



**Minnesota Conservation
Improvement Program Energy
And
Carbon Dioxide Savings Report for
2012-2013**

**Prepared by Minnesota Department of Commerce
Division of Energy Resources**

Pursuant to Minnesota Statutes 216B.241, subd. 1c(g)

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Executive Summary

The Minnesota Department of Commerce, Division of Energy Resources (Commerce) submits this report in fulfillment of Minn. Statutes §216B.241, subd. 1c(g), which requires the Commissioner of Commerce to produce and make publicly available a report on the annual energy savings and estimated carbon dioxide reductions achieved by energy conservation improvement programs for the two most recent years for which data are available. This report includes data through program year 2012 and updates previously reported 2011 data.

Electric and natural gas energy savings impacts

The Minnesota Conservation Improvement Program (CIP) is a statewide program administered by electricity and natural gas utilities that help Minnesota households and businesses use electricity and natural gas more efficiently. In the process, CIP helps to conserve these important resources while reducing harmful emissions and the need for new utility infrastructure.

Recognizing these benefits, lawmakers passed the Next Generation Energy Act (NGEA) in 2007, which set a 1.5% Energy Efficiency Resource Standard (EERS) beginning in 2010 for electricity and natural gas utilities. Unless adjusted by the Commissioner of Commerce, each utility is required to develop a plan to achieve energy savings of 1.5% of gross annual retail sales¹ on annual basis. The NGEA also set a statewide annual savings goal of 1.5% of annual retail sales, which was modified in 2013 legislation to *at least* 1.5%.²

Overall electric and natural gas CIP expenditures and savings have grown significantly since 2006, the earliest year for which Commerce began reporting in its Annual Energy and Carbon Dioxide Savings Reports.

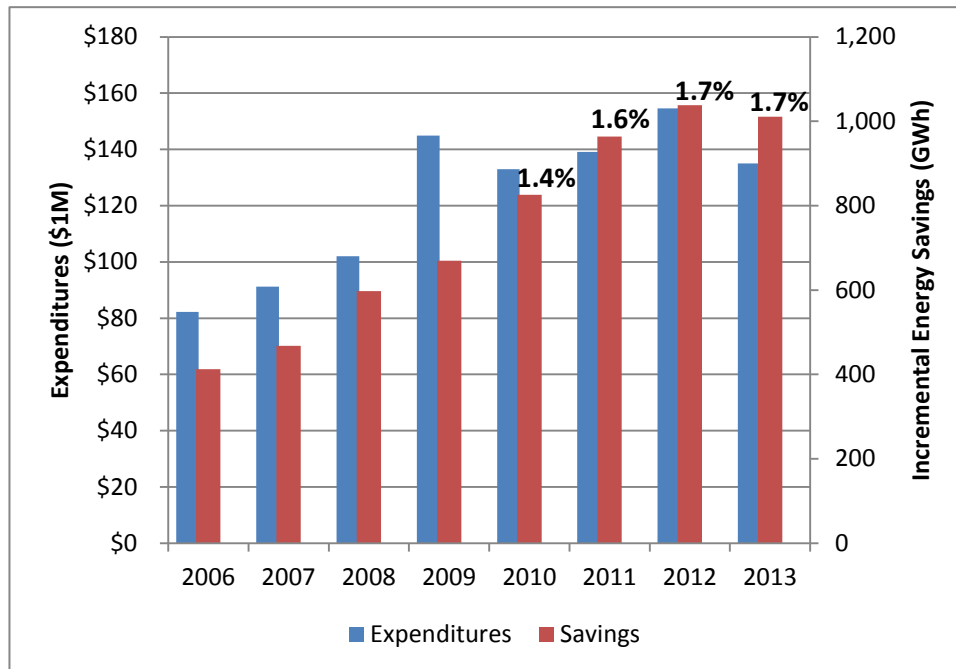
¹ As defined in Minn. Stat. §216B.241 subd. 1 (g), “gross annual retail sales” exclude sales to CIP-exempt customers.

² Minn. Stat. §216B.2401 as amended by Minn. Laws 2013, Ch. 85, Art. 12, Sec. 2

Total electric and natural gas savings over 2012 and 2013 totaled 2,049 gigawatt-hours (GWh) and 5.7 billion cubic feet (bcf), respectively. Combined, these energy savings are equivalent to approximately 12,645,000 million-BTUs (MMBTU), enough energy to heat, cool, and power about 112,000 homes in Minnesota for one year.³

As illustrated in Figure 1 below, electric CIP savings exceeded the 1.5% standard in both 2012 and 2013, achieving overall savings of 1.7% of gross annual retail energy sales both years

Figure 1. Electric Utility CIP Expenditures and Savings from 2006-2013.

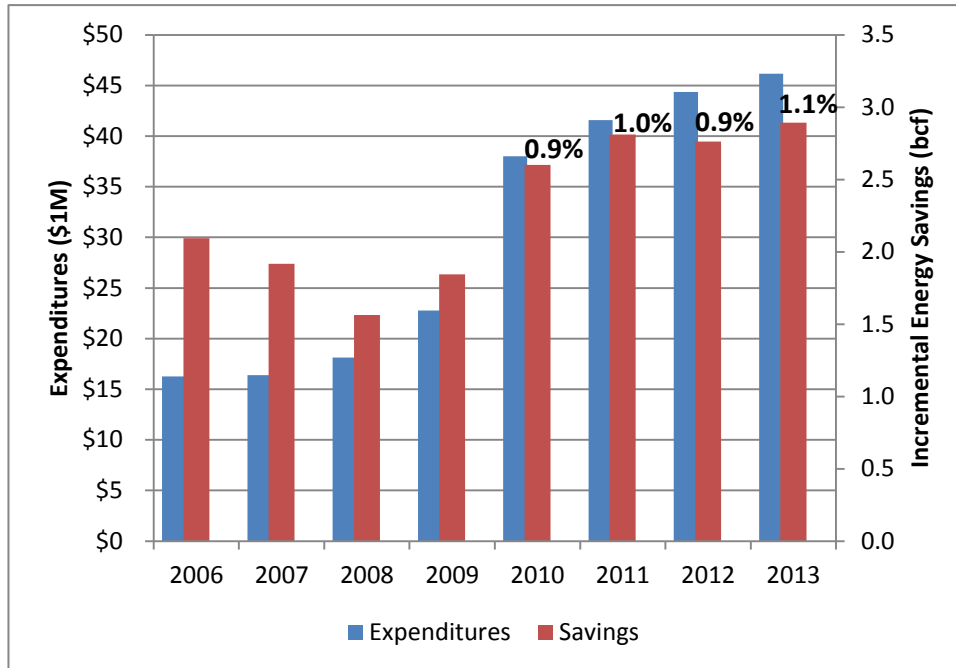


Electric and gas CIP programs in 2012-2013 saved enough energy to heat, cool, and power about 112,000 homes in Minnesota annually.

³ Based on average total annual energy consumption per home of 113.0 MMBtu for IA/MN/ND/SD from Table CE3.3 of the 2009 Residential Energy Consumption Survey by the US Energy Information Administration.

Statewide natural gas savings are shown in Figure 2 below. As can be seen, overall natural gas CIP savings in 2012 and 2013 were equivalent to 0.9% and 1.1% of gross annual retail sales, respectively. While below the 1.5% standard, these achievement levels exceeded the minimum 0.75% savings goal that was approved for certain utilities over 2010-2012 and the minimum 1.0% savings goal allowed under statute.⁴

Figure 2. Gas Utility CIP Expenditures and Savings from 2006-2013.



Avoided carbon dioxide emissions

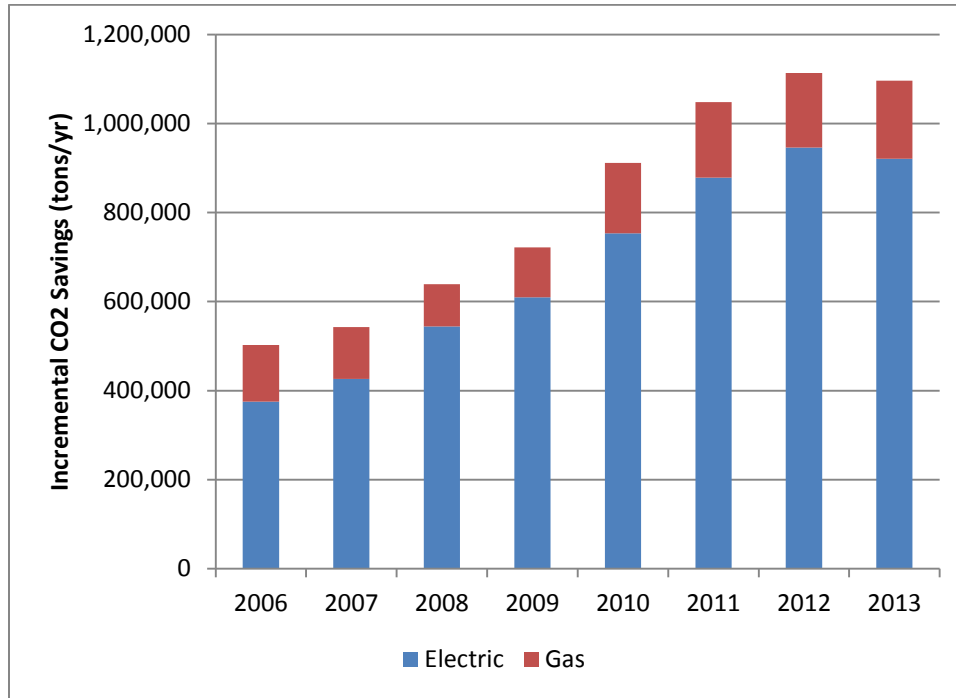
The Conservation Improvement Program plays a vital role in helping Minnesota achieve its carbon emission goals. On average, each megawatt-hour (MWh) of electricity saved in Minnesota avoids 1,823 pounds (0.9 tons) of CO₂ emitted to the atmosphere, while each dekatherm (Dth) of natural gas saved avoids 121 pounds (0.1 tons) of CO₂.⁵ As a result of the electric and natural gas savings achieved through CIP in 2012-2013, over 2.2 million tons of CO₂ emissions are avoided annually, equivalent to removing approximately 422,000 cars from the road for one year.⁶

⁴ Minn. Laws 2009, Ch. 110 Sec. 32 permitted the Commissioner to approve an average savings goal of 0.75% over the 2010-2012 triennial period for gas utilities party to a gas conservation potential study completed in 2009. In addition, 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%.

⁵ The electric CO₂ emissions rate is provided by the Minnesota Pollution Control Agency to the Minnesota Public Utilities Commission and Minnesota Department of Commerce in Docket No. E,G999/CI-00-1343 and was last updated on March 17, 2009. The gas CO₂ emissions rate of 121 pounds of CO₂ per Dth is a standard emissions factor for natural gas combustion and assumes a properly tuned boiler or furnace such that nearly 100% of fuel carbon is converted to CO₂.

⁶ Calculated using the US Environmental Protection Agency's Greenhouse Gas Equivalencies Calculator (<http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results>), accessed May 9, 2015.

Figure 3. Tons of CO₂ Avoided Through Electric and Gas CIP Programs from 2006-2013



Electric and gas CIP programs in 2012-2013 avoided 2.2 million tons of CO₂ emissions annually, equivalent to removing 422,000 cars from the road for one year.

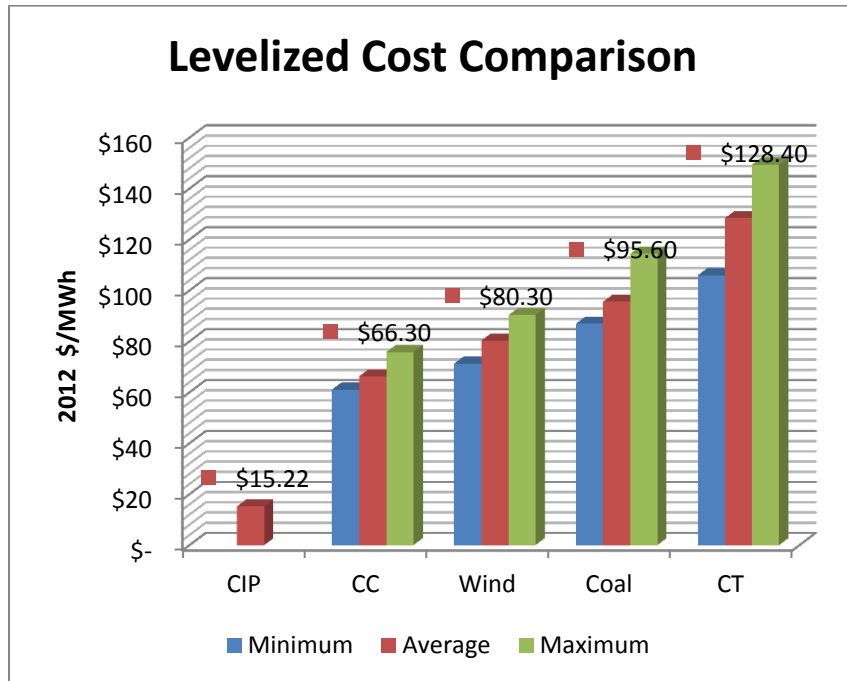
CIP as an energy resource

Aside from reducing carbon dioxide and other air emissions, one of the primary purposes of CIP is to serve as a low cost resource for meeting future energy needs. In Minnesota, demand-side management (DSM) programs, which are comprised primarily of CIP programs, are treated as a resource alongside supply-side resources (including fossil fuel, nuclear, and renewable generation resources) in integrated resource planning (IRP), a process that attempts to determine the least cost mix of supply and demand-side resources for meeting the needs of an electric utility's customers over the next 15 years. One reason high levels of DSM are often selected through the IRP process is because CIP programs are a low cost resource in comparison to supply-side options. This observation is supported by Figure 4, which compares the actual levelized cost of CIP programs over 2011-2013 to the levelized cost of different electric generation technologies modeled by the US Energy Information Administration (EIA) in the 2014 Annual Energy Outlook using data from across the United States. Levelized cost represents the per-kilowatt-hour cost (in real dollars) of building and operating a generating plant or DSM program over an assumed financial life and duty cycle, and provides a convenient metric for comparing the lifecycle cost of different energy resources.

Furthermore, building an electric generation plant usually requires a long lead time before the plant is fully operational – the EIA assumes a 5-year lead time to account for regulatory approval, construction, and commissioning activities. During this time, the price of fuel or materials could change significantly, or the demand for energy could deviate significantly from forecasted projections, presenting a serious financial risk to investors and ultimately ratepayers. In contrast, CIP programs are less exposed to these risks since they require less upfront investment and can be ramped up or down relatively quickly in response to changing market conditions.

It must be noted that while levelized cost comparisons are a convenient way to compare the cost of different energy resources, they should not be used as the sole basis for energy investment decisions. Specific technological and regional factors must be considered, as well as broader public policy implications. Furthermore, Figure 4 below only includes utility-scale centralized generation sources. Distributed generation sources, such as residential-scale wind and solar technologies or combined heat and power plants are thought to provide additional benefit in terms of grid support, avoided transmission costs and economic development. However, the levelized cost comparison demonstrates that in terms of the cost of constructing and operating an energy resource, CIP programs are very competitive with supply-side resources.

Figure 4. Levelized Cost Comparison of CIP to Various Electric Generation Options. Source: Minnesota Department of Commerce (CIP data) and US Energy Information Administration's Annual Energy Outlook 2014.



Key:

- CIP = Levelized Average Cost of Conservation Improvement Programs in 2011-2013
- CC = Natural gas-fired combined-cycle plant
- Wind = Utility-scale wind energy plant
- Coal = Conventional baseload coal plant
- CT = Natural gas-fired combustion turbine

Background on CIP

Overview

The Minnesota Energy Conservation Improvement Program (CIP) is a utility-administered program with regulatory oversight by Commerce. State law requires Minnesota electric and natural gas utilities to invest at least 1.5% and 0.5% annually of their gross operating revenues (GOR), respectively, in conservation improvement programs. Xcel Energy's electric utility, as an owner of a nuclear generating plant in Minnesota is required to invest at least 2.0% of GOR annually in CIP. CIP programs promote energy efficient technologies and practices to residential, commercial, and public customers through various means including marketing, incentives, and technical assistance. Commerce reviews and approves utility CIP filings to ensure that energy savings are calculated accurately, statutory requirements are met, and programs meet cost-effectiveness standards.

With passage of the Next Generation Energy Act in 2007, a 1.5% Energy Efficiency Resource Standard (EERS) for utility conservation improvement programs was established beginning in 2010, meaning that utilities were required to develop plans to achieve savings of 1.5% of average annual retail sales each year, unless adjusted by the Commissioner to no less than 1.0%.⁷ This standard remains one of the most aggressive standards in the country, especially considering that efficiency programs have been operating in Minnesota since the early 1980s. In 2013, legislation was passed that strengthened Minnesota's commitment to energy efficiency and conservation, finding that cost-effective energy savings are preferred over all other energy resources, and that a *minimum* energy savings of 1.5% of annual retail energy sales of electricity and natural gas is to be achieved every year.⁸

Minnesota utilities operate a wide array of residential, commercial, and industrial CIP programs targeted to both retrofits as well as new construction. Each utility may tailor its portfolio of programs to meet the unique needs of its service territory. Typical end-uses in residential programs include lighting, furnaces, air-conditioners, ground source and air source heat pumps, and insulation and air sealing. Typical end-uses in commercial/industrial programs include lighting, HVAC, energy recovery ventilation equipment, food service equipment, and electric motors. Traditionally, programs have offered prescriptive equipment-based incentives (e.g. replacing an incandescent light bulb with an LED lamp), while 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 level beyond code (e.g. recommissioning an office building or school). Many utilities offer robust industrial efficiency programs that strive to help manufacturers increase the energy efficiency of their operations and compete in markets.

CIP programs help create and retain jobs in a variety of market sectors. Aside from the utility employees that are directly involved in program administration and marketing, utilities generally

⁷ In 2009, legislation was passed that allowed the Commissioner to approve an average annual savings goal of 0.75% for gas utilities subject to a conservation potential study completed that year (Minn. Laws 2009, Ch. 110, Sec. 32). In 2011, legislation was passed that modified the 1.0% minimum standard to only apply to public utilities, i.e., investor-owned utilities (Minn. Laws 2009, Ch. 97, Sec. 20).

⁸ Minn. Laws 2013, Ch. 85, Art. 12, Sec. 2.

partner with a variety of external parties to deliver their programs. For example, utilities leverage local HVAC contractors and other trade partners to promote their program offerings to customers during the bidding process. Retailers such as home improvement stores and local hardware stores are critical for promoting high efficiency residential lighting and other consumer products. For commercial and industrial programs, utilities often partner with engineering firms to identify, evaluate, and implement efficiency projects. The incentives and marketing offered through CIP programs help drive business for these various organizations. In return, customers spend less money on energy, freeing up dollars for other uses.

CIP Regulatory Process

Commerce is responsible for reviewing and approving utility CIP plans and annual status reports. All Minnesota utilities report their annual budget and actual program data in Reporting_{ESP}TM, a Cloud-based energy efficiency data management system developed by Energy Platforms, LLC in part through Conservation Applied Research and Development (CARD) and technical assistance funding from Commerce. Investor-owned utilities (IOUs) are required to file three-year (triennial) plans and annual status reports through the Minnesota Public Utilities Commission's (Commission) docket system. Consumer-owned utilities (municipal utilities or electric cooperatives) file annual plans on Commerce's Energy Savings Platform.⁹

As part of the CIP plan review process, Commerce staff evaluate the cost-effectiveness of the measures and programs proposed by each utility. Under CIP administrative rules¹⁰, Minnesota uses four of the five standard benefit-cost tests included in the California Standard Practice Manual for Economic Analysis of Demand-side Programs and Projects. The Societal test, which compares some of the benefits to society of a program or measure to its total costs, is used to screen programs for cost-effectiveness. Most states use the Societal test or a variation called the Total Resource Cost (TRC) for screening. After Commerce staff complete their review and public comments are filed, the Commissioner of Commerce or his/her delegated authority (currently Deputy Commissioner) approves each utility's plan as filed or with modifications.

On an annual basis, both investor-owned and customer-owned (i.e., cooperative or municipal) utilities submit status reports summarizing the CIP expenditures, participation, and savings achieved the previous year. Commerce reviews these reports to ensure the reasonableness of reported savings, that portfolios are cost-effective, and that relevant statutory requirements were met.

Minnesota statutes include mechanisms for IOUs to recover the costs of implementing CIP programs and earn a performance incentive based on the level of savings and amount of net benefits

⁹ The Energy Savings Platform® (ESP) was developed through a public-private partnership with Energy Platforms, LLC. and is an essential tool for ensuring that utility EE programs are cost-effective, achieving their approved energy savings goals, and meeting the requirements of Minnesota State law. ESP is made up of two applications, ESP (operations) and ReportingESP. ESP (operations) is a user-configurable application for program implementation and energy savings tracking by utilities. Additionally ESP has the function of using automated calculators for quantifying energy savings based on the energy efficiency algorithms found within Minnesota's Technical Reference Manual (TRM). All data within ESP (operations) are private by default, but can be shared with other organizations. ReportingESP is Minnesota's designated tool for energy efficiency program reporting by utilities and also serves as a central, publically-accessible database of energy efficiency data. Information is entered at the program-level in ReportingESP and can be dynamically grouped and analyzed by utility, aggregator, program category, market segment, etc.

¹⁰ Minnesota Rules chapter 7690.0500.

achieved.¹¹ Most IOUs file their status reports as part of larger consolidated filings that include proposed adjustments to CIP cost-recovery riders based on the previous year's expenditures and performance incentive earned. Concurrent with the status report review process, Commerce staff review the proposed cost-recovery adjustments and file recommendations concerning the proposed adjustments to the Commission. After considering Commerce's recommendations and any public comments filed, the Commission then approves the proposed adjustments as is or with modifications.

For cooperative and municipal utilities, local utility commissions, boards or city councils determine their own cost recovery mechanisms. Commerce is unaware of any cooperative or municipal utilities that award themselves a performance incentive for CIP achievements.

CIP Data Collection and Management with ESP

Minnesota has 184 investor-owned, municipal, and cooperative utilities that are required to implement CIP programs. Although this requirement existed prior to passage of the Next Generation Energy Act, the establishment of the 1.5% EERS in CIP increased the need for accurate and verifiable savings. To this end, Commerce has undertaken three major initiatives:

- 1) Development of measurement and verification (M&V) protocols for large commercial/industrial projects
- 2) Development of a Technical Reference Manual (TRM) providing standard algorithms and assumptions for calculating savings from a wide array of energy efficiency measures
- 3) Development of a Cloud-based software platform for CIP data collection and program operations (ESP®)

ESP® has been developed in part through funding from Commerce's Conservation Applied Research and Development (CARD) program and technical assistance budget. The initial thrust of the development effort was to provide a Cloud-based reporting system for Minnesota's 173 cooperative and municipal utilities subject to CIP requirements, which became Reporting_{ESP}. In 2014, the use of Reporting_{ESP} became mandatory for investor-owned utilities. Five rounds of data collection and analysis have been completed since 2010, covering actual program data for the years 2008-2013 and program budgets and goals for 2015. Reporting_{ESP} has been essential for enabling Commerce to analyze and report CIP data on a statewide basis.

Recent development efforts have focused on integration of the TRM in ESP. Commerce staff have developed a library of on-line calculators called SmartMeasures™ based on the TRM that is shared with each utility in the state for no charge. This provides each utility with a library of pre-approved calculators that it can use to track and report savings, thereby eliminating the need for the utility and its CIP partners to develop and maintain the calculators on their own. This approach reduces duplication and further improves the accuracy of CIP data as more utilities adopt the Smart Measure library.

¹¹ See Minn. Stat. §216B.16, subd. 6b and 6c.

CIP Savings and Expenditures

Statewide Totals

Table 1. Statewide Electric CIP Totals, 2006-2013

Year	Incremental Energy Savings (GWh/yr)	% of Gross Annual Retail Sales	Incremental CO2 Savings (tons/yr)	Expenditures (million \$)	Approximate \$/kWh ¹²
2006	412	-	375,537	\$82.2	0.013
2007	468	-	426,646	\$91.2	0.013
2008	597	-	544,428	\$102.0	0.011
2009	669	-	609,906	\$144.9	0.014
2010	826	1.4%	753,260	\$133.0	0.011
2011	963	1.6%	878,156	\$139.0	0.010
2012	1,038	1.7%	946,252	\$154.6	0.010
2013	1,011	1.7%	921,128	\$135.1	0.009

Table 2. Statewide Natural Gas CIP Totals, 2006-2013

Year	Incremental Energy Savings (Dth/yr) ¹³	% of Gross Annual Retail Sales	Incremental CO2 Savings (tons/yr)	Expenditures (million \$)	Approximate \$/therm
2006	2,095,047	-	126,750	\$16.3	0.052
2007	1,917,144	-	115,987	\$16.4	0.057
2008	1,563,496	-	94,592	\$18.1	0.077
2009	1,843,347	-	111,522	\$22.8	0.082
2010	2,612,212	0.9%	158,039	\$38.0	0.097
2011	2,810,069	1.0%	170,009	\$41.6	0.099
2012	2,761,702	0.9%	167,083	\$44.4	0.107
2013	2,893,256	1.1%	175,042	\$46.2	0.106

¹² The cost per unit of energy savings (kWh, therm, and MMBtu) in Tables 1-3 were calculated using a typical weighted-average energy efficiency measure lifetime of 15 years. Although the exact weighted-average lifetime is dependent on the specific mix of energy efficiency measures installed in a given year, Commerce has found that 15 years is a reasonable assumption based on the weighted average lifetimes reported in utility status reports.

¹³ The 2012 Dth savings figure differs slightly from the value in the 2014 CIP Energy and Carbon Dioxide Savings Report (6,303,832) because New Ulm Public Utilities' gas totals have been removed in this year's report. This was done because New Ulm's annual gas sales fall below the 1 bcf threshold for exemption from CIP requirements (see Minn. Stat. §216B.241 subd. 1b (a) (3)).

Table 3. Statewide Combined Electric and Gas CIP Totals, 2006-2013

Year	Incremental Energy Savings (MMBtu/yr) ¹⁴	% of Gross Annual Retail Sales	Incremental CO2 Savings (tons/yr)	Expenditures (million \$)	Approximate \$/MMBtu
2006	3,500,788	-	502,287	\$98.5	1.88
2007	3,514,199	-	542,633	\$107.6	2.04
2008	3,601,443	-	639,020	\$120.1	2.22
2009	4,126,391	-	721,428	\$167.7	2.71
2010	5,431,875	1.1%	911,299	\$171.0	2.10
2011	6,097,254	1.2%	1,048,165	\$180.6	1.97
2012	6,303,789	1.3%	1,113,335	\$198.9	2.10
2013	6,341,297	1.4%	1,096,170	\$181.2	1.91

¹⁴ The 2012 MMBtu savings total differs slightly from the value in the 2014 CIP Energy and Carbon Dioxide Savings Report because New Ulm Public Utilities was removed the gas CIP totals for that year.

Utility/aggregator totals

The following tables summarize statewide, aggregator, and utility-level data from 2012 and 2013. The 2012 data was derived from a Reporting_{ESP} export as of April 24, 2014. The 2013 data was derived from a Reporting_{ESP} export as of January 30, 2015.

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.)

Table 4. Electric Utility CIP Totals, 2012

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings % ¹⁵	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures % ¹⁶
Investor-Owned Utilities					
Alliant Energy	14,365,499	1.7%	13,094	\$ 2,548,149	3.5%
Minnesota Power	63,159,196	1.9%	57,570	\$ 6,813,817	2.8%
Otter Tail Power	30,793,654	1.4%	28,068	\$ 4,816,994	3.5%
Xcel Energy	538,563,918	1.7%	490,901	\$ 98,095,987	3.9%
Totals - Investor-Owned Utilities	646,882,267	1.7%	589,633	\$ 112,274,947	3.7%
Cooperative CIP Aggregators					
Dairyland Power Coop	3,361,323	0.6%	3,064	\$ 2,412,840	3.3%
East River Electric Power Coop	10,259,712	3.1%	9,352	\$ 391,030	1.5%
Great River Energy (All-Rqmts Members)	197,012,542	2.3%	179,577	\$ 16,274,704	1.8%
Great River Energy (Fixed Members)	26,620,238	0.9%	24,264	\$ 4,085,144	1.6%
Minnkota Power Coop/NMPA – 17 of 18 members	29,159,947	1.6%	26,579	\$ 2,546,325	1.7%
Totals - Coop CIP Aggregators	266,413,762	1.9%	242,836	\$ 25,710,043	1.9%
Municipal CIP Aggregators					
CMMPA - 12 of 12 members	7,498,743	1.7%	6,835	\$ 978,298	2.4%
MMMPA - 8 of 11 members	8,954,765	1.4%	8,162	\$ 856,506	1.5%
MRES - 23 of 24 members	17,811,692	1.1%	16,235	\$ 3,845,504	3.0%
SMMPA - 15 of 18 members	15,566,824	1.7%	14,189	\$ 2,571,926	3.0%
The Triad (SMMPA members)	36,698,987	1.9%	33,451	\$ 4,716,455	2.5%
Totals - Municipal CIP Aggregators	86,531,011	1.6%	78,873	\$ 12,968,690	2.6%
Independent Cooperatives					
Minnesota Valley Coop Light & Power	3,007,536	1.8%	2,741	\$ 326,404	2.4%
Sioux Valley Energy	509,675	0.5%	465	\$ 73,356	0.9%
Totals - Independent Cooperatives	3,517,211	1.3%	3,206	\$ 399,760	1.8%

¹⁵ Calculated as a percent of average annual retail sales over 2008-2010 excluding sales to CIP-exempt customers, except for Alliant Energy and Xcel Energy (2006-2008), and Minnesota Power and Otter Tail Power (2007-2009). The three-year average sales period is determined by a utility's CIP filing schedule. Investor-owned utility sales were weather-normalized for this calculation, cooperative and municipal were not.

¹⁶ Calculated as a percent of non-weather normalized 2010 gross operating revenue excluding revenue from CIP-exempt customers, except for Alliant Energy and Xcel Energy (2008), and Minnesota Power and Otter Tail Power (2009). The revenue year is determined by a utility's CIP filing schedule.

Table 4 continued - Electric Utility CIP Totals, 2012

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Independent Municipals					
Aitkin	259,685	0.7%	237	\$ 27,438	0.8%
Anoka (MMPA member)	3,007,928	1.1%	2,742	\$ 428,006	1.8%
Biwabik	104,520	1.6%	95	\$ 12,572	2.6%
Brainerd	4,201,183	2.2%	3,829	\$ 152,892	1.1%
Brewster	6,413	0.2%	6	\$ 4,983	1.3%
Buhl	109	0.0%	0	\$ 8,300	1.5%
East Grand Forks (MMPA member)	2,461,620	1.6%	2,244	\$ 424,247	3.4%
Ely	916,283	2.5%	835	\$ 89,968	2.7%
Gilbert	543	0.0%	0	\$ 2,817	0.3%
Grand Rapids	2,738,972	1.6%	2,497	\$ 211,303	1.5%
Hibbing	1,114,045	0.9%	1,015	\$ 37,156	0.3%
Hutchinson (MRES Member)	5,095,320	1.7%	4,644	\$ 220,553	0.9%
Lake Crystal	486,743	2.9%	444	\$ 55,718	2.3%
Lanesboro	4,246	0.1%		\$ 3,573	0.5%
Madelia	289,733	1.1%	264	\$ 30,378	1.0%
Mountain Iron	328,863	1.6%	300	\$ 26,956	1.2%
New Ulm	1,499,347	0.8%	1,367	\$ 246,023	1.2%
Nielsville	3,105	0.6%	3	\$ 827	1.5%
Pierz	3,330	0.0%	3	\$ 2,808	0.4%
Proctor	432,273	1.7%	394	\$ 33,408	1.6%
Shakopee (MMPA member)	7,291,145	1.9%	6,646	\$ 545,592	1.5%
St. Charles	223,634	0.8%	204	\$ 72,662	3.2%
Truman	41,837	0.3%	38	\$ 37,306	2.3%
Two Harbors	327,603	1.1%	299	\$ 57,295	2.0%
Virginia	1,804,594	1.7%	1,645	\$ 101,501	0.8%
Warroad (NMPA member)	156,626	0.3%	143	\$ 21,956	0.6%
Willmar	1,982,472	0.7%	1,807	\$ 377,555	1.6%
Totals - Independent Municipals	34,782,172	1.4%	31,704	\$ 3,233,791	1.4%
TOTALS - COOPS & MUNICIPALS	391,244,156	1.7%	356,619	\$ 42,312,284	2.0%
TOTALS - ELECTRIC UTILITIES	1,038,126,423	1.7%	946,252	\$ 154,587,231	3.0%

Table 6. Electric Utility CIP Totals, 2013

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Investor-Owned Utilities					
Alliant Energy	8,157,503	1.0%	7,436	\$ 2,166,000	2.8%
Minnesota Power	77,630,644	2.4%	70,760	\$ 6,405,828	2.7%
Otter Tail Power	35,792,001	1.7%	32,624	\$ 5,253,935	3.8%
Xcel Energy	494,677,799	1.7%	450,899	\$ 79,570,696	3.0%
Totals - Investor-Owned Utilities	616,257,948	1.8%	561,719	\$ 93,396,460	3.0%
Cooperative CIP Aggregators					
Dairyland Power Coop	5,518,318	0.9%	5,030	\$ 2,493,067	3.5%
East River Electric Power Coop	11,599,401	3.5%	10,573	\$ 367,323	1.5%
Great River Energy (All-Rqmts Members)	193,137,366	2.3%	176,045	\$ 15,575,524	1.7%
Great River Energy (Fixed Members)	27,418,152	1.0%	24,992	\$ 4,277,865	1.6%
Minnkota Power Coop/NMPA - 17 of 18 members	27,446,537	1.6%	25,018	\$ 2,481,152	1.4%
Totals - Coop CIP Aggregators	265,119,775	1.9%	241,657	\$ 25,194,931	1.7%
Municipal CIP Aggregators					
CMMPA - 10 of 12 members	3,821,466	1.2%	3,483	\$ 668,391	2.2%
MMMPA - 8 of 11 members	9,474,550	1.5%	8,636	\$ 939,095	1.5%
MRES - 23 of 24 members	17,221,376	0.9%	15,697	\$ 3,999,925	2.6%
SMMPA - 15 of 18 members	18,495,262	2.0%	16,858	\$ 2,574,555	2.9%
The Triad (SMMPA members)	40,489,019	2.1%	36,906	\$ 4,346,841	2.3%
Totals - Municipal CIP Aggregators	89,501,674	1.6%	81,581	\$ 12,528,807	2.4%
Independent Cooperatives					
Minnesota Valley Coop Light & Power	2,905,341	1.7%	2,648	\$ 333,403	2.4%
Sioux Valley Energy	549,603	0.5%	501	\$ 63,974	0.7%
Totals - Independent Cooperatives	3,454,944	1.3%	3,149	\$ 397,377	1.7%

Table 6 continued - Electric Utility CIP Totals, 2013

Organization	Incremental Energy Savings (kWh/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Independent Municipals					
Ada	15	0.0%	0	\$ 20,583	1.5%
Aitkin	560,036	1.6%	510	\$ 35,813	1.0%
Alvarado	2	0.0%	0	\$ 13,185	3.2%
Anoka (MMPA member)	3,559,261	1.4%	3,244	\$ 497,387	2.1%
Biwabik	118,909	1.8%	108	\$ 12,321	2.0%
Brainerd	2,914,558	1.6%	2,657	\$ 195,952	1.3%
Brewster	4,000	0.1%	4	\$ 4,530	1.0%
Delano (CMMPA member)	972,820	1.9%	887	\$ 76,489	1.8%
East Grand Forks (MMPA member)	3,344,734	2.2%	3,049	\$ 400,762	3.1%
Ely	857,713	2.3%	782	\$ 86,107	2.4%
Gilbert	173,790	1.6%	158	\$ 13,752	1.6%
Glencoe (CMMPA member)	1,153,724	1.6%	1,052	\$ 108,692	1.5%
Grand Rapids	2,894,311	1.7%	2,638	\$ 169,620	1.2%
Hibbing	1,417,620	1.2%	1,292	\$ 91,980	0.7%
Hutchinson (MRES member)	2,194,670	0.8%	2,000	\$ 225,719	0.9%
Lake Crystal	356,073	2.1%	325	\$ 22,528	0.8%
Madelia	75,242	0.3%	69	\$ 33,961	1.0%
Mountain Iron	427,057	2.0%	389	\$ 27,653	1.2%
New Ulm	2,252,995	1.2%	2,054	\$ 268,848	1.3%
Nielsville	3,320	0.6%	3	\$ 875	1.5%
Pierz	159,595	1.6%	145	\$ 17,247	2.2%
Proctor	326,664	1.3%	298	\$ 15,652	0.7%
Shakopee (MMPA member)	8,269,325	2.1%	7,537	\$ 521,872	1.4%
St. Charles	186,038	0.8%	170	\$ 83,552	2.8%
Truman	59,501	0.5%	54	\$ 22,031	1.2%
Two Harbors	322,626	1.1%	294	\$ 60,955	2.0%
Virginia	2,241,081	2.1%	2,043	\$ 79,982	0.6%
Warroad (NMPA member)	120,646	0.2%	110	\$ 51,770	1.3%
Willmar	1,262,295	0.5%	1,151	\$ 374,858	1.5%
Totals - Independent Municipals	36,228,619	1.4%	33,022	\$ 3,534,675	1.4%
TOTALS - COOPS & MUNICIPALS	394,305,012	1.7%	359,409	\$ 41,655,791	1.9%
TOTALS - ELECTRIC UTILITIES	1,010,562,959	1.7%	921,128	\$ 135,052,250	2.5%

Table 7. Gas Utility CIP Totals, 2013

Organization	Incremental Energy Savings (Dth/yr)	Energy Savings %	Incremental CO2 Savings (tons/yr)	Expenditures	Expenditures %
Investor-Owned Utilities					
Alliant Energy	10,769	0.6%	652	\$ 327,337	2.5%
CenterPoint Energy	1,570,811	1.2%	95,034	\$ 22,829,711	2.5%
Great Plains Natural Gas	14,969	0.3%	906	\$ 378,793	1.2%
Greater Minnesota Gas	4,155	0.9%	251	\$ 86,088	1.8%
Minnesota Energy Resources	424,826	1.0%	25,702	\$ 8,630,239	3.4%
Xcel Energy	779,122	1.1%	47,137	\$ 12,780,833	2.4%
Totals - Investor-Owned Utilities	2,804,652	1.1%	169,681	\$ 45,033,001	2.6%
Municipal Aggregators					
The Triad	50,571	1.2%	3,060	\$ 391,771	1.2%
Independent Municipals					
Duluth	30,402	0.6%	1,839	\$ 661,340	1.6%
Hutchinson	6,525	0.4%	395	\$ 67,955	0.5%
Perham	1,106	0.1%	67	\$ 14,657	0.2%
Totals - Independent Municipals	38,033	0.5%	2,301	\$ 743,952	1.2%
TOTALS - MUNICIPALS	88,604	0.7%	5,361	\$ 1,135,723	1.2%
TOTALS - GAS UTILITIES	2,893,256	1.1%	175,042	\$ 46,168,725	2.5%

APPENDIX A. Electric Municipal Power Agency Membership

Central Minnesota Municipal Power Agency (CMMPA)

12 members: Blue Earth, Delano, Fairfax, Glencoe, Granite Falls, Janesville, Kasson, Kenyon, Mountain Lake, Sleepy Eye, Springfield, and Windom.

Delano and Glencoe disaggregated from CMMPA's CIP in 2013.

Minnesota Municipal Power Agency (MMPA)

11 members: Anoka, Arlington, Brownston, Buffalo, Chaska, East Grand Forks, LeSeur, N. St. Paul, Olivia, Shakopee and Winthrop.

Anoka, East Grand Forks, and Shakopee operate as independent entities under CIP. Effective January 1, 2015, Chaska also disaggregated from MMPA's CIP.

Missouri River Energy Services (MRES)

24 Minnesota members: Adrian, Alexandria, Barnesville, Benson, Breckenridge, Detroit Lakes, Elbow Lake, Henning, Hutchinson, Jackson, Luverne, Lake Park, Lakefield, Madison, Marshall, Melrose, Moorhead, Ortonville, St. James, Sauk Centre, Staples, Wadena, Westbrook, and Worthington.

Hutchinson operates as an independent entity under CIP.

Northern Municipal Power Agency (NMPA)

10 Minnesota members: Bagley, Baudette, Fosston, Halstad, Hawley, Roseau, Stephen, Thief River Falls, Warroad, and Warren.

NMPA aggregates its CIP programs with Minnkota Power Cooperative.

Warroad operates as an independent entity under CIP.

Southern Minnesota Municipal Power Agency (SMMPA)

18 members: Austin, Blooming Prairie, Fairmont, Grand Marais, Lake City, Litchfield, Mora, New Prague, North Branch, Owatonna, Preston, Princeton, Redwood Falls, Rochester, Spring Valley, St. Peter, Waseca, and Wells.

Austin, Owatonna, and Rochester operate as a distinct entity (the Triad) under CIP.

- On the electric side, the Triad includes all three cities.
- On the gas side, the Triad includes Austin and Owatonna only.

APPENDIX B. Generation and Transmission Cooperative Membership

Dairyland Power Cooperative

3 Minnesota members: Freeborn-Mower Cooperative Services, Peoples Cooperative Service, and Tri-County Electric Cooperative.

East River Electric Power Cooperative

3 Minnesota members: Lyon-Lincoln Electric Cooperative, Renville-Sibley Cooperative Power Association, and Traverse Electric Cooperative.

Great River Energy – All-Requirements Member Cooperatives

20 members: Arrowhead Electric Cooperative, BENCO Electric Cooperative, Brown County Electric Association, Connexus Energy, Cooperative Light & Power, Dakota Electric Association, East Central Energy, Goodhue County Cooperative Electric Association, Itasca-Mantrap Cooperative Electric Association, Kandiyohi Power Cooperative, Lake Country Power, Lake Region Electric Cooperative, McLeod Cooperative Power Association, Mille Lacs Energy Cooperative, Nobles Cooperative Electric, North Itasca Electric Cooperative, Runestone Electric Association, Stearns Electrical Association, Steele-Waseca Cooperative Electric, and Todd-Wadena Electric Cooperative.

Elk River Municipal Utilities is also aggregated with Great River Energy – All-Requirements Members CIP totals.

Great River Energy – Fixed Member Cooperatives

8 members: Agralite Electric Cooperative, Crow Wing Power & Light, Federated Rural Electric Association, Meeker Cooperative Light & Power Association, Minnesota Valley Electric Cooperative, Redwood Electric Cooperative, South Central Electric Association, and Wright-Hennepin Cooperative Electric Association.

Minnkota Power Cooperative

8 Minnesota members: Beltrami Electric Cooperative, Clearwater-Polk Electric Cooperative, North Star Electric Cooperative, PKM Electric Cooperative, Red River Valley Cooperative Power Association, Red Lake Electric Cooperative, Roseau Electric Cooperative, and Wild Rice Electric Cooperative.