



Conservation Improvement Program

Energy Savings, CO₂ Reductions and Economic Benefits
Achieved 2018-2019

June 2022

Pursuant to Minnesota Statutes 216B.241, Subd. 1c(f)

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Pursuant by Minnesota Statute 3.197: This report cost approximately \$10,000.00 to prepare, including staff time.

Executive Summary

The Minnesota Department of Commerce, Division of Energy Resources (Commerce) submits this report pursuant to Minn. Stat. §216B.241, subd. 1c(f). The statute requires Commerce to produce and make publicly available a report on the annual energy and capacity savings and estimated carbon dioxide (CO₂) reductions achieved through the Conservation Improvement Program (CIP) for the two most recent years for which data is available. This report includes utility-reported CIP performance data for program years 2018 and 2019.

CIP helps Minnesota households and businesses use electricity and natural gas more efficiently – conserving energy, reducing carbon dioxide emissions, and lessening the need for new utility infrastructure. CIP is funded by ratepayers and administered by electric and natural gas utilities.

Commerce oversees CIP to ensure that ratepayer dollars are used effectively to achieve the statutorily required energy savings goals and that energy savings are reported as accurately as possible. Minnesota utilities operate a wide array of residential, commercial and industrial energy conservation programs. These programs target both retrofit and new construction projects.

During both 2018 and 2019, electric utilities exceeded the CIP energy savings goal of 1.5% and natural gas utilities exceeded the energy savings goal of 1.0% of utility sales. In total, in years 2018 and 2019, energy conservation programs benefited Minnesota's environment and economy by:

- Saving around 13.9 trillion-Btus of energy – enough energy to heat, cool and power more than 146,000 Minnesota homes for a year (EIA 2018).

- Reducing CO₂ emissions by 1.55 million tons, equivalent to removing over 306,000 vehicles from the road for one year (EPA 2021a, 2021b and EIA 2021c).
- Saving Minnesota’s businesses and residents over \$258 million in energy costs (EIA 2021a and EIA 2020b).¹
- Supporting over 41,000 energy efficiency jobs, representing the largest sector of Minnesota’s clean energy employment (Clean Energy Trust 2021).

Table 1. Total 2018-2019 Conservation Improvement Program Electric and Gas Impacts

	CO ₂ Savings (tons)	Energy Savings (1000s MMBtu)	Participant Energy Cost Savings
Electric	1,153,160	7,061	\$214,246,735
Gas	402,204	6,885	\$44,516,950
Total	1,555,364	13,946	\$258,763,685

Overview of the Conservation Improvement Program

CIP is a utility-administered program with regulatory oversight provided by Commerce. Utility CIP portfolios promote energy-efficient technologies and practices by providing rebates, marketing, and technical assistance to utility customers. Energy conservation programs help Minnesota households and businesses lower their energy costs by using electricity and natural gas more efficiently. Commerce reviews and approves utility CIP regulatory filings to ensure that energy savings are calculated accurately, statutory requirements are met, and programs meet cost-effectiveness standards.

As summarized in Figure 1, CIP began in Minnesota in the 1980s with the intention of motivating utility spending on energy efficiency. The passage of the 2007 Next Generation Energy Act established Minnesota’s Energy Efficiency Resource Standard (EERS), which required utilities, beginning in 2010, to develop CIP plans to achieve energy savings equal to 1.5% of average annual retail sales each year,² unless adjusted by the Commissioner to no less than 1.0%.³

On May 25, 2021, the Minnesota Energy Conservation and Optimization Act (ECO Act) was signed into law by Governor Tim Walz.⁴ The ECO Act modernized CIP and provides a more holistic approach to energy efficiency programming. The ECO Act was the result of multiple years of stakeholder discussion and development. Notable highlights of the ECO Act include: providing participating electric and natural gas utilities the opportunity to optimize energy use and delivery through the inclusion of load

¹ Estimated energy cost savings were calculated by multiplying the average price per Dth of natural gas and the average price per kWh of electricity in Minnesota by the corresponding Dth and kWh CIP energy savings achievements for 2018 and 2019. This calculation does not net out CCRA/CCRC charges to customers. See the “References and Methodology Notes” section for more information about how various impacts were calculated and their data sources.

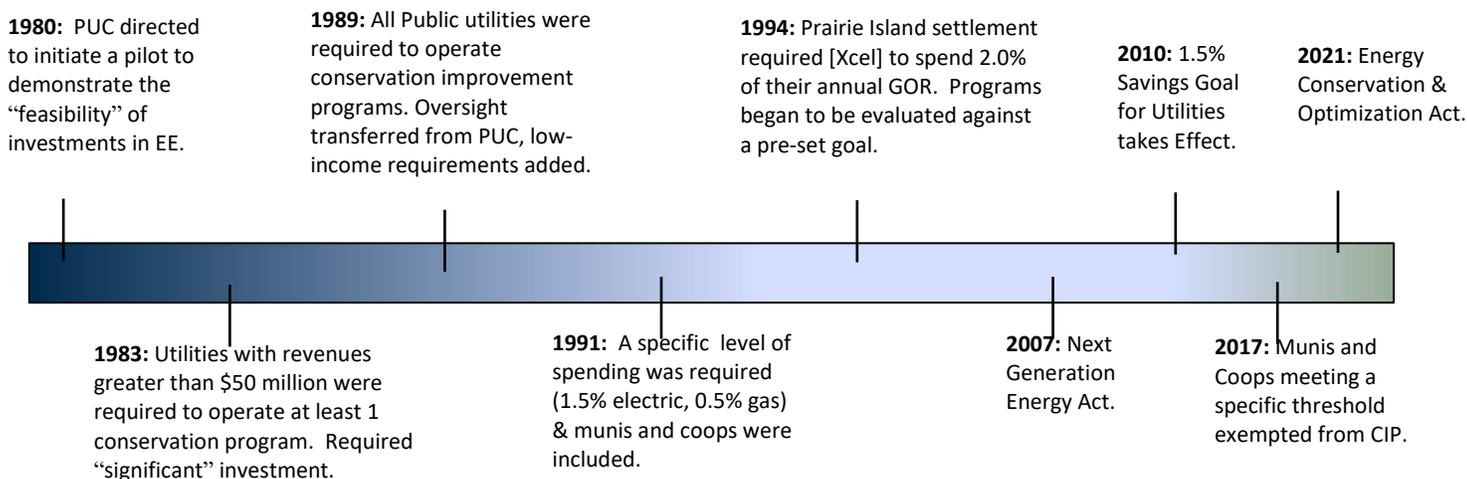
² As defined in Minn. Stat. 216B.241 subd. 1 (g), “gross annual retail sales” exclude sales to CIP-exempt customers.

³ Minn. Stat. 216B.241 subd. 1c (d) allows the Commissioner to adjust to a public utility’s savings goal to a minimum of 1.0%.

⁴ [Minnesota Energy Conservation and Optimization Act of 2021](#)

management⁵ and efficient fuel switching programs⁶; raising the energy savings goals for the state’s electric investor owned utilities (IOUs);⁷ more than doubling the low-income spending requirement for all IOUs;⁸ providing greater planning flexibility for participating municipal and cooperative utilities (COUs);⁹ and including activities to improve energy efficiency for public schools.¹⁰ Minnesota’s EERS remains one of the most productive energy efficiency policies in the nation, helping utilities, residents and businesses optimize their energy usage.¹¹

Figure 1. Conservation Improvement Program History



Minnesota utilities operate a wide array of residential, commercial, and industrial CIPs that target retrofits as well as new construction projects. Each utility may tailor its portfolio of programs to meet the unique needs of its service territory. Traditionally, programs have offered prescriptive equipment-based incentives (e.g. replacing an incandescent light bulb with an LED lamp). More advanced programs are using building-centric or systems approaches to incentivize customers to implement bundles of efficiency measures or achieve a certain energy performance levels beyond code (e.g. recommissioning an office building or school). Many utilities also offer robust industrial efficiency programs that strive to help manufacturers increase the energy efficiency of their operations and better compete in markets.

The following sections of this report highlight the CO₂ reductions and energy savings that utilities achieved in 2018 and 2019. Commerce also recognizes the positive economic impacts that utility-run CIP portfolios bring to Minnesota in terms of energy bill savings, job creation, and utility scale benefits.

⁵ See Minn. Stat. § 216B.241, subd. 13.

⁶ See Minn. Stat. § 216B.2403, subd. 8.

⁷ Minn. Stat. § 216B.241, subd. 1c(b).

⁸ Minn. Stat. § 216B.241, subd. 7(a).

⁹ Minn. Stat. § 216B.2403, subd. 3.

¹⁰ See Minn. Stat. §§ 216B.2403, subd 3(j) and 216B.241, subd. 2(i).

¹¹ The new ECO Act requirements are not applicable to the 2018-2019 CIP results presented in this current report. The new requirements will first apply to the utilities’ 2022 CIP results.

2018 and 2019 CIP Performance

Energy Savings and Spending

In terms of total energy saved, 2019 was another successful year for energy conservation programs. Minnesota’s natural gas savings percentage was the fifth highest in the nation, and electric utilities achieved the twelfth highest energy savings percentage nationally (ACEEE 2020).

As shown in Figure 2 and Figure 3, electric and natural gas savings for 2018 and 2019 totaled 2,069 gigawatt-hours (GWh) and 6.9 billion cubic feet (bcf), respectively. Combined, these energy savings are equivalent to around 13.9 trillion-BTUs of energy. This is enough energy to heat, cool and power more than 146,000 homes for a year (EIA 2018) or roughly the combined number of homes in Saint Paul and Duluth (Census 2020).

Figure 2. Conservation Improvement Program Electric Results 2010-2019 (energy savings achievements as percentage of utility sales above green bars)

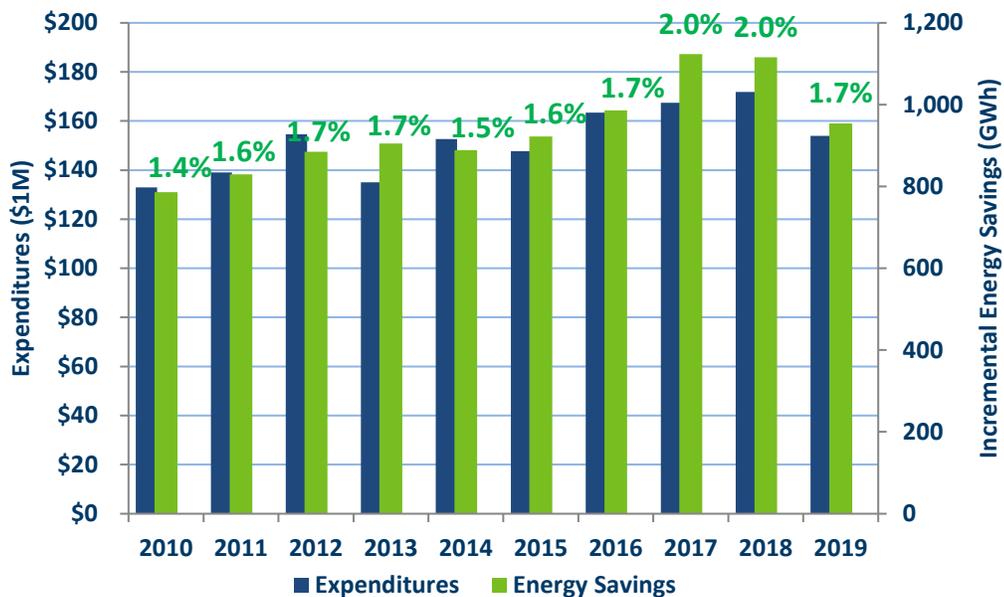


Figure 3. Conservation Improvement Program Natural Gas Results 2010-2019 (energy savings achievements as percentage of utility sales above green bars)

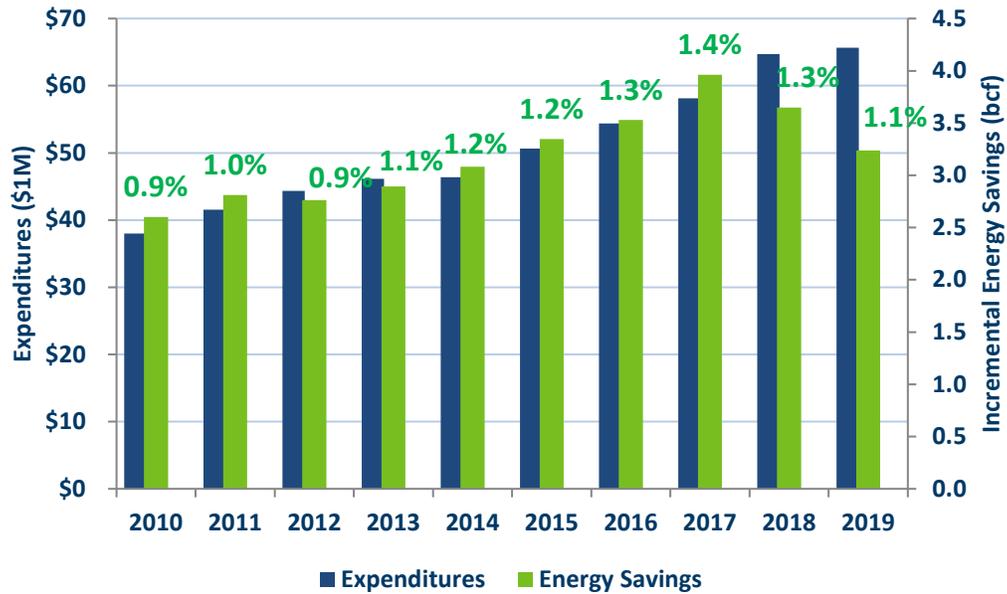
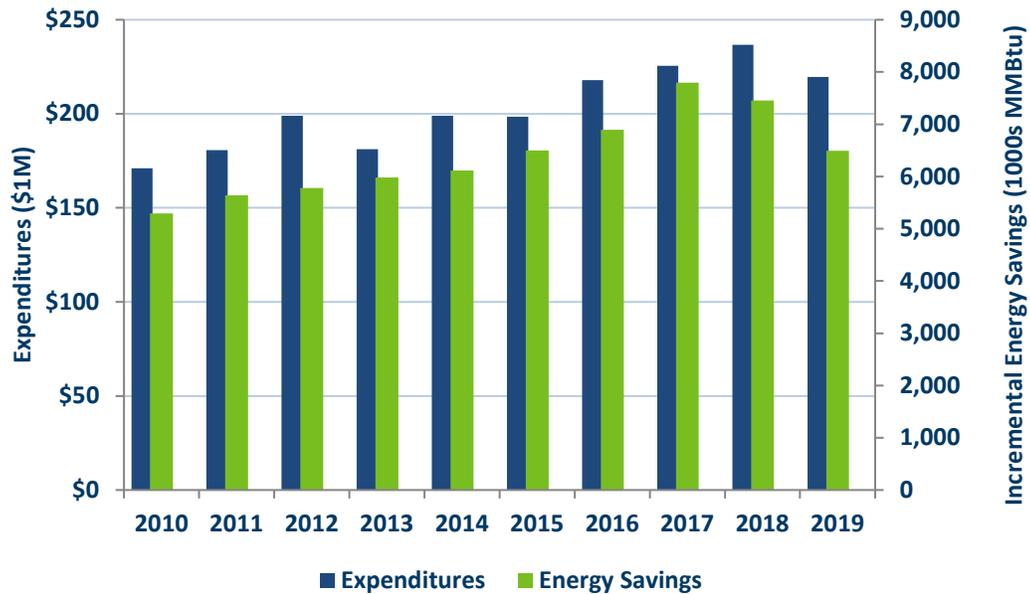


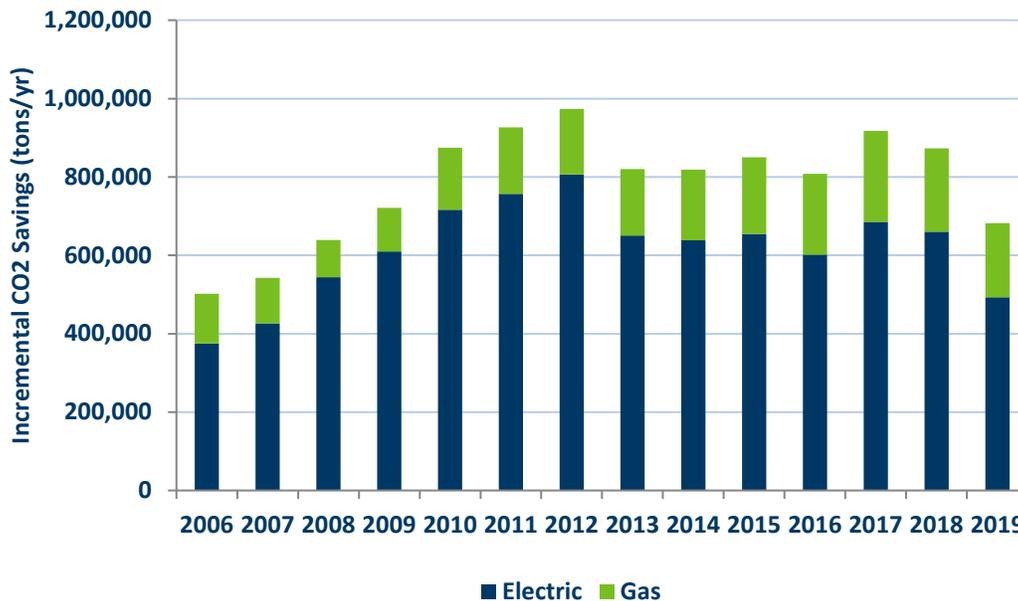
Figure 4. Aggregate Conservation Improvement Program Performance 2010-2019



Avoided CO₂ Emissions

The Next Generation Energy Act of 2007 established Minnesota’s goals for reducing greenhouse gas emissions. CIP utility portfolios achieved 1.55 million tons of avoided CO₂ emissions in 2018-2019 (EPA 2021a and EIA 2021c). These savings equate to removing more than 306,000 vehicles from the road (EPA 2021b) or about six percent of the state’s registered vehicles (MN Department of Public Safety 2020).

Figure 5. Total CO₂ Savings 2006-2019¹²



The Conservation Improvement Program as an Energy Resource

One of the primary purposes of CIP is to serve as a low-cost resource for meeting future energy needs. Minnesota treats demand-side management (DSM) programs as a resource alongside supply-side resources in utility integrated resource plans. Programs to address the demand-side are composed primarily of energy conservation activities, while supply-side resources primarily consist of fossil-fueled, nuclear, and renewable generation. Integrated resource plans (as approved by the Minnesota Public Utilities Commission) attempt to determine the mixture of resources over the next 15 years that will meet the needs of an electric utility’s customers in a reliable and low-cost manner.¹³ Utilities often select high levels of DSM to meet their needs because they are a lower-cost resource than supply-side

¹²While the method for calculating CIP’s CO₂ emission savings has not changed, the electric CO₂ emissions rate has declined over time. This is due in part to an increase in electricity generation from renewable energy and a decrease in electricity generated by coal-fired power plants. As CO₂ emitting fuel sources continue to decline in use, so too will the emissions factor used to calculate CO₂ reductions from CIP.

¹³ Minn. Stat. 216B.2422.

options. Procurement of efficiency as a preferred resource, and primarily through cost-effective CIP investments, is a long-standing policy in Minnesota.¹⁴ It requires a lower upfront investment than new power generation facilities, reduces total energy demand, and delays the need for new power generation in Minnesota. Figure 6 compares the average levelized costs of CIP and other supply-side energy resources, highlighting CIP's cost-effectiveness compared to other options for meeting customer energy requirements.

Figure 6. Levelized Average Cost Comparison of Conservation Improvement Program to Various Electricity Generation Options (MN Department of Commerce 2021 and EIA 2020a)

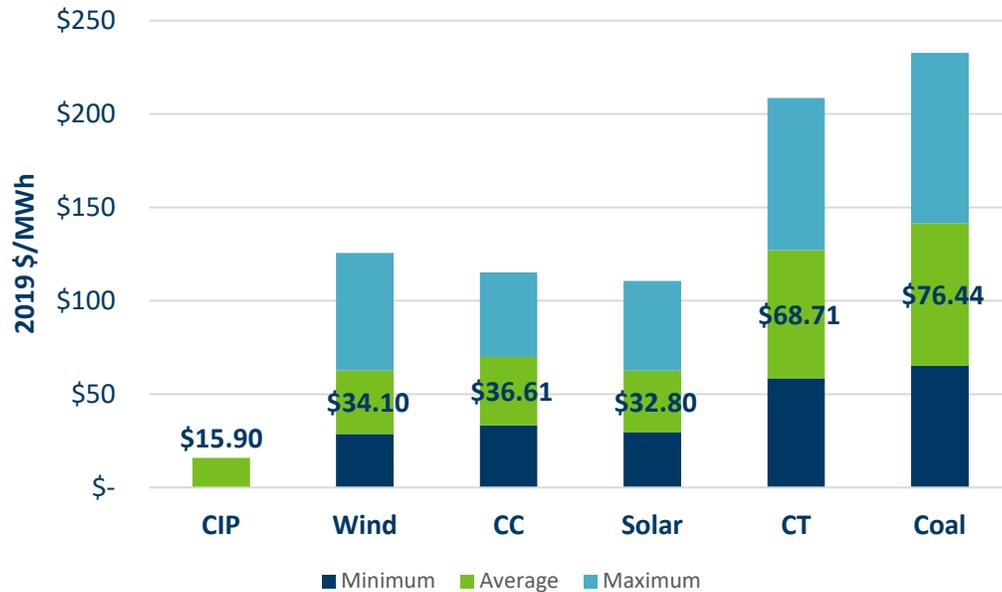


Figure Key

CIP = Levelized average cost of CIP (2017-2019)
Wind = Utility-scale onshore wind energy plant
CC = Natural gas-fired combined cycle plant

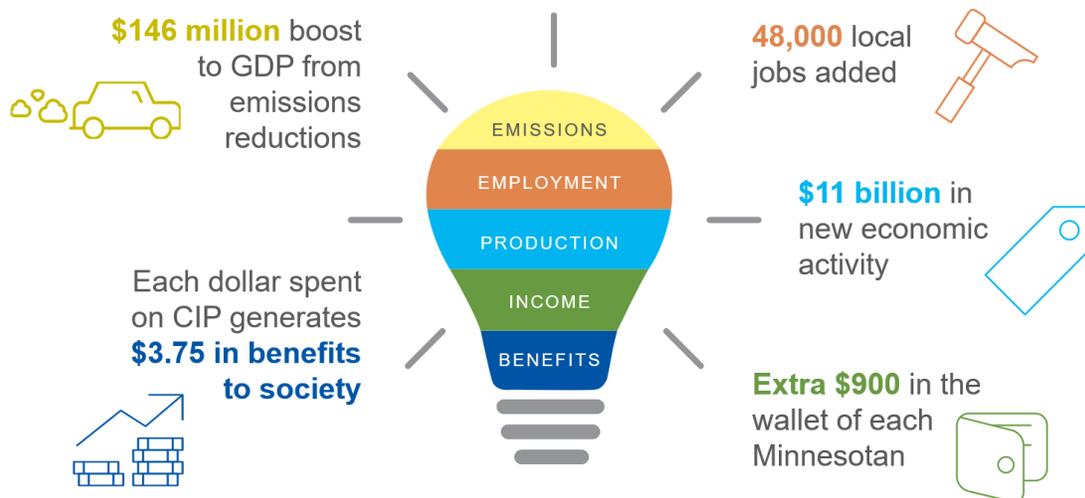
Solar = Utility-scale solar energy plant
CT = Natural gas-fired combustion turbine
Coal = Ultra-supercritical coal plant

¹⁴ <https://www.revisor.mn.gov/statutes/cite/216B.2401>

Consumer and Business Benefits

CIP brings positive economic and societal benefits to Minnesota. An independent 2020 study estimated the net economic impacts of CIP investments made from 2013-2018. The study found that **each dollar spent on CIP generates \$3.75 in benefits to society (Cadmus 2020)**. As summarized in Figure 7, each year of CIP investment generates numerous immediate and persistent positive economic impacts to customer energy bill savings, job growth, and environmental benefits.

Figure 7. Net Impacts of 2013-2018 Conservation Improvement Program Investments (Cadmus 2020)

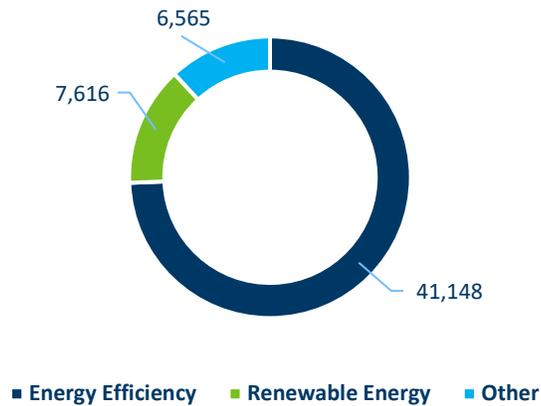


CIP also saved Minnesota’s businesses and residents over \$258 million in energy costs in 2018-2019 (EIA 2021a and EIA 2020b). These savings are a major benefit that CIP provides to both households and businesses of all sizes across the state. Consumers can use these savings to both improve their financial stability and support businesses in Minnesota. Businesses can use the savings to bolster their budgets and continue investing in improvements to the products and services they offer customers.

The Conservation Improvement Program & Minnesota’s Economy

Every county in Minnesota benefits from the jobs both created and retained in the energy efficiency sector. An analysis by Clean Energy Trust found that Minnesota had over 41,000 jobs in the energy efficiency field in 2020, which represents the largest sector for Minnesota’s clean energy employment (Clean Energy Trust 2021). This estimate represents a decline from the over 47,000 energy efficiency jobs that Clean Energy Trust estimated for 2019. The decline is mostly due to the significant impact that the COVID-19 pandemic has had on society, including a large disruption in program services in the energy efficiency industry. Nevertheless, the Clean Energy Trust report found that “the second half of the year showed significant recovery and strong promise for the future.” CIP projects employ different trades throughout this sector, including HVAC, engineering, lighting, design and construction. CIP spending and investments help expand and protect these Minnesota energy efficiency jobs.

Figure 8. Clean Energy Employment Sector Breakdown by Sector



Additional Reporting Metrics

This section highlights additional reporting requirements that Commerce is directed to include as part of this annual report. Many of these are new reporting metrics that were introduced as part of the 2021 ECO Act. As such, data to estimate some of these metrics is not yet available and/or not applicable to the 2018-2019 CIP years covered in this report. However, even where data is not yet available to provide estimates for all the metrics, Commerce has attempted to draft methodology descriptions for how these metrics may be estimated in future annual reports.

Annual Capacity Savings

Statutory Language

“On an annual basis, the commissioner shall produce and make publicly available a report on the annual energy and capacity savings and estimated carbon dioxide reductions achieved . . .” Minn. Stat. §216B.241 subd. 1c(f).

Methodology Description

The “2018 and 2019 CIP Performance” section of this report provides estimates of annual CIP energy savings and CO₂ reductions. The ECO Act now requires that Commerce report annual capacity savings as well.

As part of their annual CIP status reports, utilities report actual energy and demand savings achievements for each program operated during the previous calendar year. Commerce totaled the utility-reported kilowatts saved at the generator for 2018 and 2019 for all utilities that are subject to the CIP statutory requirements. The 2018 and 2019 total kW savings figures do not include kilowatt savings from CIP exempt utilities.

Results

- 2018 Capacity Savings (kW Saved at the Generator) = 325,865

- 2019 Capacity Savings (kW Saved at the Generator) = 288,306

Annual Energy Sales or Generation Capacity Increases Resulting from Efficient Fuel-Switching Improvements

Statutory Language

“The report must also include information regarding any annual energy sales or generation capacity increases resulting from efficient fuel-switching improvements.” Minn. Stat. §216B.241 subd. 1c(f).

Methodology Description

The ECO Act requires that this report provide estimates of increases in energy sales or capacity related to fuel-switching improvements. It is generally assumed that the energy sales increases and capacity additions will be electric, due to the likely predominance of natural gas and delivered fuel switches to electric end uses. The result of these switches is a reduction in natural gas and delivered fuels use and an increase in electricity use. To facilitate production of electricity to meet increased customer demand, utilities may need to add generating capacity.

Future reports will provide information about increased electricity sales and additions to peak demand as a result of efficient fuel-switching programs and attempt to connect these changes with additions to utility generating capacity.

Results

There are not yet any results from efficient fuel-switching improvements and Commerce will be issuing technical guidance for utility efficient-fuel switching programs in early 2022. It is anticipated that first results will be reported in the January 2025 version of this report (which will summarize CIP program year 2021-2022 results).

Estimate of Progress Made Toward the 2.5% Statewide Energy-Savings Goal

Statutory Language

Minn. Stat. §216B.2401, Sec. 2(c):

“The commissioner must provide a reasonable estimate of progress made toward the statewide energy-savings goal under paragraph (a) in the annual report required under section 216B.241, subdivision 1c, . . .”.

Minn. Stat. §216B.2401(a):

Therefore, it is the energy policy of the state of Minnesota to achieve annual energy savings equivalent to at least 2.5 percent of annual retail energy sales of electricity and natural gas through multiple measures, including but not limited to:

- (1) cost-effective energy conservation improvement programs and efficient fuel switching utility programs under sections 216B.2402 to 216B.241;
- (2) rate design;
- (3) energy efficiency achieved by energy consumers without direct utility involvement;
- (4) advancements in statewide energy codes and cost-effective appliance and equipment standards;
- (5) programs designed to transform the market or change consumer behavior;
- (6) energy savings resulting from efficiency improvements to the utility infrastructure and system; and
- (7) other efforts to promote energy efficiency and energy conservation.

Methodology Description

The ECO Act increases the statewide energy savings goal to 2.5% of annual retail electricity and natural gas sales and requires that Commerce provide a reasonable estimate of the state's progress toward achieving this statewide goal. The following discussion describes the methods by which reductions in electricity and natural gas sales could be estimated based on the categories in Minn. Stat. §216B.2401(a).

Categories 1, 5 (partial), and 6

- Cost-effective energy conservation improvement programs and efficient fuel-switching utility programs, programs designed to transform the market (see Category 5 below) or change consumer behavior, and energy savings resulting from efficiency improvements to the utility infrastructure system are provided in investor-owned utility and consumer-owned utility annual CIP status reports.

Category 2: Rate Design

- Rate design is another available method for achieving energy savings. However, the primary function of rate design is not to promote energy savings. Rather, utilities design rates to recover their costs in a fair and equitable manner from different customer classes and, more generally, aim to provide customers accurate price signals as an incentive to make efficient and equitable use of energy resources. A review of current utility rate design descriptions and filings indicates that no utilities have designed rates to achieve energy savings. Therefore, it was not possible to directly estimate savings related to rate design as part of this report.

Category 3: Energy Efficiency Achieved by Energy Consumers Without Direct Utility Involvement

- Energy efficiency achieved without direct utility involvement refers to activities energy consumers in Minnesota have taken without participating in CIP. In addition, some customers participating in CIPs received rebates but were considered "free riders" (meaning they would have taken the energy efficient action even without CIP influence). In Minnesota, free drivers (those who implement energy efficiency improvements as a result of CIP but did not participate in a utility's program) are assumed to cancel free riders. It is assumed for purposes of this report that energy savings from efficiency activities without direct utility involvement are small and not

easily estimated. We will continue to monitor in future reports the need to change this assumption.

Category 4: Advancements in Energy Codes and Appliance and Equipment Standards

- Energy savings from advancements in statewide energy codes and cost-effective appliance and equipment standards refers to energy savings from changes in the State's building energy codes and appliance and equipment standards that deviate from the current cycle and application of codes and standards. Minnesota currently has a six-year cycle to update its residential and commercial building codes (including energy-related aspects). The State does not have applicable appliance or equipment standards at this time. If the State moves to a shorter cycle for updating building codes, say every 3 years, the additional energy savings associated with this modified cycle could be counted towards the 2.5% statewide goal. In addition, utilities are considering CIP programs that could impact the adoption and application of codes and standards in the State, mainly by helping improve compliance, providing resources for education and enforcement, and by advocating for changes to specific codes and standards.¹⁵ If Minnesota changes its code cycle or adopts codes and standards programs with associated savings estimates, future reports will include these estimates.

Category 5: Programs Designed to Transform the Market or Change Consumer Behavior

- Energy savings from programs that transform the market or change consumer behavior can be estimated based on utility and non-utility programs that seek to transform the way customers use energy, and utility programs that seek to change consumer behavior. Minnesota utility programs aimed at market transformation are captured in reporting related to category 1 while non-utility programs are limited to regional and federal programs such as EPA's ENERGYSTAR[®] program. It is assumed, though, that utility CIPs incorporate into their program results savings related to ENERGYSTAR since many programs encourage customers to purchase ENERGYSTAR-designated measures. We will continue to monitor in future reports the need to change this assumption; for example, in the event Minnesota develops other market transformation programs. Minnesota utility programs that aim to change consumer behavior ("behavioral programs") are also incorporated into Category 1 results.

Category 7: Other Efforts to Promote Energy Efficiency and Energy Conservation

- Energy savings from other efforts to promote energy efficiency and energy conservation are assumed to be rather small and not readily countable for purposes of the 2.5% goal.

¹⁵ A number of recent Conservation Applied Research and Development (CARD) grant studies have studied the role that utility codes and standard programs can play in advancing Minnesota codes and standards. These studies include: Commercial Energy Code Compliance Enhancement Pilot (Contract #87858) and Minnesota Codes and Standards Program: Concept to Realization Roadmap (Contract #157674).

Results

Cost-effective energy conservation improvement programs and efficient fuel-switching utility programs, programs designed to transform the market or change consumer behavior and energy savings resulting from efficiency improvements to the utility infrastructure system are categories that directly relate to utility CIPs and are tracked by Commerce. Apart from yet to be implemented efficient fuel-switching programs, the contributions from these three categories toward the 2.5% statewide goal are reflected in this report’s CIP electric and natural gas achievements for 2018 and 2019 (see Table 2). It is anticipated that utility CIPs will continue to be the largest contributor to meeting the state’s energy savings goals, particularly as new programs emerge.

Table 2. Estimate of Progress Made Toward the Statewide 2.5% Energy-Savings Goal During 2019

Category Numbers	§216B.2401(a) Category Description	Savings Estimate			
		Electricity (GWh)	% of Sales	Natural Gas (Bcf)	% of Sales
1, 5, 6	Utility CIPs, Market transformation and behavioral programs, and Savings from Utility Infrastructure and System	954	1.75	3.24	1.13

For reasons described in the methodology description sub-section above, there are a number of categories that the ECO Act specifies can count towards achieving the statewide 2.5% goal that are not, as yet, fully quantifiable. As a result, Table 3 provides a qualitative assessment of the potential contribution (Small, Medium, Large, Uncertain) of each of the categories identified by §216B.2401(a). The table also includes references to possible future activities that may help drive increased energy savings from the respective categories.

Table 3. Qualitative Assessment of Each Category’s Potential Contribution Toward the Statewide 2.5% Energy-Savings Goal

Category Number	§216B.2401(a) Category Description	Magnitude of Potential Contribution Goal	Possible Future Activities
2	Rate Design	Uncertain	Rate designs that target energy savings
3	EE without Direct Utility Involvement	Small	Unknown
4	Advancements in Codes and Standards	Medium-Large	New codes and standards programs
7	Other Efforts to Promote EE and Conservation	Small	New non-utility initiatives

Energy Productivity of the State's Economy

Statutory Language

“The commissioner must also annually report on the energy productivity of the state's economy by estimating the ratio of economic output produced in the most recently completed calendar year to the primary energy inputs used in that year.” Minn. Stat. §216B.2401, Sec. 2(c).

Methodology Description

Results for this metric are derived from the U.S. Energy Information Administration’s (EIA) State Energy Data System (SEDS). SEDS has an energy consumption per real dollar of GDP estimation for all states. To better reflect the requirement outlined in Minn. Stat. §216B.2401, Sec. 2(c), the estimates provided in Table 4 are an inverse of those from SEDs. In other words, the results in Table 4 were calculated by placing energy use (presented in terms of Btus) in the denominator and real GDP in the numerator.

Results

A state-by-state comparison of results is presented in Table 4. Essentially, the higher the GDP/Btu estimate is, the higher the energy productivity of a state’s economy can be considered. By this metric, Minnesota ranked 25th out of 50 states plus the District of Columbia.¹⁶

¹⁶ The EIA table ranked states highest to lowest in terms of least to most productive. Table 3 shows rankings from most to least productive.

Table 4. Real Dollar of GDP per Thousand Btu of Energy Consumption, Ranked by State 2019 (EIA 2021b)

Rank	State	Dollar per Thousand BTU	Rank	State	Dollar per Thousand BTU
1	District of Columbia	0.74	27	Wisconsin	0.17
2	New York	0.39	28	Michigan	0.16
3	California	0.36	29	Missouri	0.16
4	Massachusetts	0.35	30	Maine	0.15
5	Connecticut	0.34	31	Tennessee	0.15
6	Rhode Island	0.28	32	Kansas	0.14
7	Maryland	0.28	33	New Mexico	0.13
8	Hawaii	0.27	34	Idaho	0.13
9	New Jersey	0.27	35	South Carolina	0.13
10	Washington	0.26	36	Nebraska	0.13
11	New Hampshire	0.24	37	Texas	0.12
12	Colorado	0.23	38	Indiana	0.12
13	Florida	0.22	39	South Dakota	0.12
14	Oregon	0.22	40	Oklahoma	0.12
15	Vermont	0.22	41	Kentucky	0.11
16	Delaware	0.22	42	Montana	0.11
17	Arizona	0.21	43	Arkansas	0.11
18	Virginia	0.20	44	Iowa	0.11
19	Nevada	0.20	45	Alabama	0.10
20	Utah	0.20	46	Mississippi	0.09
21	Illinois	0.20	47	West Virginia	0.09
22	North Carolina	0.19	48	Alaska	0.09
23	Pennsylvania	0.19	49	North Dakota	0.08
24	Georgia	0.18	50	Wyoming	0.07
25	Minnesota	0.18	51	Louisiana	0.06
26	Ohio	0.17			

Achievements from Programs Funded Through the Energy and Conservation Account

Statutory Language

“The commissioner must record and report expenditures and energy savings achieved as a result of energy conservation programs for low-income households funded through the energy and conservation account in the report required under section 216B.241, subdivision 1c, paragraph (f).” Minn. Stat. §216B.2403, Sec. 4, Subd. 5(c).

Methodology Description

To help meet their CIP low-income spending requirements, utilities may contribute low-income energy conservation improvement money toward an energy and conservation account, which would be administered by Commerce to establish and fund low-income energy conservation programs.

Results

Currently, no utilities have opted to contribute funds to the energy and conservation account, so there are no results to provide in this report.

Recommendations for Administrative or Legislative Initiatives

Statutory Language

“[I]n the annual report required under section 216B.241, subdivision 1c, [the Commissioner must] make recommendations for administrative or legislative initiatives to increase energy savings toward [the statewide energy savings goal].” Minn. Stat. §216B.2401, Sec. 2(c).

Recommendations

Recommendations will be developed and provided in the next version of this annual report. At the time of writing, technical guidance concerning several elements of the ECO legislation is still being developed. Once the technical guidance has been completed, the Department will be better able to assess opportunities to increase statewide energy savings.

CIP Savings and Expenditures ^{17 18}

Electric CIP Performance 2018 - 2019

Table 5. 2018 Electric CIP Performance

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Investor-Owned Utilities					
Minnesota Power	72,479,534	2.64%	42,872	\$9,031,446	5.56%
Otter Tail Power	73,255,915	4.21%	43,331	\$9,027,762	5.89%
Xcel Energy	680,448,447	2.37%	402,485	\$107,451,885	3.77%
Totals - Investor-Owned Utilities	826,183,896	2.48%	488,688	\$125,511,093	3.96%
Cooperative CIP Aggregators - CIP Statute					
Dairyland Power Coop	19,412,976	1.68%	11,483	\$2,452,776	1.80%
Great River Energy (All-Rqmts Members)	95,197,052	1.06%	56,309	\$19,939,328	1.94%
Great River Energy (Fixed Members)	23,324,562	0.79%	13,796	\$4,015,371	1.43%
Minnkota Power Coop/NMPA	20,031,079	1.72%	11,848	\$2,318,657	1.86%
Totals - Coop CIP Aggregators - CIP Statute	157,965,667	1.11%	93,437	\$28,726,132	1.83%
Cooperative CIP Aggregators – Voluntary					
Great River Energy (All-Rqmts Members)	1,572,816	0.49%	930	\$571,721	1.54%
Great River Energy (Fixed Members)	1,291,404	0.56%	764	\$334,165	1.62%
Minnkota Power Coop/NMPA	1,507,411	1.57%	892	\$121,249	1.16%
Totals - Coop CIP Aggregators - Voluntary	4,371,631	0.67%	2,586	\$1,027,135	1.50%

¹⁷ For the tables in this section the following definitions apply: “Incremental energy savings” means first-year, annualized energy savings from newly installed measures, including avoided line losses for electric utilities. Includes savings from conservation improvements and electric utility infrastructure projects.

“Energy Savings %” means energy savings from conservation improvements and electric utility infrastructure projects as a percent of annual retail sales, excluding sales to CIP-exempt customers. “Incremental CO2 Savings” means first-year, annualized carbon dioxide savings resulting from newly installed conservation improvements and electric utility infrastructure projects. “Expenditures” includes expenditures on conservation improvements only (excludes electric utility infrastructure projects.) “Expenditures %” means conservation improvement expenditures as a percent of gross operating revenues from service provided in the state, excluding sales to CIP-exempt customers. (Excludes spending on electric utility infrastructure projects.)

All 2018 data was derived from Reporting_{ESP} as of November 2020. All 2019 data was derived from Reporting_{ESP} as of September 2021.

¹⁸ Note: Minnesota Session Law Chapter 94, Article 10, Section 10-12 amending § 216B.241 was signed into law May 30, 2017. Contained in this law was a provision modifying § 216B.241 to establish exempt status to municipalities that provide electric service to 1,000 retail customers or less and to cooperative electric associations that provide retail service to 5,000 members or less. These modifications took effect May 31, 2017. As a result of these modifications, a number of munis and coops are now exempt from § 216B.241 (see Appendix C for list of exempt utilities), but some voluntarily continued to offer conservation programs and report their results and plans through the CIP reporting process (these are distinguished in the tables as “Voluntary”).

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Municipal CIP Aggregators - CIP Statute					
CMMPA	3,512,927	1.28%	2,078	\$325,418	1.12%
MMPA	5,792,460	1.81%	3,426	\$534,753	1.50%
MRES	26,082,868	1.14%	15,428	\$4,069,527	2.06%
SMMPA	13,786,545	1.50%	8,155	\$2,935,995	3.14%
The Triad	39,741,048	2.09%	23,507	\$4,846,139	2.33%
Totals - Municipal CIP Aggregators - CIP Statute	88,915,848	1.56%	52,594	\$12,711,832	2.25%
Municipal CIP Aggregators – Voluntary					
CMMPA	99,600	0.86%	59	\$11,942	1.11%
MMPA	151,034	0.75%	89	\$33,082	1.53%
SMMPA	609,969	4.65%	361	\$143,274	9.92%
Totals - Municipal CIP Aggregators - Voluntary	860,603	1.92%	509	\$188,299	4.02%

Table 6. 2018 Electric CIP Performance (continued)

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Independent Municipals - CIP Statute					
Aitkin Public Utilities	744,482	2.10%	440	\$57,238	1.56%
Anoka, City of	2,368,407	0.86%	1,401	\$383,794	1.39%
Brainerd Public Utilities	3,034,157	1.67%	1,795	\$207,286	1.14%
Chaska, City of	6,743,974	1.92%	3,989	\$578,488	1.51%
Delano Municipal Utilities	1,773,533	3.10%	1,049	\$86,716	1.50%
East Grand Forks Water & Light Dept.	3,445,992	2.17%	2,038	\$326,660	2.34%
Ely, City of	578,804	1.56%	342	\$68,825	2.06%
Glencoe Light & Power Commission	1,383,629	1.86%	818	\$128,969	1.59%
Grand Rapids Public Utilities Commission	1,672,625	1.02%	989	\$269,450	1.86%
Hibbing Public Utilities Commission	1,696,998	1.39%	1,004	\$106,788	0.79%
Hutchinson Utilities Commission	4,430,161	1.55%	2,620	\$371,437	1.50%
Madelia Municipal Light & Power	314,910	1.15%	186	\$72,346	1.80%
Mountain Iron Water & Light Dept	528,228	2.23%	312	\$40,512	1.64%
New Ulm Public Utilities	1,528,076	0.80%	904	\$278,568	1.26%
Proctor Public Utilities	386,087	1.55%	228	\$32,596	1.56%
Shakopee Public Utilities	7,370,694	2.33%	4,360	\$1,059,777	2.38%
St. Charles Light & Water	543,762	2.53%	322	\$79,956	2.84%
Two Harbors, City of	526,187	1.92%	311	\$56,465	1.51%
Virginia Dept. of Public Utilities	1,842,869	1.61%	1,090	\$205,795	1.59%

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Willmar Municipal Utilities	1,765,563	0.62%	1,044	\$541,034	1.85%
Totals - Independent Municipals - CIP Statute	42,679,139	1.54%	25,245	\$4,952,700	1.67%
Independent Municipals - Voluntary					
Lake Crystal Municipal Utilities	132,940	0.83%	79	\$20,981	0.78%
Nashwauk Public Utilities	224,580	1.60%	133	\$25,487	3.91%
Warroad Municipal Light & Power	692,085	1.26%	409	\$71,329	1.81%
Totals - Independent Municipals - Voluntary	1,049,606	1.23%	621	\$117,797	1.62%
TOTALS - COOPS & MUNICIPALS - CIP STATUTE	289,560,655	1.28%	171,275	\$46,390,664	1.91%
TOTALS - ELECTRIC UTILITIES - CIP STATUTE	1,115,744,551	1.99%	659,963	\$171,901,757	3.07%

Table 7. 2019 Electric CIP Performance

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Investor-Owned Utilities					
Minnesota Power	67,669,222	2.46%	34,985	\$8,280,774	5.09%
Otter Tail Power	69,248,477	3.98%	35,801	\$9,116,722	5.95%
Xcel Energy	528,899,459	1.84%	273,441	\$92,816,075	3.26%
Totals - Investor-Owned Utilities	665,817,158	2.00%	344,227	\$110,213,571	3.48%
Cooperative CIP Aggregators - CIP Statute					
Dairyland Power Coop	19,755,580	1.87%	10,214	\$2,339,924	1.83%
Great River Energy (All-Rqmts Members)	97,644,287	1.20%	50,482	\$17,910,084	1.85%
Great River Energy (Fixed Members)	19,782,144	0.75%	10,227	\$3,919,211	1.37%
Minnkota Power Coop/NMPA	16,320,313	1.45%	8,438	\$2,565,332	1.88%
Totals - Coop CIP Aggregators - CIP Statute	153,502,323	1.18%	79,361	\$26,734,551	1.76%
Cooperative CIP Aggregators – Voluntary					
Great River Energy (All-Rqmts Members)	2,722,804	0.50%	1,408	\$685,124	1.56%
Great River Energy (Fixed Members)	1,211,540	0.43%	626	\$380,435	1.28%
Minnkota Power Coop/NMPA	1,039,027	1.09%	537	\$71,361	0.63%
Totals - Coop CIP Aggregators - Voluntary	4,973,372	0.54%	2,571	\$1,136,920	1.34%
Municipal CIP Aggregators - CIP Statute					
CMMPA	2,335,759	0.85%	1,208	\$361,621	1.23%
MMPA	4,416,687	1.39%	2,283	\$553,768	1.54%
MRES	25,759,640	1.21%	13,318	\$4,117,399	2.09%
SMMPA	20,944,986	2.30%	10,829	\$3,128,326	3.31%
The Triad	35,031,104	1.84%	18,111	\$4,640,332	2.14%
Totals - Municipal CIP Aggregators - CIP Statute	88,488,176	1.60%	45,748	\$12,801,445	2.23%

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Municipal CIP Aggregators – Voluntary					
CMMPA	341,052	2.78%	176	\$23,498	2.43%
MMPA	128,038	0.66%	66	\$32,262	1.46%
SMMPA	777,745	6.05%	402	\$130,077	8.99%
Totals - Municipal CIP Aggregators - Voluntary	1,246,835	2.80%	645	\$185,837	4.02%

Table 8. 2019 Electric CIP Performance (continued)

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Independent Municipals - CIP Statute					
Aitkin Public Utilities	694,866	1.97%	359	\$49,630	1.35%
Anoka, City of	5,191,549	1.90%	2,684	\$490,048	1.78%
Brainerd Public Utilities	2,913,624	1.62%	1,506	\$248,950	1.28%
Chaska, City of	7,480,095	2.11%	3,867	\$576,495	1.50%
Delano Municipal Utilities	588,015	1.01%	304	\$45,957	0.80%
East Grand Forks Water & Light Dept.	2,719,472	1.73%	1,406	\$258,168	1.83%
Elk River Municipal Utilities	3,199,352	1.07%	1,654	\$443,790	1.26%
Ely, City of	538,303	1.51%	278	\$56,249	1.65%
Glencoe Light & Power Commission	1,585,241	2.08%	820	\$124,007	1.53%
Grand Rapids Public Utilities Commission	2,132,595	1.32%	1,103	\$223,524	1.50%
Hibbing Public Utilities Commission	2,071,416	1.78%	1,071	\$128,484	1.17%
Hutchinson Utilities Commission	4,670,729	1.64%	2,415	\$228,479	0.91%
Madelia Municipal Light & Power	599,294	2.15%	310	\$92,854	2.16%
Mountain Iron Water & Light Dept	399,539	1.70%	207	\$25,140	1.03%
New Ulm Public Utilities	1,611,094	0.96%	833	\$206,438	0.94%
Proctor Public Utilities	409,469	1.67%	212	\$34,227	1.63%
Shakopee Public Utilities	6,612,874	2.03%	3,419	\$695,646	1.53%
St. Charles Light & Water	386,250	1.79%	200	\$76,656	2.72%
Two Harbors, City of	439,896	1.57%	227	\$57,911	1.33%
Virginia Dept. of Public Utilities	1,908,251	1.71%	987	\$184,815	1.33%
Totals - Independent Municipals - CIP Statute	46,151,925	1.67%	23,861	\$4,247,466	1.40%
Independent Municipals - Voluntary					
Lake Crystal Municipal Utilities	300,821	1.90%	156	\$46,818	1.73%
Nashwauk Public Utilities	114,567	0.79%	59	\$19,705	0.50%
Warroad Municipal Light & Power	5,593	0.01%	3	\$26,285	0.66%
Totals - Independent Municipals - Voluntary	420,982	0.50%	218	\$92,808	0.87%

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
TOTALS - COOPS & MUNICIPALS - CIP STATUTE	288,142,424	1.36%	148,970	\$43,783,462	1.83%
TOTALS - ELECTRIC UTILITIES - CIP STATUTE	953,959,582	1.75%	493,197	\$153,997,033	2.77%

Gas CIP Performance 2018 – 2019

Table 9. 2018 Natural Gas CIP Performance

Organization	Incremental Energy Savings (Dth/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Investor-Owned Utilities					
CenterPoint Energy	1,980,534	1.40%	115,861	\$34,888,321	4.27%
Great Plains Natural Gas	36,083	0.64%	2,111	\$566,621	2.34%
Greater Minnesota Gas	12,137	1.18%	710	\$204,213	2.16%
Minnesota Energy Resources Corp	509,758	0.97%	29,821	\$11,777,436	4.84%
Xcel Energy	913,240	1.27%	53,425	\$15,506,839	3.56%
Totals - Investor-Owned Utilities	3,451,752	1.27%	201,927	\$62,943,430	4.11%
Municipal Aggregator					
The Triad	101,121	2.34%	5,916	\$676,637	2.43%
Independent Municipals					
Duluth Public Works & Utilities	34,245	0.66%	2,003	\$807,204	2.59%
Hutchinson Utilities Commission	23,610	1.54%	1,381	\$140,510	1.44%
New Ulm Public Utilities	6,081	0.66%	356	\$91,404	1.54%
Perham Natural Gas	30,286	2.30%	1,772	\$57,729	1.00%
Totals - Independent Municipals	94,222	1.05%	5,512	\$1,096,848	2.08%
TOTALS - MUNICIPALS - CIP STATUTE	195,343	1.47%	11,428	\$1,773,485	2.20%
TOTALS - GAS UTILITIES - CIP STATUTE	3,647,095	1.28%	213,355	\$64,716,915	4.02%

Table 10. 2019 Natural Gas CIP Performance

Organization	Incremental Energy Savings (Dth/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Investor-Owned Utilities					
CenterPoint Energy	2,020,149	1.43%	117,825	\$37,252,502	4.56%
Great Plains Natural Gas	13,175	0.23%	768	\$499,310	2.06%
Greater Minnesota Gas	12,809	1.25%	747	\$245,781	2.60%
Minnesota Energy Resources Corp	468,544	0.89%	27,328	\$12,115,461	4.98%
Xcel Energy	584,761	0.81%	34,106	\$13,929,520	3.19%
Totals - Investor-Owned Utilities	3,099,438	1.14%	180,775	\$64,042,574	4.18%
Municipal Aggregator					
The Triad	78,396	1.89%	4,572	\$441,492	1.50%
Independent Municipals					
Duluth Public Works & Utilities	33,992	0.66%	1,983	\$892,463	2.48%
Hutchinson Utilities Commission	9,743	0.65%	568	\$138,095	1.28%
New Ulm Public Utilities	4,415	0.50%	258	\$107,715	1.63%
Perham Natural Gas	11,881	0.92%	693	\$53,495	0.89%
Totals - Independent Municipals	60,031	0.68%	3,501	\$1,191,768	2.00%
TOTALS - MUNICIPALS - CIP STATUTE	138,427	1.07%	8,074	\$1,633,260	1.84%
TOTALS - GAS UTILITIES - CIP STATUTE	3,237,865	1.13%	188,848	\$65,675,834	4.06%

References and Methodology Notes

ACEEE (American Council for an Energy-Efficient Economy). 2020. 2020 State Energy Efficiency Scorecard.

<https://www.aceee.org/sites/default/files/pdfs/u2011.pdf>

Cadmus. 2020. Economic Impacts of the 2013-2018 Conservation Improvement Program.

<https://www.cards.commerce.state.mn.us/CARDS/security/search.do?documentId=%7bB6869C0A-433B-4976-B57D-E0EA57CC84B6%7d>

Census (U.S. Census Bureau). 2020. 2019 American Community Survey 1-Year Estimates.

<https://www.census.gov/programs-surveys/acs>

Methodology Notes: According to the U.S. Census Bureau's 2019 American Community Survey Estimates, Saint Paul has 121,626 housing units and Duluth has 39,535 housing units

Clean Energy Trust. 2021. Clean Jobs Midwest 2021: Minnesota Fact Sheet.

https://www.cleanjobsmidwest.com/wp-content/uploads/2021/08/E2-State-Report_Minnesota-1-1.pdf

EIA (Energy Information Administration). 2018. 2015 Residential Energy Consumption Survey.

<https://www.eia.gov/consumption/residential/data/2015/c&e/pdf/ce3.3.pdf>

Methodology Notes: Used an average total annual energy consumption per home of 95.2 MMBtu for Very cold/Cold Climate Region from Table CE3.3.

EIA. 2020a. Levelized Cost and Levelized Avoided Cost of New Generation Resources.

https://www.eia.gov/outlooks/archive/aeo20/pdf/electricity_generation.pdf

EIA. 2020b. Minnesota Electricity Profile.

<https://www.eia.gov/electricity/state/minnesota/index.php>

Methodology Notes: Used a 10.37 and 10.33-cent average for the price of electricity (kWh) in Minnesota during 2018 and 2019, respectively.

EIA. 2021a. Natural Gas Prices and Natural Gas Consumption by End Use.

https://www.eia.gov/dnav/ng/ng_pri_sum_dcu_SMN_a.htm

https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SMN_a.htm

Methodology Notes: A \$6.43 and \$6.50 price of natural gas (Dth) in Minnesota for 2018 and 2019 was derived by calculating a weighted average price of natural gas in the residential, commercial, and industrial sectors.

EIA. 2021b. 2019 State Energy Data System Report: State Energy Consumption Estimates 1960-2019.

<https://www.eia.gov/state/seds/archive/seds2019.pdf>

Methodology Notes: Table C10, Total Energy Consumption Estimates, Real Gross Domestic Product, Energy Consumption Estimates per Real Dollar of GDP, Ranked by State 2019

EIA. 2021c. How Much Carbon Dioxide is Produced When Different Fuels Are Burned?

<https://www.eia.gov/tools/faqs/faq.php?id=73&t=11>

Methodology Notes: Applied a gas CO2 emissions rate equal to 116.65 pounds of CO2/Dth for 2019. Applied a gas CO2 emissions rate equal to 117 pounds of CO2/Dth for years 2014-2018. Previous years used a rate of 121 pounds of CO2 per Dth of natural gas saved (2009-2013).

EPA (Environmental Protection Agency). 2021a. Emissions & Generation Resource Integrated Database.

<https://www.epa.gov/egrid>

Methodology Notes: Used an electric CO2 emissions rate of 1,034 pounds of CO2/MWh for 2019 and 1,183 pounds of CO2/MWh for 2018. Previous years utilize a rate of 1,220 pounds of CO2/MWh for 2017, 1,823 pounds of CO2 per MWh (2009-2012), 1,437/MWh (2013-2014), 1,419/MWh (2015), 1,220/MWh (2016) of electricity saved.

EPA. 2021b. Greenhouse Gas Equivalencies Calculator.

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

MN Department of Commerce. 2021. CIP Utility Reported Data.

MN Department of Public Safety. 2020. 2019 Crash Facts.

<https://dps.mn.gov/divisions/ots/reports-statistics/Documents/2019-crash-facts.pdf#:~:text=At%20the%20end%20of%20the%202019%20calendar%20year%2C,and%207%2C260%20people%20were%20injured%20in%20those%20crashes.>

Methodology Notes: Calculated using 2019 registered vehicles figure. Page 4 of report states that "At the end of the 2019 calendar year, 4,741,730 people held Minnesota driver licenses and 5,122,729 motor vehicles were registered in the state."

Appendices

Appendix A. Electric Aggregator Membership

Table 11. Electric Aggregator Membership

Group	Utility
CMMPA	Blue Earth Light & Water Dept
CMMPA	Fairfax Municipal
CMMPA	Granite Falls, City of
CMMPA	Janesville Municipal Utility
CMMPA	Kasson, City of
CMMPA	Mountain Lake Municipal Utilities
CMMPA	Sleepy Eye Public Utility
CMMPA	Springfield Public Utilities Comm
CMMPA	Windom Municipal Utilities
Dairyland	Freeborn-Mower Coop Svcs
Dairyland	MiEnergy Cooperative
Dairyland	Peoples Cooperative Service
GRE-all	Arrowhead Electric Coop, Inc
GRE-all	BENCO Electric Coop
GRE-all	Brown Co Rural Electrical Assn
GRE-all	Connexus Energy
GRE-all	Cooperative Light & Power
GRE-all	Dakota Electric Assn
GRE-all	East Central Energy
GRE-all	Goodhue County Coop Electric Assn
GRE-all	Great River Energy Co-ops - All-requirements
GRE-all	Itasca Mantrap Coop Electric Assn
GRE-all	Kandiyohi Power Coop
GRE-all	Lake Country Power
GRE-all	Lake Region Electric Coop
GRE-all	McLeod Coop Power Assn
GRE-all	Mille Lacs Electric Coop
GRE-all	Nobles Cooperative Electric
GRE-all	North Itasca Electric Coop
GRE-all	Runestone Electric Assn
GRE-all	Stearns Coop Electric Assn
GRE-all	Steele Waseca Coop Electric
GRE-all	Todd Wadena Electric Coop

GRE-fixed	Agralite Cooperative
GRE-fixed	Crow Wing Coop Power & Light, Inc.
GRE-fixed	Federated Rural Electric Assn
GRE-fixed	Great River Energy Co-ops - Fixed
GRE-fixed	Meeker Coop Light & Power Assn
GRE-fixed	Minnesota Valley Electric Coop
GRE-fixed	Redwood Electric Coop
GRE-fixed	Wright-Hennepin Coop Electric Assn
MMPA	Arlington, City of
MMPA	Brownton Municipal Light & Power
MMPA	Buffalo, City of
MMPA	Le Sueur Municipal Utilities
MMPA	Minnesota Municipal Power Agency
MMPA	North St Paul, City of
MMPA	Olivia, City of
MMPA	Winthrop, City of
Minnkota	Alvarado, City of
Minnkota	Bagley Public Utilities Commission
Minnkota	Baudette, City of
Minnkota	Beltrami Electric Coop, Inc.
Minnkota	Fosston Municipal Utilities
Minnkota	Hawley Public Utilities
Minnkota	Minnkota Power Coop/NMPA
Minnkota	North Star Electric Coop
Minnkota	Roseau Electric Coop
Minnkota	Roseau Municipal Water & Light
Minnkota	Thief River Falls Municipal Utility
Minnkota	Warren, City of
Minnkota	Wild Rice Electric Coop
MRES	Alexandria Light & Power
MRES	Barnesville Municipal Power
MRES	Benson Municipal Utilities
MRES	Breckenridge Public Utilities
MRES	Detroit Lakes Public Utility
MRES	Jackson, City of
MRES	Luverne, City of
MRES	Marshall Municipal Utilities
MRES	Melrose Public Utilities
MRES	Moorhead Public Service
MRES	Ortonville Light Department
MRES	Sauk Centre Public Utilities

MRES	St. James Municipal Light & Power
MRES	Staples, City of
MRES	Wadena Light & Water
MRES	Willmar Municipal Utilities
MRES	Worthington Public Utilities
SMMPA	Blooming Prairie Public Utilities
SMMPA	Fairmont Public Utilities
SMMPA	Grand Marais Public Utilities
SMMPA	Lake City Utility Board
SMMPA	Litchfield Public Utilities
SMMPA	Mora Municipal Utilities
SMMPA	New Prague Utilities Commission
SMMPA	North Branch Municipal Water & Light
SMMPA	Preston Public Utilities
SMMPA	Princeton Public Utilities
SMMPA	Redwood Falls Public Utilities
SMMPA	Spring Valley Public Utilities Comm
SMMPA	St. Peter Municipal Utilities
SMMPA	Waseca Utility
SMMPA	Wells Public Utilities
Triad	Austin Utilities
Triad	Owatonna Public Utilities
Triad	Rochester Public Utilities

Appendix B. Gas Aggregator Membership

Table 12. Gas Aggregator Membership

Group	Utility
Triad	Austin Utilities
Triad	Owatonna Public Utilities

Appendix C. 2019 Exempt and Voluntary Utilities

Table 13. 2019 Exempt and Voluntary Utilities

Group	Utility	Exempt	Voluntary
CMMPA	Fairfax Municipal	x	x
GRE-all	Arrowhead Electric Coop, Inc	x	x
GRE-all	Brown Co Rural Electrical Assn	x	x
GRE-all	Goodhue County Coop Electric Assn	x	x
GRE-all	North Itasca Electric Coop	x	x
GRE-fixed	Agralite Cooperative	x	x
GRE-fixed	Redwood Electric Coop	x	x
MMPA	Brownton Municipal Light & Power	x	x
MMPA	Winthrop, City of	x	x
Minnkota	Alvarado, City of	x	x
Minnkota	Bagley Public Utilities Commission	x	x
Minnkota	Baudette, City of	x	x
Minnkota	Fosston Municipal Utilities	x	x
Minnkota	Warren, City of	x	x
SMMPA	Preston Public Utilities	x	x
	Lake Crystal Municipal Utilities	x	x
	Nashwauk Public Utilities	x	x
	Warroad Municipal Light & Power	x	x
	Adrian Public Utilities	x	
	Alpha, City of	x	
	Bigelow, City of	x	
	Biwabik Public Utilities	x	
	Brewster Light & Power, City of	x	
	Buhl Public Utilities	x	
	Ceylon Public Utilities	x	
	Clearwater Polk Electric Coop	x	
	Dundee, City of	x	
	Dunnell, City of	x	
	Eitzen Light and Power	x	
	Elbow Lake Municipal Power	x	
	Gilbert Water & Light	x	
	Grove City Electric Dept	x	
	Halstad Municipal Utilities	x	
	Harmony, City of	x	
	Henning Electric Dept, City of	x	
	Kandiyohi, City of	x	

	Kasota, City of	x	
	Keewatin Public Utilities	x	
	Kenyon Municipal Utilities	x	
	Lake Park Public Utilities	x	
	Lakefield Municipal Utilities	x	
	Lanesboro Public Utility	x	
	Lyon-Lincoln Electric Coop, Inc.	x	
	Mabel, City of	x	
	Madison Municipal Utilities	x	
	Minnesota Valley Coop Light & Power Assoc	x	
	Moose Lake Water & Light Commission	x	
	NewFolden, City of	x	
	Nielsville, City of	x	
	Peterson Electric System, City of	x	
	Pierz Utilities	x	
	PKM Electric Coop, Inc	x	
	Randall Electric, City of	x	
	Red Lake Electric Coop	x	
	Red River Valley Coop Power Assn	x	
	Renville-Sibley Coop Power Assn	x	
	Round Lake, City of	x	
	Rushford, City of	x	
	Rushmore, City of	x	
	Shelly Municipal Light Dept	x	
	Sioux Valley Energy	x	
	South Central Electric Assn	x	
	Spring Grove, City of	x	
	Stephen Electric Dept	x	
	Traverse Electric Coop, Inc	x	
	Truman Public Utilities	x	
	Tyler, City of	x	
	Westbrook Public Utilities	x	
	Whalan, City of	x	

Appendix D. 2021 ECO Act Requirements

Tables 14, 15 and 16 include some of the key new statutory requirements that are included in the 2021 ECO Act.

Table 14. Municipal and Cooperative Utilities: Energy Savings Goal and Investments

Requirement	Metric	Citation
Energy Savings	<ul style="list-style-type: none"> 1.5% of average weather-normalized retail sales at the generator, less sales to CIP exempt customers 0.95% of goal must be met with energy conservation measures 0.55% of goal can be met with additional conservation measures, EUI measures, efficient fuel-switching, and CHP Utility can request reduction of minimum savings goal to as low as 0.95% 	Minn. Stat. § 216B.2403, Subd. 2
Total Spending (\$)	<ul style="list-style-type: none"> Until July 1, 2026, spending on fuel-switching improvements must not exceed 0.55% per year Minimum spending investments if utility falls short of minimum savings goal for three consecutive years 	Minn. Stat. § 216B.2403, Subd. 2(d)
Low-Income Spending (\$)	<ul style="list-style-type: none"> 0.2% of average residential gross operating revenue Up to 15% of LI spending may be spent on pre-weatherization measures Can contribute money to the Healthy AIR Account to provide pre-weatherization measures and count toward LI spend goal (up to 15%) 	Minn. Stat. § 216B.2403, Subd. 5

Table 15. Natural Gas IOUs: Energy Savings Goals and Investments

Requirement	Metric	Citation
Energy Savings (Dth)	<ul style="list-style-type: none"> 1.0% of average weather-normalized retail sales at the generator, less sales to exempt customers 1.0% of goal must be met with energy conservation measures 	Minn. Stat. §216B.241 subd. 1c(c) and subd. 1c(d)
Total Spending (\$)	<ul style="list-style-type: none"> Until July 1, 2026, spending on fuel-switching improvements must not exceed 0.35% per year 	Minn. Stat. §216B.241 subd. 1c(g)
Low-Income Spending (\$)	<ul style="list-style-type: none"> Beginning in 2022: 1.0% of residential gross operating revenue 	Minn. Stat. §216B.241 subd. 7(a)

Table 16. Electric IOUs: Energy Savings Goal and Investments

Requirement	Metric	Citation
Energy Savings (kWh)	<ul style="list-style-type: none"> • 1.75% of average weather-normalized retail sales at the generator, less sales to exempt customers • 1.0% of goal must be met with energy conservation measures • 0.75% of goal can be met with additional conservation measures, EUI measures, and CHP 	Minn. Stat. §216B.241 subd. 1c(b) and subd. 1c(d)
Total Spending (\$)	<ul style="list-style-type: none"> • Until July 1, 2026, spending on fuel-switching improvements must not exceed 0.35% per year 	Minn. Stat. §216B.241 subd. 1c(g)
Low-Income Spending (\$)	<ul style="list-style-type: none"> • <u>Beginning 2022</u>: 0.4% of residential gross operating revenue • <u>Beginning in 2024</u>: 0.6% of residential gross operating revenue 	Minn. Stat. §216B.241 subd. 7(a)