD Lamp	8	\$938.68	\$8,441.64	18,980	0.006	0.0	\$0.00	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	6	0
Lighting - MN	Retrofit High Bay	LED Lamps - 80-119W (HD Base)	LED Screw-in Lamps	HD Lamp	8	\$408.75	\$1,671.14	10,801	0.006	0.0	\$36.46	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	4	0
Lighting - MN	Retrofit High Bay	LED Lamps - 120-144W (HD Base)	LED Screw-in Lamps	HD Lamp	8	\$75.00	\$192.41	2,108	0.214	0.0	\$8.38	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit High Bay	LED Lamps - 145-230W (HD Base)	LED Screw-in Lamps	HD Lamp	8	\$401.25	\$1,684.17	8,000	0.006	0.0	\$16.36	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	5	0
Lighting - MN	Retrofit Troffer	LED PLUG based CFL Replacement lamp	LED PLUG based CFL Replacement Lamp	CFL Lamp	11	\$402.40	\$878.08	2,000	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	52	0
Lighting - MN	Retrofit Troffer	LED PLUG based CFL Replacement lamp Type B	LED PLUG based CFL Replacement Lamp	CFL Lamp	11	\$667.80	\$2,178.00	18,333	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	15	0
Lighting - MN	Retrofit Troffer	LED Interior Fixture <= 25W	LED Interior Fixtures	Incandescent Fixture	20	\$2,309.91	\$4,445.00	18,000	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	193	0
Lighting - MN	Retrofit Troffer	LED Interior Fixture <= 25W (CFL Base)	LED Interior Fixtures	CFL Fixture	20	\$798.94	\$1,671.14	2,000	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	47	0
Lighting - MN	Retrofit Troffer	LED Interior Fixture 26W - 50W	LED Interior Fixtures	Incandescent Fixture	20	\$1,486.04	\$8,277.38	38,333	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	48	0
Lighting - MN	Retrofit Troffer	LED Interior Fixture 26W - 50W (CFL Base)	LED Interior Fixtures	CFL Fixture	20	\$4,888.75	\$1,671.14	25,073	0.006	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	14	0
Lighting - MN	Retrofit Flat	LED Parking Garage Lighting 25W-60W (Fluorescent Baseline)	LED Parking Garage Lighting	Fluorescent Fixture	20	\$115.00	\$355.32	280	0.032	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Flat	LED Parking Garage lighting 61W-83W (Fluorescent Baseline)	LED Parking Garage Lighting	Fluorescent Fixture	20	\$125.00	\$412.66	580	0.064	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Flat	LED Parking Garage Lighting 25W-60W	LED Parking Garage Lighting	HD Fixture	20	\$5,185.21	\$21,988.00	98,507	11,000	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	6	0
Lighting - MN	Retrofit Flat	LED Parking Garage lighting 61W - 83W	LED Parking Garage Lighting	HD Fixture	20	\$1,522.50	\$2,684.00	18,411	0.006	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	2	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - A Lamps	LED Lamp	Halogen, Incandescent, or CFL Lamp	4	\$334.05	\$178.08	4,000	0.006	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	1,156	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - PAR20, R20	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$88.49	\$82.00	1,000	0.006	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	79	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - PAR30	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$165.94	\$114.08	2,000	0.014	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	153	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - BR30	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$194.72	\$114.08	4,000	0.014	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	139	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - PAR38	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$517.39	\$368.38	18,000	0.006	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	203	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - BR40	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$84.45	\$82.00	3,000	0.006	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	47	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - PAR16	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$57.72	\$82.00	1,000	0.006	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	23	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - MR16	LED Lamp	Halogen, Incandescent, or CFL Lamp	5	\$237.85	\$82.00	4,000	0.006	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	156	0
Lighting - MN	Midstream Screw In	LED Interior Lamp - Decorative (B, BA, Candle)	LED Lamp	Halogen, Incandescent, or CFL Lamp	4	\$166.68	\$178.08	4,000	0.006	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	174	0
Lighting - MN	Midstream Screw In	LED Interior Screw In Fixture Retrofit	LED Retrofit Kit	Halogen, Incandescent, or CFL Fixture	9	\$8.10	\$3.18	115	0.019	0.0	\$0.49	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Midstream Tube	LED Linear Tube Type A 2 foot	LED Linear Tubes	Fluorescent Tubes	9	\$2.00	\$5.41	56	0.010	0.0	\$0.23	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Midstream Tube	LED Linear Tube Type B 2 foot	LED Linear Tubes	Fluorescent Tubes	10	\$3.00	\$8.26	39	0.007	0.0	\$0.16	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Midstream Tube	LED Linear Tube Type C 2 foot	LED Linear Tubes	Fluorescent Tubes	20	\$5.00	\$21.65	34	0.006	0.0	\$0.14	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0

Measure Description				Economic Assumptions									Customer Information		Stipulated Factors					
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Lighting - MN	Midstream Tube	LED Linear Tube Type A 4 foot	LED Linear Tubes	Fluorescent Tubes	9	\$2.00	\$6.64	81	0.016	0.0	\$0.34	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Tube	LED Linear Tube Type B 4 foot	LED Linear Tubes	Fluorescent Tubes	10	\$3.00	\$16.52	79	0.014	0.0	\$0.33	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Tube	LED Linear Tube Type C 4 foot	LED Linear Tubes	Fluorescent Tubes	20	\$5.00	\$25.06	83	0.015	0.0	\$0.35	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Tube	LED Tube Type A 4 foot T5	LED Linear Tubes	T5 Fluorescent Tubes	9	\$2.00	\$13.73	181	0.022	0.0	\$0.75	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Tube	LED Tube Type B 4 foot T5	LED Linear Tubes	T5 Fluorescent Tubes	10	\$3.00	\$23.68	185	0.023	0.0	\$0.77	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Tube	LED Tube Type C 4 foot T5	LED Linear Tubes	T5 Fluorescent Tubes	20	\$5.00	\$34.67	192	0.024	0.0	\$0.85	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream High Bay	LED Lamps - 30-39W (HID Base)	LED Screw-in Lamps	HID Lamp	8	\$30.00	\$85.92	538	0.180	0.0	\$1.63	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream High Bay	LED Lamps - 40-49W (HID Base)	LED Screw-in Lamps	HID Lamp	8	\$40.00	\$67.39	1,080	0.161	0.0	\$3.27	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream High Bay	LED Lamps - 50-79W (HID Base)	LED Screw-in Lamps	HID Lamp	8	\$50.00	\$125.20	1,343	0.200	0.0	\$4.07	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream High Bay	LED Lamps - 80-119W (HID Base)	LED Screw-in Lamps	HID Lamp	8	\$60.00	\$193.65	1,611	0.240	0.0	\$4.88	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream High Bay	LED Lamps - 120-144W (HID Base)	LED Screw-in Lamps	HID Lamp	8	\$75.00	\$192.41	2,106	0.314	0.0	\$6.38	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream High Bay	LED Lamps - 145-230W (HID Base)	LED Screw-in Lamps	HID Lamp	8	\$75.00	\$243.81	1,974	0.285	0.0	\$5.98	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Troffer	LED PLUG based CFL Replacement lamp	LED PLUG based CFL Replacement lamp	CFL Lamp	11	\$7.00	\$20.86	116	0.022	0.0	\$0.48	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Troffer	LED PLUG based CFL Replacement lamp Type B	LED PLUG based CFL Replacement lamp	CFL Lamp	11	\$7.00	\$41.33	126	0.024	0.0	\$0.53	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Troffer	LED Interior Fixture <= 25W	LED Interior Fixtures	Incandescent Fixture	20	\$35.00	\$83.99	571	0.112	0.0	\$2.46	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Troffer	LED Interior Fixture <= 25W (CFL Base)	LED Interior Fixtures	CFL Fixture	20	\$25.00	\$50.06	158	0.031	0.0	\$0.68	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Troffer	LED Interior Fixture 26W - 50W	LED Interior Fixtures	Incandescent Fixture	20	\$50.00	\$130.39	722	0.141	0.0	\$3.11	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Midstream Troffer	LED Interior Fixture 26W - 50W (CFL Base)	LED Interior Fixtures	CFL Fixture	20	\$35.00	\$145.42	192	0.038	0.0	\$0.83	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Troffer	LED Interior Fixture <= 25W	LED Interior Fixtures	Incandescent Fixture	20	\$25.00	\$9.26	196	0.029	0.0	\$0.82	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Troffer	LED Interior Fixture 26W - 50W	LED Downlight Fixture	Incandescent Fixture	20	\$40.00	\$109.98	631	0.094	0.0	\$2.64	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Refrigerated	LED Ref and Frz Cases 5' or 6' doors	LED Strip Lighting	Fluorescent Tubes	20	\$35.00	\$47.03	412	0.069	0.0	\$0.00	MN-BUS-Light Refrigerated	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Flat	LED Parking Garage Lighting 25W-60W	LED Parking Garage Fixture	HID Fixture	20	\$25.00	\$92.55	1,390	0.159	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Flat	LED Parking Garage Lighting 61W - 83W	LED Parking Garage Fixture	HID Fixture	20	\$35.00	\$120.39	1,940	0.210	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction High Bay	LED High Bay Fixture - 75-94W	LED High Bay Fixture	HID Fixture	20	\$40.00	\$162.98	512	0.090	0.0	\$2.17	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction High Bay	LED High Bay Fixture - 95-189W	LED High Bay Fixture	HID Fixture	20	\$80.00	\$141.14	798	0.130	0.0	\$3.12	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction High Bay	LED High Bay Fixture - 190-290W	LED High Bay Fixture	HID Fixture	20	\$90.00	\$251.90	1,308	0.231	0.0	\$5.54	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction High Bay	LED High Bay Fixture - 291-464W	LED High Bay Fixture	HID Fixture	20	\$110.00	\$421.81	2,816	0.498	0.0	\$11.91	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction High Bay	LED High Bay Fixture - 465-625W	LED High Bay Fixture	HID Fixture	20	\$115.00	\$322.52	3,454	0.610	0.0	\$14.61	MN-BUS-Light High Bay	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Street Lighting - 30-44W	LED Street Lighting	HID Fixture	20	\$15.00	\$240.28	340	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Street Lighting - 45-55W	LED Street Lighting	HID Fixture	20	\$25.00	\$253.22	384	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Street Lighting - 56-79W	LED Street Lighting	HID Fixture	20	\$25.00	\$270.63	579	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Street Lighting - 80-109W	LED Street Lighting	HID Fixture	20	\$25.00	\$58.43	533	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Street Lighting - 110-139W	LED Street Lighting	HID Fixture	20	\$40.00	\$348.93	814	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Street Lighting - 140-209W	LED Street Lighting	HID Fixture	20	\$30.00	\$258.11	1,081	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Area Lighting - 45-60W	LED Fixture	HID Fixture	20	\$35.00	\$286.27	365	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Area Lighting - 66-89W	LED Fixture	HID Fixture	20	\$35.00	\$273.23	844	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Area Lighting - 90-119W	LED Fixture	HID Fixture	20	\$40.00	\$367.68	932	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Area Lighting - 120-140W	LED Fixture	HID Fixture	20	\$50.00	\$394.96	1,578	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Area Lighting - 141-199W	LED Fixture	HID Fixture	20	\$60.00	\$325.23	3,408	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Area Lighting - 200-550W	LED Fixture	HID Fixture	20	\$90.00	\$528.39	3,892	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Troffer	LED Troffer Fixture	LED Troffer Fixture	Fluorescent Fixture	20	\$30.00	\$93.99	175	0.033	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Troffer	LED Linear Ambient <=35W	LED Linear Ambient Fixture	Fluorescent Fixture	20	\$15.00	\$110.78	173	0.033	0.0	\$0.72	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Troffer	LED Linear Ambient >=61W	LED Linear Ambient Fixture	Fluorescent Fixture	20	\$20.00	\$120.35	263	0.055	0.0	\$1.18	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Troffer	LED Linear Ambient >=61W	LED Linear Ambient Fixture	Fluorescent Fixture	20	\$25.00	\$164.11	352	0.069	0.0	\$1.47	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Exterior Wall Pack <= 25W	LED Wall Pack Fixture	HID Wall Pack Fixture	20	\$15.00	\$23.30	351	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Exterior Wall Pack 26W - 60W	LED Wall Pack Fixture	HID Wall Pack Fixture	20	\$30.00	\$54.95	762	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Exterior Wall Pack 61W - 150W	LED Wall Pack Fixture	HID Wall Pack Fixture	20	\$50.00	\$237.61	1,586	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Flat	LED Parking Garage Wall Pack <= 25W	LED Wall Pack Fixture	HID Wall Pack Fixture	20	\$15.00	\$45.99	787	0.090	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Flat	LED Parking Garage Wall Pack 26W - 60W	LED Wall Pack Fixture	HID Wall Pack Fixture	20	\$30.00	\$89.67	1,484	0.169	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Flat	LED Parking Garage Wall Pack 61W - 150W	LED Wall Pack Fixture	HID Wall Pack Fixture	20	\$50.00	\$242.57	3,840	0.416	0.0	\$0.00	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Outdoor Canopy or Soffit Lighting 25W - 60W	LED Canopy Fixture	HID Fixture	20	\$20.00	\$128.47	1,086	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	New Construction Exterior	LED Outdoor Canopy or Soffit Lighting 61W - 150W	LED Canopy Fixture	HID Fixture	20	\$25.00	\$80.41	1,620	0.000	0.0	\$0.00	MN-BUS-RECM_OUT	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Lighting Redesign	Lighting Redesign Studies	Redesign Lighting Solution Study	Existing Overhead Lighting System	0	\$21,637.50	\$29,953.20	0	0.000	0.0	\$0.00		BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Lighting Redesign	Lighting Redesign Implementation	Redesign Lighting Solution Study	Existing Overhead Lighting System	0	\$9,174.72	\$87,556.11	162,234	11.975	0.0	\$0.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	0	0	
Lighting - MN	Retrofit Troffer	LED Linear Ambient Retrofit Kit <=35W	LED Linear Ambient Kits	Fluorescent Fixture	20	\$204.98	\$1,190.98	1,080	0.250	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	52	0	
Lighting - MN	Retrofit Troffer	LED Linear Ambient Retrofit Kit 36-60W	LED Linear Ambient Kits	Fluorescent Fixture	20	\$765.00	\$6,999.99	12,000	0.200	0.0	\$0.00	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	2	0	
Lighting - MN	Retrofit Troffer	LED Linear Ambient Retrofit Kit >=61W	LED Linear Ambient Kits	Fluorescent Fixture	20	\$574.72	\$4,653.87	6,416	0.128	0.0	\$1.83	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	31	0	
Lighting - MN	New Construction Lighting Controls	Occupancy Sensor	Sensor	Wireless Sensor	5	\$3.00	\$38.73	75	0.013	0.0	\$0.04	MN-BUS-Light Sensor	BUS	Electric Only	100%	100%	100%	0	0	

Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Economic Assumptions							Customer Information		Stipulated Factors				
						Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	P&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Lighting - MN	New Construction Flat	LED Stairwell Fixtures	LED Stairwell Fixture	H0 or Fluorescent Fixture	20	\$30.00	\$98.21	394	0.054	0.0	\$1.85	MN-BUS-Light Flat	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	New Construction Tube	LED Tubes	LED Linear Tubes	Fluorescent Tubes	20	\$2.00	\$11.02	73	0.014	0.0	\$0.30	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	New Construction Troffer	LED Linear Ambient Retrofit Kit <=35W	LED Linear Ambient Kits	Fluorescent Fixture	20	\$10.00	\$71.48	173	0.033	0.0	\$0.72	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	New Construction Troffer	LED Linear Ambient Retrofit Kit 36-60W	LED Linear Ambient Kits	Fluorescent Fixture	20	\$15.00	\$76.57	263	0.055	0.0	\$1.18	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	New Construction Troffer	LED Linear Ambient Retrofit Kit >=61W	LED Linear Ambient Kits	Fluorescent Fixture	20	\$20.00	\$105.30	352	0.069	0.0	\$1.47	MN-BUS-Light Troffer	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Lighting Controls	Occupancy Sensor - LLLC	Luminaire Load Sensor	Manual Switch	10	\$538.92	\$5,191.95	15,827	2.450	0.0	\$6.10	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	2	0
Lighting - MN	Lighting Controls	PhotoCell Sensor - LLLC	Luminaire Load Sensor	Manual Switch	10	\$5.16	\$24.48	60	0.013	0.0	\$0.03	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Lighting Controls	Occupancy & Photo Cell Sensor - LLLC	Luminaire Load Sensor	Manual Switch	10	\$417.92	\$1,999.19	7,009	0.770	0.0	\$0.90	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	3	0
Lighting - MN	Lighting Controls	High End Trim - LLLC	Luminaire Load Sensor	Manual Switch	10	\$1,782.60	\$5,999.90	35,997	4.897	0.0	\$1.50	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	1	0
Lighting - MN	Indoor Agricultural Lighting	LED Grow Lighting Fixtures	LED Grow Lighting Fixtures	H0 or Fluorescent Fixture	10	\$4,824.38	\$4,491.86	119,799	19.478	0.0	\$0.30	MN-BUS-GROW_LIGHTING	BUS	Electric Only	100%	100%	100%	5	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type A 3 foot	LED Linear Tubes	Fluorescent Tubes	10	\$2.00	\$6.02	68	0.012	0.0	\$0.28	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type B 3 foot	LED Linear Tubes	Fluorescent Tubes	10	\$3.00	\$12.39	69	0.011	0.0	\$0.25	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Tube	LED Linear Tube Type C 3 foot	LED Linear Tubes	Fluorescent Tubes	10	\$5.00	\$23.37	68	0.011	0.0	\$0.24	MN-BUS-Light Tube	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - A Lamps	LED Lamp	Fluorescent, or CFL Lamp	9	\$2.98	\$1.91	99	0.017	0.0	\$0.43	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - PAR20, R20	LED Lamp	Fluorescent, or CFL Lamp	9	\$4.00	\$3.49	133	0.022	0.0	\$0.57	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - PAR30	LED Lamp	Fluorescent, or CFL Lamp	9	\$4.98	\$4.63	221	0.037	0.0	\$0.95	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - BR30	LED Lamp	Fluorescent, or CFL Lamp	9	\$2.20	\$1.40	173	0.029	0.0	\$0.75	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - PAR38	LED Lamp	Fluorescent, or CFL Lamp	9	\$9.56	\$15.26	310	0.052	0.0	\$1.33	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - BR40	LED Lamp	Fluorescent, or CFL Lamp	9	\$5.98	\$6.90	250	0.042	0.0	\$1.08	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - PAR16	LED Lamp	Fluorescent, or CFL Lamp	9	\$1.54	\$1.27	100	0.017	0.0	\$0.43	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - MR16	LED Lamp	Fluorescent, or CFL Lamp	9	\$5.02	\$1.98	198	0.033	0.0	\$0.85	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Lamp - Decorative (B, BA, Candle)	LED Lamp	Fluorescent, or CFL Lamp	9	\$3.79	\$5.93	167	0.028	0.0	\$0.72	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	Retrofit Screw In	LED Interior Screw In Fixture Retrofit	LED Retrofit Kit	Fluorescent, or CFL Lamp	9	\$6.10	\$3.19	115	0.019	0.0	\$0.49	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	New Construction Lighting Controls	Occupancy Sensor - LLLC	Luminaire Load Sensor	Manual Switch	10	\$3.00	\$27.23	75	0.013	0.0	\$0.04	MN-BUS-Light-Sensor	BUS	Electric Only	100%	100%	100%	0	0
Lighting - MN	New Construction Indoor Agricultural Lighting	LED Grow Lighting Fixtures	LED Grow Lighting Fixtures	H0 or Fluorescent Fixture	10	\$132.09	\$482.02	2,395	0.455	0.0	\$0.30	MN-BUS-GROW_LIGHTING	BUS	Electric Only	100%	100%	100%	0	0
Low Income Home Energy Squad - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier II or III Thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$190.00	\$190.00	0	0.000	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	51.00	0.00
Low Income Home Energy Squad - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier II or III Thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$190.00	\$190.00	2	1.109	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with Energy Star Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$98.46	30	0.026	0.0	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	147.00	147.00
Low Income Home Energy Squad - MN	Advanced Power Strip	Advanced Power Strip	Tier 1 Advanced Power Strip	Standard Power Strip	7	\$15.00	\$15.00	68	0.009	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Advanced Power Strip	Advanced Power Strip	Tier 2 Advanced Power Strip	Standard Power Strip	8	\$40.00	\$40.00	118	0.015	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$1.35	99	0.016	0.0	\$1.07	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	32.00	0.00
Low Income Home Energy Squad - MN	Aerators - EWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	2.2 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$1.65	99	0.020	0.0	\$1.23	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	84.00	0.00
Low Income Home Energy Squad - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.25	\$1.35	0	0.000	0.0	\$1.07		RES	Gas Only	100%	100%	100%	0.00	80.00
Low Income Home Energy Squad - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	2.2 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$1.50	\$1.65	0	0.000	0.0	\$1.23		RES	Gas Only	100%	100%	100%	0.00	198.00
Low Income Home Energy Squad - MN	Dehumidifier Recycling	Dehumidifier removal and Recycling	Removal of dehumidifier	Standard Dehumidifier	9	\$15.00	\$15.00	824	0.426	0.0	\$1.00	MN-RES-LOADING_DR	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	ENERGY STAR Dehumidifier	5 99 Pint/Day Dehumidifier	ENERGY STAR Dehumidifier	Standard Dehumidifier	10	\$229.97	\$229.97	190	0.026	0.0	\$0.00	MN-RES-LOADING_DR	RES	Electric Only	100%	100%	100%	67.00	0.00
Low Income Home Energy Squad - MN	Home Energy Squad Service	Home Energy Squad Service	Tier One Energy Squad Service		0	\$70.00	\$70.00	0	0.000	0.0	\$0.00		RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Home Lighting DI	3-WAY SW-9W-16W	3-WAY SW-9W-16W	EISA Specialty Bulb	15	\$2.65	\$2.65	20	0.003	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Home Lighting DI	LED - A-lamp (15W)	15w Standard LED (100w Equivalent)	EISA Standard Bulb	20	\$2.65	\$2.65	56	0.007	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Home Lighting DI	LED - A-lamp (9W)	9w Standard LED (60w Equivalent)	EISA Standard Bulb	20	\$2.65	\$1.68	390	0.046	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	760.00	0.00
Low Income Home Energy Squad - MN	Home Lighting DI	LED - Candelabra (5W)	LED - Candelabra (60W)	EISA Specialty Bulb	15	\$2.65	\$20.07	176	0.028	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	465.00	0.00

Measure Description				Economic Assumptions									Customer Information			Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCKW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Low Income Home Energy Squad - MN	Home Lighting DI	LED - Flood (10W)	10W VALUE led (60W Equivalent)	ESA Specialty Bulb	20	\$2.65	\$2.65	32	0.004	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Home Lighting DI	LED - Globe (6W)	6W Globe LED Dim	ESA Specialty Bulb	15	\$2.65	\$2.65	23	0.003	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Home Lighting DI	Replace Compact Fluorescent Lamps (CFLs) with LEDs	A-Line LED	Existing CFL	20	\$2.65	\$2.65	10	0.001	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Home Lighting DI	Replace Compact Fluorescent Lamps (CFLs) with LEDs	Specialty LED	Existing CFL	17	\$2.65	\$2.65	3	0.000	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Install Programmable T-stat (Elec Cooling & Gas Heat) - Gas Only Customer	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$35.00	\$35.00	0	0.000	8.4	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Install Programmable T-stat (Elec Cooling & Gas Heat) combo customer	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$35.00	\$2.00	99	0.000	8.4	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	94.00	94.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Install Programmable T-stat (Elec Cooling & Gas Heat) electric only customer	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$35.00	\$35.00	79	0.112	0.0	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Install Second Programmable Thermostat - Combo Customer	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$35.00	\$35.00	39	0.056	4.2	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Install Second Programmable Thermostat - Electric Only	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$35.00	\$35.00	39	0.056	0.0	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Install Second Programmable Thermostat - Gas Only Customer	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$35.00	\$35.00	0	0.000	4.2	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Programming of Existing T-stat (Elec Cooling & Gas Heat) - Combo Customer	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$0.00	\$2.00	99	0.000	8.4	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	46.00	46.00
Low Income Home Energy Squad - MN	Programmable Thermostat	Programming of Existing T-stat (Elec Cooling & Gas Heat) - Electric Only Customer	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER and setback of 2.6 F for heating with 80% AFUE furnace	Existing home w/ no auto setup or setback temps	10	\$0.00	\$0.00	79	0.112	0.0	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Saver's Switch	Residential AC Switch	Utility Load Control for control period with smart switch	No Control, No Switch	15	\$90.00	\$90.00	1	0.748	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Showerheads - EWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	76.00	0.00
Low Income Home Energy Squad - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$3.50	511	0.037	0.0	\$97.40	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	14.00	0.00
Low Income Home Energy Squad - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	0	0.000	2.2	\$97.40	MN-RES-SFWHT	Res	Gas Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$2.00	0	0.000	2.2	\$97.40	MN-RES-SFWHT	Res	Gas Only	100%	100%	100%	0.00	209.00
Low Income Home Energy Squad - MN	Showerheads - GWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$9.50	\$9.50	0	0.000	1.5	\$95.48	MN-RES-SFWHT	Res	Gas Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.50	\$2.00	0	0.000	1.5	\$95.48	MN-RES-SFWHT	Res	Gas Only	100%	100%	100%	0.00	44.00
Low Income Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	1,370	0.180	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & GAS	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	5.5	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Low Income Home Energy Squad - MN	Smart Thermostat	Install Energy Star certified smart thermostat - GAS ONLY	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	0	0.000	5.5	\$8.77	MN-RES-Cooling_DX	RES	Gas Only	100%	100%	100%	0.00	0.00

Measure Description			Economic Assumptions											Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCA	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units		
Low Income Home Energy Squad - MN	Water Heater DR	Demand response capability on grid enabled electric resistance water heater	Demand response from electric resistance water heater	No management of water heater time of use	1	\$100.00	\$200.00	1	0.213	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00		
Low Income Home Energy Squad - MN	Water Heater Setback	Electric Water Heater Setback	Electric Water Heater Setback	Existing WH at setback of 120 F	2	\$0.00	\$0.00	181	0.007	0.00	\$0.00	MN-RES-SPWHT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Home Energy Squad - MN	Water Heater Setback	Gas Water Heater Setback	Gas Water Heater Setback	Existing WH at setback of 120 F	8	\$0.00	\$0.00	0	0.000	0.4	\$0.00	MN-RES-SPWHT	RES	Gas Only	100%	100%	100%	0.00	135.00		
Low Income Home Energy Squad - MN	Weatherstripping - Electric Heating and Cooling	Weatherstripping in homes with electric heating / electric cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$12.00	\$12.00	312	0.000	0.0	\$0.00	MN-RES-Cooling_DX_Heating_Elec	RES	Electric Only	100%	100%	100%	5.00	0.00		
Low Income Home Energy Squad - MN	Weatherstripping - Electric Heating Only	Weatherstripping in homes with electric heating / no cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$12.00	\$12.00	309	0.000	0.0	\$0.00	MN-RES-Heating_Elec	RES	Electric Only	100%	100%	100%	15.00	0.00		
Low Income Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for combo customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$12.00	\$12.00	4	0.000	0.4	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	708.00	708.00		
Low Income Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for electric-only customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$12.00	\$12.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00		
Low Income Home Energy Squad - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for gas-only customers	Weatherstripped door achieving 0.18 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$12.00	\$12.00	6	0.012	1.8	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00		
Low Income Home Energy Squad - MN	Weatherstripping - Gas Heating Only	Weatherstripping in homes with gas heating / no cooling	Weatherstripped door achieving 0.18 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$12.00	\$12.00	0	0.000	1.8	\$0.00	MN-RES-Cooling_DX	RES	Gas Only	100%	100%	100%	0.00	149.00		
Low Income Multi-Family - MN	Advanced Power Strip	Advanced Power Strip	Tier 1 Advanced Power Strip	Standard Power Strip	7	\$20.00	\$20.00	68	0.000	0.00	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	75%	100%	0.00	0.00		
Low Income Multi-Family - MN	Aerators - EWH	Renter Kit Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.22	\$1.22	96	0.014	0.0	\$15.76	MN-RES-SPWHT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Aerators - EWH	Renter Kit Primary Bath Faucet Aerator - 1.8 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.8 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.48	\$0.48	73	0.010	0.0	\$13.85	MN-RES-SPWHT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Dehumidifier Recycling	Dehumidifier removal and Recycling	Removal of dehumidifier	Existing dehumidifier	3	\$15.00	\$15.00	132	0.041	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	ENERGY STAR Dehumidifier	≤ 50 pints/day dehumidifier	ENERGY STAR Dehumidifier	Standard dehumidifier	10	\$289.00	\$289.00	100	0.000	0.00	\$0.00	MN-RES-SPWHT	RES	Electric Only	100%	100%	100%	15.00	0.00		
Low Income Multi-Family - MN	ENERGY STAR Refrigerator	Freezer Replacement	ENERGY STAR @ Freezers	Industry Standard	11	\$347.94	\$347.94	300	0.000	0.00	\$0.00	MN-RES-SFRF1	RES	Electric Only	100%	100%	100%	78.00	0.00		
Low Income Multi-Family - MN	ENERGY STAR Refrigerator	Refrigerator Replacement	ENERGY STAR @ Refrigerators	Industry Standard	14	\$923.87	\$923.87	300	0.000	0.00	\$0.00	MN-RES-SFRF1	RES	Electric Only	100%	100%	100%	1,481.00	0.00		
Low Income Multi-Family - MN	Home Lighting DI	LED A19 10W	LED A19 10W	EISA Standard Bulb	20	\$4.80	\$4.80	696	0.000	0.00	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%	92.00	0.00		
Low Income Multi-Family - MN	Home Lighting DI	LED A19 10W	LED A19 10W	Existing CFL Bulb	20	\$4.80	\$4.80	57	0.000	0.00	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%	64.00	0.00		
Low Income Multi-Family - MN	Home Lighting DI	LED Candelabra 6W	LED Candelabra 6W	EISA Specialty Bulb	20	\$4.90	\$4.90	1,000	0.000	0.00	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%	11.00	0.00		
Low Income Multi-Family - MN	Home Lighting DI	LED Globe 6W	LED Globe 6W	EISA Specialty Bulb	20	\$4.90	\$4.90	500	0.000	0.00	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%	43.00	0.00		
Low Income Multi-Family - MN	Home Lighting DI	Renter Kit 11W LED	11W LED	10W Incandescent Bulb	20	\$4.91	\$4.91	50	0.004	0.0	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Home Lighting DI	Renter Kit 9W LED	9W LED	10W Incandescent Bulb	20	\$3.19	\$3.19	34	0.004	0.0	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Mini-Split Heat Pump	Mini-Split Heat Pump	Residential Mini-Split Heat Pump (Nominal 1.8 Tons with 18.9 SEER, 12.9 EER, 10.2 HSPF) with electric resistance heat backup	Split Cooling Solution needed with Existing Electric Resistance Heating	15	\$6,855.29	\$6,780.00	400	0.000	0.0	\$0.00	MN-RES-Cooling_DX_Heating_DX	RES	Electric Only	100%	100%	100%	60.00	0.00		
Low Income Multi-Family - MN	Mini-Split Heat Pump	Mini-Split Heat Pump	Residential Mini-Split Heat Pump (Nominal 1.8 Tons with 18.9 SEER, 12.9 EER, 10.2 HSPF (unadjusted)) replacing is MSHP or new spot cooling need	MSHP size 1.8 tons, 14 SEER, & 19 EER & 2.1 HSPF (unadjusted)	15	\$6,855.29	\$6,855.29	814	0.081	0.0	\$0.00	MN-RES-Cooling_DX_Heating_DX	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Refrigerator Recycling	Freezer Removal and Recycling	Removal of freezer	Existing primary unit - age mostly >10 years	7	\$40.75	\$40.75	833	0.000	0.00	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Refrigerator Recycling	Refrigerator Removal and Recycling	Removal of Primary and Secondary Refrigerator	Existing Primary and Secondary Unit - age mostly > 15 years	8	\$40.75	\$40.75	810	0.003	0.00	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Room Air Conditioner Recycling	Wall Air Conditioner Removal and Recycling	Removal of Standard 10,000 Btu/h 9.8 EER Window AC Unit	Existing Window AC Unit	5	\$40.75	\$40.75	642	0.781	0.00	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Room Air Conditioner Recycling	Window Air Conditioner Removal and Recycling	Removal of Standard 10,000 Btu/h Window AC Unit	Existing Window AC Unit	5	\$40.75	\$40.75	591	0.720	0.00	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Showerheads - EWH	Renter Kit Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.22	\$3.22	604	0.044	0.0	\$15.19	MN-RES-SPWHT	RES	Electric Only	100%	100%	100%	0.00	0.00		
Low Income Multi-Family - MN	Wall AC	Wall Air Conditioner Replacement	Average Energy Star Wall AC with Louvers 10,000 Btu/h 10.8 EER Window AC Unit	Existing Window AC Unit	9	\$706.69	\$706.69	70	0.000	0.00	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	763.00	0.00		
Low Income Multi-Family - MN	Window AC	Window Air Conditioner Replacement	Average Energy Star Window AC with Louvers 10,000 Btu/h 10.8 EER Window AC Unit	Existing Window AC Unit	9	\$443.12	\$443.12	50	0.000	0.00	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	33.00	0.00		
Multi-Family Building Efficiency - MN	Advanced Power Strip	Advanced Power Strip	Tier 1 Advanced Power Strip	Standard Power Strip	7	\$561.89	\$561.89	3,700	0.000	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	75%	100%	214	214		
Multi-Family Building Efficiency - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.000	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0		

Measure Description			Economic Assumptions											Customer Information		Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	P&KW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Multi-Family Building Efficiency - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Custom Electric Multi-Family Building Efficiency Project	Custom Electric MFBE	Efficient Equipment	Inefficient Equipment	18	\$331.70	\$0.00	5.000	0.000	0.0	\$0.00	MN-RES-FLAT	BUS	Electric Only	100%	100%	100%	11	0
Multi-Family Building Efficiency - MN	Custom Gas Multi-Family Building Efficiency Project	Custom Gas MFBE	Efficient Equipment	Inefficient Equipment	19	\$0.00	\$0.00	0	0.000	\$0.00	\$0.00	BUS	Gas Only	100%	100%	100%	0	1	
Multi-Family Building Efficiency - MN	Multi-Family Bundles	Carryover Projects Electric	Efficient Equipment	Old System	19	\$3,352.56	\$8,034.48	15,983	1.538	0.0	\$30.44	MN-RES-FLAT	BUS	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Multi-Family Bundles	Carryover Projects Gas	Efficient Equipment	Old System	19	\$3,732.72	\$33,086.56	0	0.000	45.3	\$0.00	BUS	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Weatherstripping - Electric Heating and Cooling	Weatherstripping in homes with electric heating / electric cooling	Weatherstripped door achieving 0.16 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$30.00	\$30.00	322	0.012	0.0	\$0.00	MN-RES-Cooling_DX_Heating_Elec	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Weatherstripping - Electric Heating Only	Weatherstripping in homes with electric heating / no cooling	Weatherstripped door achieving 0.16 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$30.00	\$30.00	316	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Weatherstripping - Gas Heating / Electric Cooling	Weatherstripping in homes with gas heating / electric cooling for combo customers	Weatherstripped door achieving 0.16 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$15.00	\$15.00	307	0.000	5.5	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	13	13
Multi-Family Building Efficiency - MN	Weatherstripping - Gas Heating Only	Weatherstripping in homes with gas heating / no cooling	Weatherstripped door achieving 0.16 CFM/linear ft of crack/leakage rate	Existing door with 0.55 CFM/linear ft of crack/leakage rate	10	\$30.00	\$30.00	0	0.000	1.8	\$0.00	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Renter Kit Window Film - Gas Heating Only	Window film in homes with gas heating	Window with seasonal window film installed	Unsealed window	1	\$0.00	\$0.00	0	0.000	0.1	\$0.00	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Multi-Family Prescriptive	Average Cooling Project	Efficient Cooling Equipment	Baseline System	20	\$762.72	\$1,000.00	9,900	1.000	0.0	\$0.00	MN-BUS-COOLING	BUS	Combo	100%	100%	100%	13	15
Multi-Family Building Efficiency - MN	Multi-Family Prescriptive	Average Lighting Project	LED Lighting	Old System	10	\$203.13	\$1,000.00	5,000	0.140	0.0	\$0.01	MN-BUS-LITE_CLI	BUS	Combo	100%	100%	100%	432	0
Multi-Family Building Efficiency - MN	Multi-Family Prescriptive	Average Motor Project	Efficient Motors & Drives	Old System	19	\$987.50	\$2,000.00	3,000	0.000	0.0	\$0.00	MN-BUS-MOTORS	BUS	Combo	100%	100%	100%	4	0
Multi-Family Building Efficiency - MN	Multi-Family Prescriptive	Average Heating Project	Efficient Heating Equipment	Old System	10	\$302.81	\$1,000.00	0	0.000	17.7	\$0.00	BUS	Gas Only	100%	100%	100%	0	236	
Multi-Family Building Efficiency - MN	Home Lighting DI	Replace screw-in incandescents within tenant units with LEDs	LED Bulbs	EISA Standard Bulb	20	\$8.18	\$8.18	31	0.004	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Home Lighting DI	Replace screw-in CFL within tenant units with LEDs	LED Bulbs	Existing CFL	20	\$136.50	\$136.50	310	0.000	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	232	0
Multi-Family Building Efficiency - MN	Home Lighting DI	Renter Kit 9W LED	9W LED	EISA Standard Bulb	20	\$232.89	\$324.00	1,500	0.000	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	441	0
Multi-Family Building Efficiency - MN	Home Lighting DI	Renter Kit 11W LED	11W LED	EISA Standard Bulb	20	\$0.00	\$0.00	52	0.004	0.0	\$0.00	MN-RES-SPLIT	RES	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Lighting DI	Replace screw-in incandescents and CFLs in common areas with screw-in LEDs	LED Bulbs	Average EISA Standard Incandescent or CFL A-Style Bulb	6	\$6.15	\$6.15	218	0.038	0.0	\$0.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$2.86	\$2.86	96	0.014	0.0	\$15.76	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Aerators - EWH	Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$1.48	\$1.48	73	0.010	0.0	\$13.85	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Aerators - EWH	Secondary 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	2.2 GPM Bathroom Faucet Aerator	10	\$1.48	\$1.48	73	0.010	0.0	\$13.85	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Aerators - EWH	Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$30.78	\$36.76	180	0.000	0.0	\$19.64	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	120	120
Multi-Family Building Efficiency - MN	Aerators - EWH	Secondary 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	2.2 GPM Bathroom Faucet Aerator	10	\$4.00	\$4.00	100	0.015	0.0	\$19.64	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Aerators - EWH	Renter Kit Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$0.00	\$0.00	96	0.014	0.0	\$15.76	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Aerators - EWH	Renter Kit Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$0.00	\$0.00	73	0.010	0.0	\$13.85	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$24.54	\$34.56	180	0.000	0.0	\$19.64	Res	Gas Only	100%	100%	100%	87	87	
Multi-Family Building Efficiency - MN	Aerators - GWH	Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$1.48	\$1.48	0	0.000	0.3	\$13.85	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Aerators - GWH	Secondary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$1.48	\$1.48	0	0.000	0.3	\$13.85	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$4.00	\$4.00	0	0.000	0.4	\$19.64	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Aerators - GWH	Secondary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$4.00	\$4.00	0	0.000	0.4	\$19.64	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Aerators - GWH	Renter Kit Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$0.00	\$0.00	0	0.000	0.4	\$15.76	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Aerators - GWH	Renter Kit Primary Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.0 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.00	\$0.00	0	0.000	0.3	\$13.85	Res	Gas Only	100%	100%	100%	0	0	
Multi-Family Building Efficiency - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$31.35	\$51.00	60	0.000	0.0	\$1.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	101	101
Multi-Family Building Efficiency - MN	Showerheads - EWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$5.60	\$5.60	79	0.000	0.0	\$15.02	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$82.59	\$95.00	100	0.000	0.0	\$1.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	28	28
Multi-Family Building Efficiency - MN	Showerheads - EWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$16.25	\$16.25	79	0.000	0.0	\$15.02	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0

Measure Description				Economic Assumptions								Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PK&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Multi-Family Building Efficiency - MN	Showerheads - EWH	Renter Kit Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$0.00	\$0.00	604	0.044	0.0	\$115.19	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$5.60	\$0.00	0	0.000	2.6	\$115.19		Res	Gas Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Showerheads - GWH	Secondary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$5.60	\$5.60	0	0.000	0.3	\$15.02		Res	Gas Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$16.25	\$16.25	0	0.000	2.6	\$115.19		Res	Gas Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Showerheads - GWH	Secondary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$16.25	\$16.25	0	0.000	0.3	\$15.02		Res	Gas Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Showerheads - GWH	Renter Kit Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$0.00	\$0.00	0	0.000	2.6	\$115.19		Res	Gas Only	100%	100%	100%	0	0
Multi-Family Building Efficiency - MN	Water Heater Setback	Water Heater Setback	Building hot water system with setback	Building hot water system without setback	2	\$0.00	\$0.00	1,000	0.146	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	2	0
Multi-Family Building Efficiency - MN	Water Heater Setback	Water Heater Setback	Building hot water system with setback	Building hot water system without setback	2	\$0.00	\$0.00	0	0.000	25.9	\$0.00		RES	Gas Only	100%	100%	100%	0	0
Non-Profit Program - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.906	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Non-Profit Program - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Non-Profit Program - MN	Custom Electric Non-Profit Program Project	Custom Electric NPP	Efficient Equipment	Inefficient Equipment	18	\$259.46	\$1,161.09	1,796	0.330	0.0	\$0.00	MN-RES-FLAT	BUS	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Custom Gas Non-Profit Program Project	Custom Gas NPP	Efficient Equipment	Inefficient Equipment	19	\$237.72	\$2,124.07	0	0.000	29.7	\$0.00		BUS	Gas Only	100%	100%	100%		
Non-Profit Program - MN	Non-Profit Prescriptive	Average Cooling Project	Efficient Cooling Equipment	Baseline Systems	20	\$1,217.20	\$2,254.36	690	1.204	0.0	\$0.00	MN-BUS-COOLING	BUS	Combo	100%	100%	100%		
Non-Profit Program - MN	Non-Profit Prescriptive	Average Lighting Project	LED Lighting	Old System	10	\$14.69	\$23.00	121	0.021	0.0	\$0.00	MN-BUS-LITE_CL	BUS	Combo	100%	100%	100%		
Non-Profit Program - MN	Non-Profit Prescriptive	Average Motor Project	Efficient Motors & Drives	Old System	19	\$315.69	\$975.10	591	0.097	0.0	\$0.00	MN-BUS-MOTORS	BUS	Combo	100%	100%	100%		
Non-Profit Program - MN	Non-Profit Prescriptive	Average Heating Project	Efficient Heating Equipment	Old System	10	\$2,069.28	\$2,271.71	0	0.000	102.3	\$0.00		BUS	Gas Only	100%	100%	100%		
Non-Profit Program - MN	Non-Profit Prescriptive	Average Foodservice Project	Efficient Foodservice Equipment	Old System	15	\$1,063.58	\$3,269.51	5,981	0.861	90.9	\$32.74	MN-BUS-FLAT	BUS	Combo	100%	100%	100%		
Non-Profit Program - MN	Home Lighting DI	LED Lamps	LED Bulbs	Removed Lamp	20	\$5.08	\$5.08	31	0.004	0.0	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Home Lighting DI	LED Lamps CFL Baseline	LED Bulbs	Removed Lamp	20	\$5.08	\$5.08	6	0.001	0.0	\$0.00	MN-RES-SFLUT	RES	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Direct Install Screw In	Replace screw-in incandescents and CFLs in common areas with screw-in LEDs	LED Bulbs	Average EISA Standard Incandescent or CFL A-Style Bulb	6	\$6.15	\$6.15	218	0.026	0.0	\$0.00	MN-BUS-Light Screw In	BUS	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$2.86	\$2.86	96	0.014	0.0	\$15.76	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$2.86	\$2.86	0	0.000	0.4	\$15.76		Res	Gas Only	100%	100%	100%		
Non-Profit Program - MN	Aerators - EWH	Primary 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	2.2 GPM Bathroom Faucet Aerator	10	\$4.00	\$4.00	103	0.015	0.0	\$19.84	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with natural gas DHW heater	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$4.00	\$4.00	0	0.000	0.4	\$19.84		Res	Gas Only	100%	100%	100%		
Non-Profit Program - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$5.60	\$5.60	604	0.044	0.0	\$115.19	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$5.60	\$5.60	0	0.000	2.6	\$115.19		Res	Gas Only	100%	100%	100%		
Non-Profit Program - MN	Showerheads - EWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with electric DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$16.25	\$16.25	604	0.044	0.0	\$115.19	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Showerheads - GWH	Primary Handheld Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with natural gas DHW heater	1.5 GPM Handheld Showerhead	2.5 GPM Showerhead	10	\$16.25	\$16.25	0	0.000	2.6	\$115.19		Res	Gas Only	100%	100%	100%		
Non-Profit Program - MN	Water Heater Setback	Water Heater Setback	Building hot water system with setback	Building hot water system without setback	2	\$0.00	\$0.00	4,875	0.556	0.0	\$0.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%		
Non-Profit Program - MN	Water Heater Setback	Water Heater Setback	Building hot water system with setback	Building hot water system without setback	2	\$0.00	\$0.00	0	0.000	25.9	\$0.00		Res	Gas Only	100%	100%	100%		
Peak Day Partners - MN	Peak Day Partners	Peak Day Partners	Customer will reduce load during	Customer will reduce load during	1	\$56,000.00	\$0.00	40,000	200,000	0.0	\$0.00	MN-BUS-PEAK_CNT	RES	DR	100%	100%	100%		
Peak Partner Rewards - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$28,418.00	\$0.00	5,312	865,294	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Peak Partner Rewards - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$10,671.35	\$0.00	196	306,300	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	69	0
Process Efficiency - MN	Behavioral Process	Behavioral Changes	Behavior changes that reduce energy use.	No change in behavior	3	\$1,859.62	\$0.00	92,981	5,778	0.0	\$0.00	MN-BUS-RECOM	BUS	Electric Only	100%	100%	100%		

Measure Description					Economic Assumptions								Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PK&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Process Efficiency - MN	EDA	PE Parent for gas EDA projects	More Efficient than Code Building	Code-Compliant Building	20	\$10,043.00	\$161,290.57	0	0.000	2,014.1	\$0.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%			
Process Efficiency - MN	EDA	PE Parent for electric EDA projects	More Efficient than Code Building	Code-Compliant Building	20	\$55,224.10	\$201,846.37	387,644	86,380	0.0	-\$104.84	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%			
Process Efficiency - MN	EDA	PE Parent for gas EDA projects - 2023	More Efficient than Code Building	Code-Compliant Building	20	\$8,952.58	\$161,290.57	0	0.000	1,790.5	\$0.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%			
Process Efficiency - MN	EDA	PE Parent for electric EDA projects - 2023	More Efficient than Code Building	Code-Compliant Building	20	\$145,591.64	\$69,299.99	1,500,000	198,000	0.0	\$8,108.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	1	0	
Process Efficiency - MN	EEB	PE Parent for gas EEB projects	More Efficient than Code Building	Code-Compliant Building	20	\$3,694.44	\$8,754.70	0	0.000	193.7	\$28.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0	0	
Process Efficiency - MN	EEB	PE Parent for electric EEB projects	More Efficient than Code Building	Code-Compliant Building	20	\$8,340.74	\$16,995.81	40,755	10,476	0.0	-\$130.09	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	0	0	
Process Efficiency - MN	Electric Rate Savings	Participating Customer	Utility load control of at least 50 kW for control period	No control	5	\$0.00	\$0.00	329	164,289	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
Process Efficiency - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
Process Efficiency - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2,113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
Process Efficiency - MN	Peak Partner Rewards	New Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$15,356.00	\$0.00	2,870	478,400	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
Process Efficiency - MN	Peak Partner Rewards	Existing Participating Customer	Reduction of building electrical load by a program agreed upon amount when the electric grid experiences peak demand periods.	No control	1	\$15,356.00	\$0.00	2,870	478,400	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0	
Process Efficiency - MN	Custom Electric Process Efficiency Project	Custom Electric Process Project	New or Optimized System or Equipment	Old or less efficient systems or equipment	18	\$25,253.45	\$248,371.52	514,180	54,158	0.0	\$198,000.00	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	61	0	
Process Efficiency - MN	Custom Gas Process Efficiency Project	Custom Gas Process Project	New or Optimized System or Equipment	Old or less efficient systems or equipment	12	\$11,783.13	\$61,988.53	0	0.000	1,513.4	\$7,960.00	BUS	Gas Only	100%	100%	100%	0	15		
Process Efficiency - MN	Process Efficiency Prescriptive	Average Cooling Project	More efficient cooling equipment	Baseline Systems	20	\$6,751.14	\$30,526.46	37,820	1,540	0.0	\$0.00	MN-BUS-COOLING	BUS	Electric Only	100%	100%	100%	21	0	
Process Efficiency - MN	Process Efficiency Prescriptive	Average Compressed Air/FSO Project	Efficient Equipment	Old System	11	\$5,057.83	\$26,289.20	35,120	1,280	0.0	\$2,400.00	MN-BUS-CUSTCAR	BUS	Electric Only	100%	100%	100%	69	0	
Process Efficiency - MN	Process Efficiency Prescriptive	Average Lighting Project	Efficient Equipment	Old System	15	\$2,116.72	\$10,000.00	42,000	4,700	0.0	\$600.00	MN-BUS-LIGHTING	BUS	Electric Only	100%	100%	100%	284	0	
Process Efficiency - MN	Process Efficiency Prescriptive	Average Motor Project	Efficient Equipment	Old System	15	\$2,297.96	\$1,647.59	30,534	1,900	0.0	\$0.00	MN-BUS-MOTORASD	BUS	Electric Only	100%	100%	100%	259	0	
Process Efficiency - MN	Process Efficiency Prescriptive	Average Heating Project	Efficient Equipment	Old System	17	\$895.70	\$6,749.90	0	0.000	989.0	\$0.00	BUS	Gas Only	100%	100%	100%	0	95		
Process Efficiency - MN	Process Efficiency Study	Phase 2 Study	0	0	0	\$15,828.95	\$16,355.26	0	0.000	0.00	\$0.00	BUS	Combo	100%	100%	100%	0	0		
Process Efficiency - MN	RCx Impalement	Implementation of ECO's found in PE studies	Post-Recommissioned Building	Pre-Recommissioned Building	7	\$8,148.49	\$20,023.20	120,786	44,000	31.3	\$0.00	MN-BUS-RECOM	BUS	Combo	100%	100%	100%	9	9	
Process Efficiency - MN	PE Bonuses	System Optimization and Annual Achievement Bonuses	0	0	0	\$36,880.27	\$0.00	0	0.000	0.00	\$0.00	BUS	Combo	100%	100%	100%	0.00	0.00		
Process Efficiency - MN	EEB	Energy Efficient Buildings - Gas - 2023	More Efficient than Code Building	Code-Compliant Building	19	\$3,694.44	\$8,754.70	0	0.000	193.7	\$28.00	MN-BUS-CUSTOM	BUS	Gas Only	100%	100%	100%	0.00	0.00	
Process Efficiency - MN	EEB	Energy Efficient Buildings - Electric - 2023	More Efficient than Code Building	Code-Compliant Building	18	\$8,340.74	\$16,995.81	35,543	9,401	0.0	-\$130.09	MN-BUS-CUSTOM	BUS	Electric Only	100%	100%	100%	0.00	0.00	
Refrigerator Recycling - MN	Dehumidifier Recycling	Dehumidifier removal and Recycling	Removal of dehumidifier	Existing dehumidifier	5	\$0.00	\$0.00	100	1,000	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	99.00	0.00	
Refrigerator Recycling - MN	Refrigerator Recycling	Freezer Removal and Recycling	Removal of freezer	Existing primary unit - age mostly >10 years	7	\$50.00	\$0.00	100	1,000	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	581.00	0.00	
Refrigerator Recycling - MN	Refrigerator Recycling	Refrigerator Removal and Recycling	Removal of Primary and Secondary Refrigerator	Existing Primary and Secondary Unit - age mostly > 15 years	8	\$50.00	\$0.00	100	1,000	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	2,164.00	0.00	
Refrigerator Recycling - MN	Room Air Conditioner Recycling	Remove and Recycling Room AC	Removal of Standard 10,000 Btu/R Window AC Unit	Existing Window AC Unit	5	\$0.00	\$0.00	100	1,000	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	68.00	0.00	
Refrigerator Recycling - MN	Saver's Switch	Residential AC Switch	Utility Load Control for control period with smart switch	No Control, No Switch	15	\$90.00	\$90.00	1	0.748	0.0	\$0.00	MN-BUS-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Refrigerator Recycling - MN	Refrigerator Recycling	Secondary Market - Freezer Removal and Recycling	Removal of House Freezer	Removal of House Freezer	7	\$35.00	\$0.00	100	1,000	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0	0.00	
Refrigerator Recycling - MN	Refrigerator Recycling	Secondary Market - Refrigerator Removal and Recycling	Removal of House Refrigerator	Removal of House Refrigerator	8	\$35.00	\$0.00	100	1,000	0.0	\$0.00	MN-RES-FLAT	RES	Electric Only	100%	100%	100%	0	0.00	
Residential Demand Response - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier I or II thermostat	Existing standard manual or Non Utilized Tier I Thermostat	5	\$190.00	\$190.00	2	1,100	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	AC Rewards-DR	Residential Smart Thermostat - Townhomes - Direct Install	Utility Load Control for control period with Tier I or II thermostat	Existing standard manual or Non Utilized Tier I Thermostat	5	\$190.00	\$190.00	1	0.706	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo - Townhomes	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	48	0.114	2.8	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	AC Rewards-DR	Residential Smart Thermostat - Multifamily - Direct Install	Utility Load Control for control period with Tier I or II thermostat	Existing standard manual or Non Utilized Tier I Thermostat	5	\$190.00	\$190.00	1	0.386	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo - Multifamily	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	26	0.063	0.8	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00	

Measure Description				Economic Assumptions										Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units	
Residential Demand Response - MN	AC Rewards-DR	Residential Smart Thermostat - BYOT	Utility Load Control for control period with Tier I or II Thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$75.00	\$0.00	6	0.00	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	15,436.00	0.00	
Residential Demand Response - MN	Saver's Switch	MN - Residential AC Switch	Utility Load Control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	5	0.00	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	17,484.00	0.00	
Residential Demand Response - MN	Saver's Switch	MN - Residential WH Switch	Utility Load Control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	2	0.200	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Smart Thermostat	BYOT EE - AC & Electric Heating	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$0.00	1,370	0.180	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Smart Thermostat	BYOT EE - AC & Gas Heating - Combo Customer	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$0.00	96	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	283.00	283.00	
Residential Demand Response - MN	Smart Thermostat	BYOT EE - AC & Gas Heating - Electric Only Customer	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$0.00	96	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	275.00	0.00	
Residential Demand Response - MN	Smart Thermostat	BYOT EE - Gas Heating Gas Only Customer	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$50.00	\$0.00	0	0.000	5.5	\$0.00		RES	Gas Only	100%	100%	100%	0.00	23.00	
Residential Demand Response - MN	Smart Thermostat	Direct Install Smart Thermostat EE - AC & Electric Heating	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$0.00	\$0.00	76	0.180	0.0	\$0.00	MN-RES-HMEFF	RES	Electric Only	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Smart Thermostat	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$0.00	\$0.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Smart Thermostat	Direct Install Smart Thermostat EE - AC & Gas Heating - Electric only	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$0.00	\$0.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Smart Thermostat	Direct Install Smart Thermostat EE - Gas Heating Gas Only Customer	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$0.00	\$0.00	0	0.000	5.5	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	AC Rewards-EE	Eco+	Smart thermostat with eco+	Smart thermostat	10	\$0.00	\$0.00	96	0.00	0.0	\$0.00	MN-RES-RATE_AC	RES	Electric Only	100%	100%	100%	12,098.00	0.00	
Residential Demand Response - MN	Water Heater DR	Load Shift & Demand response capability on new heat pump water heater (CTA 2045)	Heat Pump Water Heater w/ DR Management	No management of water heater time of use	1	\$100.00	\$325.00	152	0.071	0.0	\$0.00	MN-RES-HPIWH_DR_LOAD_SHI FT	RES	DR	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Water Heater DR	Load Shift & Demand response capability on new heat pump water heater (CTA 2045) - Annual Re Enrollment of Existing Customer	Heat Pump Water Heater w/ DR Management	No management of water heater time of use	1	\$25.00	\$0.00	152	0.071	0.0	\$0.00	MN-RES-HPIWH_DR_LOAD_SHI FT	RES	DR	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Water Heater DR	Demand response capability on grid enabled electric resistance water heater (CTA 2045)	Electric Resistance Water Heater w/ DR Management	No management of water heater time of use	1	\$100.00	\$325.00	1	0.213	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential Demand Response - MN	Water Heater DR	Demand response capability on existing electric resistance water heater equipped with demand response capable retrofit device (DR switch w/ Non-CTA 2045)	Electric Resistance Water Heater w/ DR Management	No management of water heater time of use	1	\$100.00	\$0.00	1	0.213	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential HVAC - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier I or II Thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$190.00	\$190.00	2	1.109	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential HVAC - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$24.00	156	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	649.00	649.00	
Residential HVAC - MN	AC Rewards-DR	Residential Smart Thermostat	Utility Load Control for control period with Tier I or II Thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$125.00	\$215.00	2	1.109	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00	
Residential HVAC - MN	Boiler	95% Efficient Boiler	95% Efficient Boiler	94% Efficient Boiler	20	\$400.00	\$1,470.00	0	0.000	10.7	\$0.00		RES	Gas Only	100%	100%	100%	0.00	528.00	
Residential HVAC - MN	Furnace	95% Efficient Furnace in Existing Home	95% Efficient Furnace in existing home	90% Efficient Furnace in existing home	18	\$200.00	\$690.00	0	0.000	16.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	251.00	
Residential HVAC - MN	Furnace	95% Efficient Furnace in New Home	95% Efficient Furnace in new home	90% Efficient Furnace in new home	18	\$100.00	\$390.00	0	0.000	8.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	4.00	
Residential HVAC - MN	Furnace	96% Efficient Furnace in Existing Home	96% Efficient Furnace in existing home	90% Efficient Furnace in existing home	18	\$300.00	\$990.00	0	0.000	30.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	5,914.00	
Residential HVAC - MN	Furnace	96% Efficient Furnace in New Home	96% Efficient Furnace in new home	90% Efficient Furnace in new home	18	\$150.00	\$570.00	0	0.000	8.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	49.00	
Residential HVAC - MN	Furnace	97% Efficient Furnace in Existing Home	97% Efficient Furnace in existing home	90% Efficient Furnace in existing home	18	\$400.00	\$1,440.00	0	0.000	14.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	1,940.00	
Residential HVAC - MN	Furnace	97% Efficient Furnace in New Home	97% Efficient Furnace in new home	90% Efficient Furnace in new home	18	\$200.00	\$700.00	0	0.000	14.0	\$0.00		RES	Gas Only	100%	100%	100%	0.00	4.00	
Residential HVAC - MN	Mini-Split Heat Pump	Mini-Split Heat Pumps	Residential Mini-Split Heat Pump (Nominal 1.8 Tons with 18.0 SEER, 12.0 EER, 10.2 HSPF) with electric resistance heat backup	Split Cooling Solution needed with Existing Electric Resistance Heating	15	\$600.00	\$6,070.00	3,376	0.00	0.0	\$0.00	MN-RES-Cooling_DX_Heating_DX	RES	Electric Only	100%	100%	100%	75.00	0.00	
Residential HVAC - MN	Mini-Split Heat Pump	Mini-Split Heat Pump	Residential Mini-Split Heat Pump (Nominal 1.8 Tons with 18.0 SEER, 12.0 EER, 10.2 HSPF (unadjusted)) replacing a MSHP or new spot cooling heat	MSHP (size 1.8 tons, 14 SEER, 12.0 EER, 8.2 HSPF (unadjusted))	15	\$300.00	\$970.00	360	0.00	0.0	\$0.00	MN-RES-Cooling_DX_Heating_DX	RES	Electric Only	100%	100%	100%	1,048.00	0.00	
Residential HVAC - MN	Res AC	Installation of new AC 15 SEER 2.25 tons	Quality Installation of 15 SEER 2.25 tons	Non-Quality Installation of 13 SEER (Baseline and Model) 2 tons	18	\$350.00	\$611.50	364	0.00	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	2,246.00	0.00	
Residential HVAC - MN	Res AC	Installation of new AC 16 SEER 2.25 tons	Quality Installation of 16 SEER 2.25 tons	Non-Quality Installation of 13 SEER (Baseline and Model) 2 tons	18	\$450.00	\$676.48	360	0.00	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	3,422.00	0.00	

Measure Description				Economic Assumptions								Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Residential HVAC - MN	Res AC w/ Furnace	Installation of new AC 15 SEER 2.25 tons w/ assoc furnace	Non - Quality Installation of 15 SEER 2.25 tons with Associated Furnace	Non-Quality Installation of 13 SEER (Baseline and Model) 2.25 tons	18	\$200.00	\$414.56	147	0.234	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Res AC w/ Furnace	Installation of new AC 16 SEER 2.25 tons w/ assoc furnace	Non - Quality Installation of 16 SEER 2.25 tons with Associated Furnace	Non-Quality Installation of 13 SEER (Baseline and Model) 2 tons	18	\$300.00	\$621.86	207	0.311	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Res AC	Provide Quality Installation of new AC 13 - 14.5 SEER 2.25 tons	Quality Installation of 13 - 14.5 SEER 2.25 tons	Non-Quality Installation of 13 - 14.5 SEER 2 tons	18	\$150.00	\$268.14	150	0.246	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	7,213.00	0.00
Residential HVAC - MN	Res AC w/ Furnace	Provide Quality Installation of new AC 13 - 14.5 SEER 2.25 tons w/ assoc furnace	Quality Installation of 13 - 14.5 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 2.5 Ton AC 13 - 14.5 SEER 2 tons	18	\$150.00	\$268.14	150	0.246	0.4	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	2,817.00	2,817.00
Residential HVAC - MN	Res AC w/ Furnace	Provide Quality Installation of new AC 15 SEER 2.25 tons w/ assoc furnace	Dually Installation of 15 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 2.5 Ton AC 15 SEER 2 tons	18	\$150.00	\$264.43	150	0.257	0.7	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	1,129.00	1,129.00
Residential HVAC - MN	Res AC w/ Furnace	Provide Quality Installation of new AC 16 SEER 2.25 tons w/ assoc furnace	Quality Installation of 16 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 2.5 Ton AC 16 SEER 2 tons	18	\$150.00	\$264.43	150	0.260	0.9	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	1,875.00	1,875.00
Residential HVAC - MN	Res ASHP	Installation of new ASHP 15 SEER 12.5 EER 9 HSPF 2 tons w/ Electric Resistance Heat Backup	Quality Installation of New ASHP 15 SEER 12.5 EER 9 HSPF 2 tons with Electric Resistance Heat Backup	Non-Quality Installation of 14 SEER AC (Baseline and Model) 2 tons in home with existing electric resistance heat	18	\$350.00	\$668.28	430	0.446	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	30.00	0.00
Residential HVAC - MN	Res ASHP	Installation of new ASHP 16 SEER, 13 EER, 9 HSPF 2 tons w/ Electric Resistance Heat Backup	Quality Installation of new ASHP 16 SEER, 13 EER, 9 HSPF 2 tons w/ Electric Resistance Heat Backup	Non-Quality Installation of ASHP 14 SEER (Baseline) ASHP 2 tons	18	\$450.00	\$1,078.36	514	0.512	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	186.00	0.00
Residential HVAC - MN	Res ASHP	Provide Quality Installation of new ASHP 14 SEER ASHP 2 tons w/ Electric Resistance Heat Backup	Quality Installation of 14 SEER ASHP 2 tons With Electric Resistance Heat Backup	Non-Quality Installation of 14 SEER ASHP 2 tons	18	\$150.00	\$171.48	434	0.380	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	29.00	0.00
Residential HVAC - MN	Res ASHP	Provide Quality Installation of new ASHP 14.5 SEER ASHP 2 tons w/ Electric Resistance Heat Backup	Quality Installation of 14.5 SEER ASHP 2 tons with Electric Resistance Heat Backup	Non-Quality Installation of 14.5 SEER ASHP 2 tons	18	\$150.00	\$228.32	659	0.305	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Res ASHP - Cooling only	Installation of new ASHP 15 SEER 12.5 EER 9 HSPF 2 tons for cooling use only	Non - Quality Installation of New ASHP 15 SEER, 12.5 EER, 9 HSPF, 2 tons for cooling use only	Non-Quality Installation of ASHP 15 SEER ASHP 2 tons	18	\$200.00	\$362.47	60	0.110	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Res ASHP - Cooling only	Installation of new ASHP 16 SEER 13 EER 9 HSPF 2 tons for cooling use only	Non - Quality Installation of New ASHP 16 SEER 13 EER 9 HSPF 2 tons for cooling use only	Non-Quality Installation of ASHP 16 SEER ASHP 2 tons	18	\$300.00	\$724.95	113	0.177	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Res ASHP - Cooling only	Provide Quality Installation of new ASHP 14 SEER ASHP 2 tons cooling use only	Quality Installation of new ASHP 14 SEER ASHP 2 tons cooling use only	Non-Quality Installation of 14 SEER ASHP 2 tons	18	\$150.00	\$276.76	150	0.249	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	33.00	0.00
Residential HVAC - MN	Res ASHP - Cooling only	Provide Quality Installation of new ASHP 14.5 SEER ASHP 2 tons cooling use only	Quality Installation of new ASHP 14.5 SEER ASHP 2 tons cooling use only	Non-Quality Installation of 14.5 SEER ASHP 2 tons	18	\$150.00	\$228.32	146	0.206	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Res ASHP - Cooling only	Provide Quality Installation of new ASHP 15 SEER 12.5 EER ASHP 2 tons cooling use only	Quality Installation of ASHP 15 SEER, 12.5 EER, 9 HSPF 2 tons cooling use only	Non-Quality Installation of 15 SEER ASHP 2 tons	18	\$150.00	\$217.07	15,638	0.209	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	1.00	0.00
Residential HVAC - MN	Res ASHP - Cooling only	Provide Quality Installation of new ASHP 16 SEER 13 EER ASHP 2 tons cooling use only	Quality Installation of new ASHP 16 SEER 13 EER ASHP 2 tons cooling use only	Non-Quality Installation of 16 SEER ASHP 2 tons	18	\$150.00	\$264.43	167	0.244	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	306.00	0.00
Residential HVAC - MN	Res GSHP	Installation of High Efficiency GSHP equipment Existing Home	Quality Installation of GSHP Bore to Air with 55,600 BTUH heating, 18 EER, 4.0 COP	Non-Quality Installation of 2.5 Ton 13 SEER AC and Electric Resistance Heat	20	\$2,320.42	\$17,623.97	18,800	0.880	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	50.00	0.00
Residential HVAC - MN	Res GSHP	Installation of High Efficiency GSHP equipment Existing Home	Quality Installation of 2.5 Ton Heat Pump, 18 EER GSHP with 55,600 BTUH heating and 40% COP for 18,800 BTUH heating	Non-Quality Installation of 2.5 Ton 13 SEER AC and 40% ASHP per 18,800 BTUH heating	20	\$1,859.33	\$14,405.05	-7,242	0.923	146.6	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Green Fuel	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Res GSHP	Installation of High Efficiency GSHP equipment New Home	Quality Installation of GSHP Bore to Air with 55,600 BTUH heating, 18 EER, 4.0 COP	Non-Quality Installation of 2.5 Ton 13 SEER AC and Electric Resistance Heat	20	\$2,320.42	\$14,204.99	24,592	0.904	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Electric Resistance Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$400.00	\$784.00	2,192	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling ASHP Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$400.00	\$784.00	2,557	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Natural Gas Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$400.00	\$784.00	2,264	0.335	0.0	\$1.25	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	108.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Electric Resistance Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$400.00	\$784.00	2,172	0.335	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling ASHP Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$400.00	\$784.00	2,536	0.335	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00

Measure Description					Economic Assumptions							Customer Information			Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Natural Gas Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$400.00	\$784.00	2,933	0.326	0.0	\$-10.66	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Electric Resistance Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$500.00	\$784.00	2,192	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling ASHP Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$500.00	\$784.00	2,557	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Natural Gas Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$500.00	\$784.00	2,933	0.326	0.0	\$-10.66	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	25.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Electric Resistance Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$500.00	\$784.00	2,172	0.336	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling ASHP Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$500.00	\$784.00	2,536	0.336	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Natural Gas Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$500.00	\$784.00	2,933	0.326	0.0	\$-10.66	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Residential HVAC - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater <= 40 Gal - Medium Draw	Minimum Efficiency Storage Water Heater	13	\$75.00	\$126.68	0	0.000	2.8	\$0.00	RES	Gas Only	100%	100%	100%	0.00	0.00	
Residential HVAC - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater <= 40 Gal - High Draw	Minimum Efficiency Storage Water Heater	13	\$75.00	\$260.86	0	0.000	1.8	\$0.00	RES	Gas Only	100%	100%	100%	0.00	0.00	
Residential HVAC - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater > 40 Gal - Medium Draw	Minimum Efficiency Storage Water Heater	13	\$75.00	\$178.36	0	0.000	2.0	\$0.00	RES	Gas Only	100%	100%	100%	0.00	576.00	
Residential HVAC - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater > 40 Gal - High Draw	Minimum Efficiency Storage Water Heater	13	\$75.00	\$384.34	0	0.000	2.0	\$0.00	RES	Gas Only	100%	100%	100%	0.00	0.00	
Residential HVAC - MN	Water Heater	High Efficiency Tankless Water Heater	High Efficiency Tankless Water Heater - High Draw	Minimum Efficiency Storage Water Heater	20	\$250.00	\$361.52	0	0.000	7.7	\$0.00	RES	Gas Only	100%	100%	100%	0.00	0.00	
Residential HVAC - MN	Water Heater	High Efficiency Tankless Water Heater	High Efficiency Tankless Water Heater - Medium Draw	Minimum Efficiency Storage Water Heater	20	\$250.00	\$361.52	0	0.000	4.8	\$0.00	RES	Gas Only	100%	100%	100%	0.00	344.00	
Saver's Switch for Business - MN	Business Saver's Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Saver's Switch for Business - MN	Business Saver's Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%		
Saver's Switch for Business - MN	AC Rewards - Business	Business Smart Thermostat - DR Direct Install	New Installation of DR Capable Smart Thermostat	Non-communicating Thermostat	5	\$411.81	\$411.81	18	0.247	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	1,067	0
Saver's Switch for Business - MN	AC Rewards - Business	Business Smart Thermostat - BYOT	Existing Dispatchable Device	Non-communicating Thermostat	5	\$100.00	\$100.00	14	2.081	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	DR	100%	100%	100%	0	0
Saver's Switch for Business - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & GAS	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$82.12	\$82.12	376	0.446	4.0	\$0.00	MN-BUS-COOL_OUT	BUS	Combo	100%	100%	100%	13	0
Saver's Switch for Business - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC ONLY	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$95.00	\$95.00	378	0.000	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%	0	0
Saver's Switch for Business - MN	AC Rewards - Business	Install Energy Star certified smart thermostat - AC & ELEC HEAT	Energy Star Certified Thermostat	Manual or programmable thermostat	10	\$124.23	\$124.23	397	0.280	0.0	\$0.00	MN-BUS-COOL_OUT	BUS	Electric Only	100%	100%	100%	43	0
Saver's Switch for Business - MN	Commercial AC Switch	Commercial AC Switch Single Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	1	0.806	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	Electric Only	100%	100%	100%	980	0
Saver's Switch for Business - MN	Commercial AC Switch	Commercial AC Switch Multi Stage - MN	Utility load control for control period with smart switch	No control, no switch	15	\$0.00	\$0.00	3	2.113	0.0	\$0.00	MN-BUS-PEAK_CNT	BUS	Electric Only	100%	100%	100%	218	0
School Education Kits - MN	Advanced Power Strip	Advanced Power Strip	Tier 1 Advanced Power Strip	Standard Power Strip	7	\$25.00	\$49.50	98	0.098	0.0	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	71%	100%	7,505.00	0.00
School Education Kits - MN	Advanced Power Strip	Advanced Power Strip	Tier 2 Advanced Power Strip	Standard Power Strip	8	\$40.00	\$40.00	118	0.015	0.0	\$0.00	MN-RES-FLAT	Res	Electric Only	100%	71%	100%	0.00	0.00
School Education Kits - MN	Home Lighting DI	9 Watt LED Bulbs	LED 2 x 9W	Removed Lamp	20	\$6.38	\$6.38	67	0.000	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	34,358.00	0.00
School Education Kits - MN	Home Lighting DI	11 Watt LED Bulbs	LED 2 x 11W	Removed Lamp	20	\$9.62	\$9.62	63	0.000	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	29,000.00	0.00
School Education Kits - MN	Home Lighting DI	9 Watt LED Bulbs - Electric Only	LED 2 x 9W	Removed Lamp	20	\$6.38	\$6.38	67	0.000	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	0.00	0.00
School Education Kits - MN	Home Lighting DI	11 Watt LED Bulbs - Electric Only	LED 2 x 11W	Removed Lamp	20	\$9.62	\$9.62	63	0.000	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	0.00	0.00
School Education Kits - MN	Home Lighting DI	15 Watt LED Bulbs	LED 15W	Removed Lamp	20	\$2.79	\$2.79	66	0.007	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	0.00	0.00
School Education Kits - MN	Home Lighting DI	8W Reflector LED	1 x 8W Reflector LED	Removed Lamp	20	\$2.65	\$2.65	66	0.000	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	5,358.00	0.00
School Education Kits - MN	Home Lighting DI	6W Globe LED	2 x 6W Globe LED	Removed Lamp	20	\$5.30	\$5.30	66	0.000	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	5,358.00	0.00
School Education Kits - MN	Home Lighting DI	4W-8W-14W 3-WAY LED	1 x 4W-8W-14W 3-WAY LED	Removed Lamp	20	\$2.65	\$2.65	66	0.000	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	10,716.00	0.00
School Education Kits - MN	Home Lighting DI	5W Candle LED	4 x 5W Candle LED	Removed Lamp	20	\$10.60	\$10.60	66	0.014	0.0	\$0.00	MN-RES-SFLIT	RES	Electric Only	100%	92%	100%	5,358.00	0.00
School Education Kits - MN	Programmable Thermostat	Programming of Existing T-stat (Elec Cooling & Gas Heat)	New T-stat w/ Auto setup by 1.2 F for cooling assume 2.3 ton AC, 13.4 SEER AC and setback of 2.6 F for heating with 80% AFUE furnace	Base modeled home w/ 10 SEER AC and no setback	10	\$0.00	\$0.00	100	0.010	4.8	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	40%	100%	32,753.00	32,753.00
School Education Kits - MN	Aerators - EWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with unknown DHW heater (EWH portion)	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.22	\$1.22	74	0.010	0.0	\$12.17	MN-RES-SFWHT	Res	Electric Only	100%	41%	100%	0.00	0.00

Measure Description				Economic Assumptions										Customer Information		Stipulated Factors			
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PC&W	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
School Education Kits - MN	Aerators - EWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with unknown DHW heater (EWH portion)	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.48	\$0.48	91	0.013	0.0	\$17.32	MN-RES-SFWHT	Res	Electric Only	100%	43%	100%	0.00	0.00
School Education Kits - MN	Aerators - GWH	Kitchen Aerator - 1.5 GPM to replace existing 2.2 GPM aerator in home with unknown DHW heater (GWH portion)	1.5 GPM Kitchen Faucet Aerator	2.2 GPM Kitchen Faucet Aerator	10	\$1.22	\$0.48	9	0.001	0.0	\$0.00	MN-RES-SFWHT	Res	Gas Only	100%	41%	100%	29,000.00	29,000.00
School Education Kits - MN	Aerators - GWH	Primary Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 GPM aerator in home with unknown DHW heater (GWH portion)	0.5 GPM Bathroom Faucet Aerator	2.2 GPM Bathroom Faucet Aerator	10	\$0.48	\$0.48	9	0.001	0.0	\$17.32	MN-RES-SFWHT	Res	Gas Only	100%	43%	100%	36,505.00	36,505.00
School Education Kits - MN	Showerheads - EWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with unknown DHW heater (EWH portion)	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.22	\$3.22	511	0.007	0.0	\$07.40	MN-RES-SFWHT	Res	Electric Only	100%	48%	100%	0.00	0.00
School Education Kits - MN	Showerheads - GWH	Primary Showerhead - 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with unknown DHW heater (GWH portion)	1.5 GPM Showerhead	2.5 GPM Showerhead	10	\$3.22	\$3.22	50	0.006	1.0	\$06.16	MN-RES-SFWHT	Res	Gas Only	100%	48%	100%	36,505.00	36,505.00
School Education Kits - MN	Water Heater Setback	Gas Water Heater Setback	Setback WH setpoint to 120 F	Existing WH at setpoint of 130 F	8	\$0.00	\$0.00	0	0.000	0.4	\$0.00	MN-RES-SFWHT	RES	Gas Only	100%	40%	100%	0.00	0.00
School Education Kits - MN	Water Heater Setback	Electric Water Heater Setback	Setback WH setpoint to 120 F	Existing WH at setpoint of 130 F	2	\$0.00	\$0.00	161	0.007	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	40%	100%	0.00	0.00
School Education Kits - MN	Home Lighting - Direct Install	13 Watt LED Bulb	13W LED	Incandescent bulb	10	\$5.02	\$4.00	98	0.001	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	92%	100%	18,221	0
School Education Kits - MN	Home Lighting - Direct Install	LED Nightlight	LED Nightlight	Incandescent bulb	8	\$1.40	\$1.40	10	0.000	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	92%	100%	47,221	0
Self Direct - MN	Custom Self-Direct Project	New Efficient Equipment	Old or less efficient equipment	New Efficient Equipment	17	\$23,144.60	\$0,000.00	200,000	3,000	0.0	\$0.00	MN-BUS-RTBAC	BUS	Combo	100%	100%	100%	15	0
Whole Home Efficiency - MN	ENERGY STAR Clothes Dryer	ENERGY STAR Clothes Dryer	Energy Star Clothes Dryer (4.4 Cu.Ft.)	Industry Standard	12	\$40.00	\$75.00	96	0.350	0.0	\$0.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	ENERGY STAR Clothes Washer	Energy Star Front-loading Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Front-Loading Clothes Washer w/ electric DHW and Electric Dryer	Standard Front-Loading Clothes Washer	11	\$10.00	\$50.00	151	0.510	0.0	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	ENERGY STAR Clothes Washer	Energy Star Front-Loading Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Front-Loading Clothes Washer w/ Gas DHW and Electric Dryer	Standard Front-Loading Clothes Washer	11	\$10.00	\$50.00	125	0.420	1.2	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	ENERGY STAR Clothes Washer	Energy Star Top-loading Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Top-Loading Clothes Washer w/ electric DHW and Electric Dryer	Standard Top-Loading Clothes Washer	11	\$10.00	\$50.00	397	1.340	0.0	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	ENERGY STAR Clothes Washer	Energy Star Top-Loading Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Top-Loading Clothes Washer w/ Gas DHW and Electric Dryer	Standard Top-Loading Clothes Washer	11	\$10.00	\$50.00	306	1.040	4.1	\$0.00	MN-RES-FLAT	Res	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	ENERGY STAR Dehumidifier	>50 pints/day dehumidifier	ENERGY STAR Dehumidifier high capacity	Standard efficiency dehumidifier (Current Federal Standard)	12	\$35.00	\$144.00	178	0.110	0.0	\$0.00	MN-RES-ESTARREF	Res	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	ENERGY STAR Dehumidifier	≤ 50 pints/day dehumidifier	ENERGY STAR Dehumidifier low capacity	Standard efficiency dehumidifier (Current Federal Standard)	12	\$35.00	\$144.00	211	0.130	0.0	\$0.00	MN-RES-ESTARREF	Res	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	ENERGY STAR Refrigerator	Refrigerator Replacement	ENERGY STAR ® Refrigerators	Industry Standard	14	\$15.00	\$30.00	45	0.003	0.0	\$0.00	MN-RES-SFWHT	Res	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	AC Rewards-DR	Residential Smart Thermostat - Direct Install	Utility Load Control for control period with Tier II or III thermostat	Existing standard manual or Non-Utilized Tier I Thermostat	5	\$190.00	\$190.00	2	1.108	0.0	\$0.00	MN-RES-PEAK_CNT	RES	DR	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	AC Rewards-EE	Direct Install Smart Thermostat EE - AC & Gas Heating - Combo	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$110.00	\$110.00	76	0.180	5.5	\$0.00	MN-RES-RATE_AC	RES	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Air Sealing - Electric Heating and Cooling	Air sealing in homes with electric heating / electric cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$1,238.68	\$2,041.96	6,000	0.016	0.0	\$0.00	MN-RES-Cooling_DX_Heating_EI etc	Res	Electric Only	100%	100%	100%	2.00	0.00
Whole Home Efficiency - MN	Air Sealing - Electric Heating Only	Air sealing in homes with electric heating / no cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$1,038.22	\$710.01	4,153	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Air Sealing - Gas Heating / Electric Cooling	Air sealing in homes with gas heating / electric cooling for combo customers	Home with bypass air sealing performed	Existing home without air sealing	10	\$278.56	\$1,043.97	35	0.100	24.0	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	21.00	21.00
Whole Home Efficiency - MN	Air Sealing - Gas Heating / Electric Cooling	Air sealing in homes with gas heating / electric cooling for gas-only customers	Home with bypass air sealing performed	Existing home without air sealing	10	\$243.31	\$710.01	87	0.167	24.3	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Air Sealing - Gas Heating Only	Air sealing in homes with gas heating / no cooling	Home with bypass air sealing performed	Existing home without air sealing	10	\$243.31	\$710.01	0	0.000	24.3	\$0.00	MN-RES-Heating_Elec	Res	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Attic Insulation - Electric Heating and Cooling	Attic insulation in homes with electric heating / electric cooling	Home with 1162 sqft avg attic area and R51 avg upgraded insulation	Existing home with 1162 sqft avg attic area and R17 avg baseline insulation	20	\$464.52	\$0,000.00	386	0.006	0.0	\$0.00	MN-RES-Cooling_DX_Heating_EI etc	Res	Electric Only	100%	100%	100%	1.00	0.00
Whole Home Efficiency - MN	Attic Insulation - Electric Heating Only	Attic insulation in homes with electric heating / no cooling	Home with 1162 sqft avg attic area and R51 avg upgraded insulation	Existing home with 1162 sqft avg attic area and R17 avg baseline insulation	20	\$438.56	\$2,041.96	1,754	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Attic Insulation - Gas Heating / Electric Cooling	Attic insulation in homes with gas heating / electric cooling for combo customers	Home with 1162 sqft avg attic area and R51 avg upgraded insulation	Existing home with 1162 sqft avg attic area and R17 avg baseline insulation	20	\$84.96	\$0,000.00	96	0.006	6.0	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	14.00	14.00
Whole Home Efficiency - MN	Attic Insulation - Gas Heating / Electric Cooling	Attic insulation in homes with gas heating / electric cooling for gas-only customers	Home with 1162 sqft avg attic area and R51 avg upgraded insulation	Existing home with 1162 sqft avg attic area and R17 avg baseline insulation	20	\$74.59	\$2,178.89	37	0.071	7.5	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Attic Insulation - Gas Heating Only	Attic insulation in homes with gas heating / no cooling	Home with 1162 sqft avg attic area and R51 avg upgraded insulation	Existing home with 1162 sqft avg attic area and R17 avg baseline insulation	20	\$74.59	\$2,178.89	0	0.000	7.5	\$0.00	MN-RES-Heating_Elec	Res	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Boiler	85% Efficient Boiler	95% Efficient Boiler	84% Efficient Boiler	20	\$400.00	\$1,421.90	0	0.000	13.4	\$0.00	MN-RES-Heating_Elec	RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Furnace	95% Efficient Furnace in Existing Home	95% Efficient Furnace in existing home	80% Efficient Furnace	18	\$200.00	\$0,000.00	0	0.000	30.0	\$0.00	MN-RES-Heating_Elec	RES	Gas Only	100%	100%	100%	0.00	2.00
Whole Home Efficiency - MN	Furnace	96% Efficient Furnace in Existing Home	96% Efficient Furnace in existing home	80% Efficient Furnace	18	\$300.00	\$908.22	0	0.000	11.7	\$0.00	MN-RES-Heating_Elec	RES	Gas Only	100%	100%	100%	0.00	0.00

Measure Description				Economic Assumptions									Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Whole Home Efficiency - MN	Furnace	97% Efficient Furnace in Existing Home	97% Efficient Furnace in existing home	80% Efficient Furnace	18	\$400.00	\$1,144.88	0	0.000	12.4	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Electric Resistance Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$450.00	\$784.00	2,192	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling ASHP Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$450.00	\$784.00	2,557	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Natural Gas Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$450.00	\$784.00	2,953	0.337	0.0	-\$19.66	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Electric Resistance Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$450.00	\$784.00	2,172	0.335	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling ASHP Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$450.00	\$784.00	2,536	0.335	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Natural Gas Heat	High Efficiency Heat Pump Water Heater	Minimum Efficiency Electric Water Heater	10	\$450.00	\$784.00	2,933	0.335	0.0	-\$19.66	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Electric Resistance Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$550.00	\$784.00	2,192	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling ASHP Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$550.00	\$784.00	2,557	0.337	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Refrigerant Based Cooling Natural Gas Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$550.00	\$784.00	2,953	0.337	0.0	-\$19.66	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Electric Resistance Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$550.00	\$784.00	2,172	0.335	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling ASHP Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$550.00	\$784.00	2,536	0.335	0.0	\$0.00	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	HP Water Heater	Heat Pump Water Heater - Non-Refrigerant Based Cooling Natural Gas Heat + CE/ANSI Communications Port	High Efficiency Heat Pump Water Heater with Communications Port	Minimum Efficiency Electric Water Heater	10	\$550.00	\$784.00	2,933	0.335	0.0	-\$19.66	MN-RES-SFWHT	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Mini-Split Heat Pump	Mini-Split Heat Pump	Residential Mini-Split Heat Pump (Nominal 1.8 Tons with 18.9 SEER, 12.9 EER, 10.2 HSPF) with electric resistance heat backup	Spot Cooling Solution needed with Existing Electric Resistance Heating	15	\$600.00	\$1,988.18	8,953	1.388	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	1.00	0.00
Whole Home Efficiency - MN	Mini-Split Heat Pump	Mini-Split Heat Pump	Residential Mini-Split Heat Pump (Nominal 1.8 Tons with 18.9 SEER, 12.9 EER, 10.2 HSPF (unadjusted)) replacing a MSHP or new spot cooling heat.	MSHP size 1.8 tons, 14 SEER, 8-19 EER, 8.2 HSPF (unadjusted).	15	\$300.00	\$739.97	814	0.891	0.0	\$0.00	MN-RES-Cooling_DX_Heating_D_X	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC	Installation of new AC 15 SEER 2.25 tons	Quality Installation of 15 SEER 2.25 tons	Non-Quality Installation of 13 SEER (Baseline and Model) 2 tons	18	\$350.00	\$646.49	307	0.586	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC	Installation of new AC 16 SEER 2.25 tons	Quality Installation of 16 SEER 2.25 tons	Non-Quality Installation of 13 SEER (Baseline and Model) 2 tons	18	\$450.00	\$849.55	356	0.629	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC	Provide Quality Installation of new AC 13 - 14.5 SEER 2.25 tons	Quality Installation of 13 - 14.5 SEER 2.25 tons	Non-Quality Installation of 2.5 Ton AC 13 - 14.5 SEER 2 tons	18	\$150.00	\$240.38	177	0.346	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC w/ Furnace	Installation of new AC 15 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 15 SEER 2.25 tons with Associated Furnace	Non-Quality Installation of 13 SEER (Baseline and Model) 2.25 tons	18	\$200.00	\$414.56	147	0.234	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC w/ Furnace	Installation of new AC 16 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 16 SEER 2.25 tons with Associated Furnace	Non-Quality Installation of 13 SEER (Baseline and Model) 2 tons	18	\$300.00	\$621.86	207	0.311	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC w/ Furnace	Provide Quality Installation of new AC 13 - 14.5 SEER 2.25 tons w/ assoc furnace	Quality Installation of 13 - 14.5 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 2.5 Ton AC 13 - 14.5 SEER 2 tons	18	\$150.00	\$240.38	177	0.346	5.7	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC w/ Furnace	Provide Quality Installation of new AC 15 SEER 2.25 tons w/ assoc furnace	Quality Installation of 15 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 2.5 Ton AC 15 SEER 2 tons	18	\$150.00	\$231.92	180	0.332	5.7	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Res AC w/ Furnace	Provide Quality Installation of new AC 16 SEER 2.25 tons w/ assoc furnace	Quality Installation of 16 SEER 2.25 tons w/ assoc furnace	Non-Quality Installation of 2.5 Ton AC 16 SEER 2 tons	18	\$150.00	\$227.69	190	0.319	5.7	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC & GAS	Average Single Family House with Energy-Star Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	5.5	\$0.00	MN-RES-Cooling_DX	RES	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Smart Thermostat	Install Energy Star certified smart thermostat - AC ONLY	Average Single Family House with Energy-Star Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	76	0.180	0.0	\$0.00	MN-RES-Cooling_DX	RES	Electric Only	100%	100%	100%	0.00	0.00

Measure Description					Economic Assumptions								Customer Information		Stipulated Factors				
Program	Measure Group	Measure Description	Efficient Product Description / Rating	Baseline Product Description / Rating	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost of Efficient Product (\$)	Annual Customer kWh Savings (kWh/yr)	PCkW	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Load Shape	Segment	Fuel Type	NTG (%)	Install Rate (%)	Realization Rate (%)	2023 Electric Units	2023 Gas Units
Whole Home Efficiency - MN	Smart Thermostat	Install Energy Star certified smart thermostat - GAS Only	Average Single Family House with EnergyStar Smart Thermostat	Average Single Family House with Standard Thermostat	10	\$125.00	\$125.00	0	0.000	5.5	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Wall Insulation - Electric Heating and Cooling	Wall insulation in homes with electric heating / electric cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$1,349.90	\$1,349.90	0.000	0.000	0.0	\$0.00	MN-RES-Cooling_DX_Heating_Elec	Res	Electric Only	100%	100%	100%	2.00	0.00
Whole Home Efficiency - MN	Wall Insulation - Electric Heating Only	Wall insulation in homes with electric heating / no cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$1,313.62	\$2,021.48	5,254	0.000	0.0	\$0.00	MN-RES-Heating_Elec	Res	Electric Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Wall Insulation - Gas Heating / Electric Cooling	Wall insulation in homes with gas heating / electric cooling for combo customers	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$329.86	\$4,967.96	365	0.000	62.8	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	20.00	20.00
Whole Home Efficiency - MN	Wall Insulation - Gas Heating / Electric Cooling	Wall insulation in homes with gas heating / electric cooling for gas-only customers	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$293.58	\$2,021.48	145	0.279	26.4	\$0.00	MN-RES-Cooling_DX	Res	Combo	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Wall Insulation - Gas Heating Only	Wall insulation in homes with gas heating / no cooling	Home with R11 wall cavity insulation added	Home with no wall cavity insulation	20	\$293.58	\$2,021.48	0	0.000	26.4	\$0.00		Res	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater <= 40 Gal - Medium Draw	Minimum Efficiency Storage Water Heater	13	\$100.00	\$128.88	0	0.000	2.5	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater <= 40 Gal - High Draw	Minimum Efficiency Storage Water Heater	13	\$100.00	\$260.66	0	0.000	1.6	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater > 40 Gal - Medium Draw	Minimum Efficiency Storage Water Heater	13	\$100.00	\$119.30	0	0.000	2.5	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater	High Efficiency Storage Water Heater	Storage Water Heater > 40 Gal - High Draw	Minimum Efficiency Storage Water Heater	13	\$100.00	\$384.34	0	0.000	2.7	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater	Tankless Water Heater	High Efficiency Tankless Water Heater - High Draw	Minimum Efficiency Storage Water Heater	20	\$275.00	\$861.02	0	0.000	6.2	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater	Tankless Water Heater	High Efficiency Tankless Water Heater - Medium Draw	Minimum Efficiency Storage Water Heater	20	\$275.00	\$541.99	0	0.000	6.9	\$0.00		RES	Gas Only	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater DR	Load Shift & Demand response capability on new heat pump water heater (CTA 2045)	Heat Pump Water Heater w/ DR Management	No management of water heater time of use	1	\$100.00	\$325.00	152	0.071	0.0	\$0.00	MN-RES-HPWH_DR_LOAD_SHIFT	RES	DR	100%	100%	100%	0.00	0.00
Whole Home Efficiency - MN	Water Heater DR	Load Shift & Demand response capability on new heat pump water heater (CTA 2045) - Annual Re Enrollment	Heat Pump Water Heater w/ DR Management - Re Enrollment of Existing Customer	No management of water heater time of use	1	\$25.00	\$0.00	152	0.071	0	\$0.00	MN-RES-HPWH_DR_LOAD_SHIFT	RES	DR	100%	100%	100%	0.00	0.00

