

**MidAmerican Energy Company**  
**South Dakota Energy Efficiency**  
**2018 Annual Report**

This report provides the 2018 results for MidAmerican Energy Company's South Dakota Energy Efficiency programs. The 2018 Annual Report includes the following:

1. 2018 Program Results
2. Significant Activities for 2018
3. Program Summaries

**Introduction**

MidAmerican Energy Company (MidAmerican) conducts energy efficiency programs in South Dakota pursuant to MidAmerican's Revised Energy Efficiency Plan filing for South Dakota (July 31, 2017) and as approved by the South Dakota Public Utilities Commission (Commission) on December 20, 2017, in Docket No. GE17-002. Currently, MidAmerican offers four different energy efficiency programs to South Dakota customers, two are combination electric/gas programs and two are electric-only programs.

**1. 2018 Program Results**

In 2018, a total of 4,136 measures were installed, for an expected annual savings of 139,553 kWh of electricity and 207,983 therms of natural gas. In 2018, MidAmerican paid a total of \$556,685 in equipment rebates and customer incentives and incurred costs totaling \$54,576 to deliver energy efficiency programs. The total Benefit/Cost ratio (B/C ratio) for MidAmerican's combined energy efficiency programs, not including the Residential Load Management program, for 2018 is 1.26.<sup>1</sup>

Overall electric savings achieved by MidAmerican's South Dakota energy efficiency program in 2018 were 20 percent lower than projected in the plan; due in part to lower participation in the Residential Appliance Recycling and Nonresidential Equipment programs.

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<sup>1</sup> All B/C ratios calculated in this report are based on societal test results. MidAmerican's societal test results use a 2.20% discount rate for the purposes of calculating the net present value of costs and benefits. The societal test also incorporates a 10% externality factor for electric programs and a 7.5% externality factor for gas programs.

Overall gas savings achieved were twenty five percent greater than projected due to greater than anticipated participation in the residential and nonresidential equipment programs related to natural gas furnace measures.

Total expenses for 2018 were \$552,206 for gas programs and \$59,055 for electric programs. Based on these expenses and the Commission-approved incentive mechanisms, MidAmerican requests approval for a 2018 incentive of \$38,212 for natural gas and \$4,087 for electric programs. Significant results for 2018 are as follows:

- Residential electric program savings totaled 54,442 kWh, which was 17 percent lower than the 2018 kWh savings goal.
- Residential gas program savings totaled 176,358 therms, which was 27 percent above the 2018 therm savings goal.
- Total residential spending totaled \$545,452, which was one percent lower than the budget for 2018.
- Nonresidential electric program savings totaled 85,110 kWh, which was 22 percent lower than the 2018 kWh savings goal.
- Nonresidential gas program savings totaled 31,624 therms, which was 17 percent above the 2018 therm savings goal.
- Total nonresidential spending totaled \$65,809, which was 10 percent lower than the budget for 2018.

Detailed 2018 program results are provided in the following exhibits:

- Exhibit A – Detailed program results by measure
- Exhibit B – Comparisons of program level savings and expenses to budget
- Exhibit C – Benefit/Cost information by program
- Exhibit D – Annual summaries of energy savings and benefits by program
- Exhibit E – Annual summaries of energy savings and benefits by measure

## **2. Significant Activities for 2018**

MidAmerican conducted the following activities to promote energy efficiency in South Dakota:

- MidAmerican promoted energy efficiency programs through special articles in the *At Your Service* newsletter, which is included with customer bills. In addition to the printed version that is included in customers' bills, MidAmerican also distributed a mid-month electronic newsletter to its residential customers who provided an email address and agreed to receive electronic communications.
- MidAmerican continued to promote all programs through trade allies.
  - Trade Ally Ambassadors encouraged high-participating/top-performing trade allies to participate and become Trade Ally Partners. In 2018, eight South Dakota Trade Ally Partners representing 13 offices participated in MidAmerican's Trade Ally Network.
  - MidAmerican sent 13 email communications on rebate and program updates and other program reminders to South Dakota trade allies throughout the year.
  - MidAmerican held 10 training and education sessions with trade allies who do work in South Dakota.
  - In February, MidAmerican had a booth at a grand opening of a Lennox retail store in Sioux Falls, South Dakota. Approximately 50 trade allies attended the event.
- MidAmerican participated in the 2018 Siouxland Home Show in Sioux City, IA, and the Sheldon Home Show in Sheldon, IA. MidAmerican's booth was staffed by the Trade Ally Ambassadors. The Trade Ally Ambassadors handed out South Dakota energy efficiency program information and discussed energy efficiency programs with homeowners, business owners and trade allies.
- Additional promotional activities included:
  - Utilizing MidAmerican's call center during the heating season to inform customers about online assessment options during in-bound calls.

### **3. Program Summaries**

#### **a. Residential Equipment**

The Residential Equipment program promotes the purchase of high-efficiency equipment by residential customers in new and existing homes. The program provides customers with rebates to offset the higher purchase cost of efficient equipment, as well as information on the features and benefits of efficient equipment. Targeted equipment includes heating and cooling equipment. This program is delivered in partnership with a network of heating and cooling dealers as well as retail outlets selling qualifying equipment.

The Residential Equipment program achieved annual energy savings of 45,778 kWh, which was seven percent lower than expected and 176,358 therms, which was 27 percent higher than expected. Total program spending was \$536,547, which was one and one-half percent higher than expected.

The combined B/C ratio including both gas and electric components for the Residential Equipment program for 2018 is calculated as 1.16. The B/C ratio for the gas component is calculated as 1.15 and the B/C ratio for the electric component is calculated as 1.60.

Significant highlights for the Residential Equipment program for 2018 include:

- 1,446 furnaces were rebated in 2018, which was 10 percent lower than projected and nine percent higher than 2017. Furnace equipment rebates provided 87 percent of the achieved total therm savings for the Residential Equipment program.
- 635 programmable thermostats and 87 smart thermostats were rebated in 2018, which was 1,384 percent higher than projected and 38 percent lower than 2017. Programmable and smart thermostats provided 11 percent of the achieved total therm savings and five percent of the achieved total kWh savings for the Residential Equipment program.
- 29 central air conditioners were rebated in 2018, which was three percent lower than the projected number of central air conditioners and 46 percent lower than

2017. Central air conditioner equipment rebates provided 21 percent of the achieved total kWh savings for the Residential Equipment program.

- 48 furnace fans were rebated in 2018, which was 140 percent higher than the projected number of furnace fans and 14 percent higher than 2017. Furnace fan equipment rebates provided 40 percent of the achieved total kWh savings for the Residential Equipment program.
- Three air-source heat pumps were rebated in 2018 which was 63 percent lower than the projected number of air source heat pumps and 25 percent lower than 2017. Air-source heat pump equipment rebates provided 15% of the achieved total kWh savings for the Residential Equipment program.
- MidAmerican promoted the Residential Equipment program by featuring the program in:
  - Sheldon Home Show in April
  - Bill insert in April
  - The E-Newsletter, an email communication to customers
  - Social media in Facebook and Twitter messages throughout the year

MidAmerican will continue to promote the program through similar education and outreach activities in 2019.

b. Residential Load Management

The Residential Load Management program provides financial incentives to residential customers in exchange for allowing MidAmerican to control central air-conditioning compressors on hot summer days when MidAmerican is experiencing a system peak demand or when operational conditions require use of the program. The program is promoted under the service mark SummerSaver<sup>SM</sup>.

A relatively mild summer did not warrant the need for the Midcontinent Independent System Operator or MidAmerican to call for a SummerSaver cycling event in 2018. However, all participants were required to participate in a certification event to verify the programs' ability to reduce load. The temperatures on the day of certification

were significantly cooler than typical for a day of program operation. Therefore, the Residential Load Management program only achieved annual electric peak demand savings of 73 kW which was 53 percent lower than planned. Total program spending was \$7,550 was 57 percent lower than expected.

The 2018 Residential Load Management program B/C ratio is calculated as 1.63.

Significant 2018 Residential Load Management program highlights include:

- MidAmerican had 233 load control receivers (LCRs) operating in the field during 2018, which was seven percent lower than projected and one percent higher than 2017.
- MidAmerican successfully performed a certification event on August 28, 2018.
- MidAmerican promoted the Residential Load Management program through:
  - Welcome Home postcards. These postcards are sent to customers that move into a home that already has an LCR installed. The card offers the new homeowner automatic enrollment in the program.
  - Welcome Back postcards. These postcards are sent to customers that previously were part of the program and moved to a new home that does not have an LCR. The card reminds the customer of the benefits of the program and encourages them to rejoin the program.
  - MidAmerican Energy's energy efficiency website.

c. Appliance Recycling

The Appliance Recycling program encourages customers to stop using old, inefficient refrigerators, freezers and room air conditioners and assists in the disposal of old units in an environmentally responsible manner. The program provides rebates to residential program participants and provides free pick-up and disposal of old working appliances. MidAmerican began offering the Appliance Recycling program in 2013.

The Appliance Recycling program achieved annual energy savings of 8,517 kWh, which is 40 percent lower than expected. Total program spending was \$1,353 which was

69 percent lower than expected. Nine appliances were recycled in 2018 which is a 18 percent decrease over 2017 and 60 percent of the goal.

The B/C ratio for the Appliance Recycling program for 2018 is calculated as 6.45.

- MidAmerican promoted the program through:
  - Customer bill inserts in April for South Dakota electric customers
  - Social media messaging throughout the year
  - MidAmerican Energy's energy efficiency website
  - The E-Newsletter, an email communication to customers

To keep participation in this program strong in 2019, MidAmerican will continue to conduct program education and outreach by utilizing the above methods.

#### d. Nonresidential Equipment

The Nonresidential Equipment program promotes the purchase of high-efficiency equipment by commercial and industrial customers in new and existing facilities. The program provides customers with rebates to offset the higher purchase cost of efficient equipment and is organized into three prescriptive sections for program delivery:

- Heating, ventilation and air conditioning
- Lighting
- Variable speed drives

The program also includes a custom-track for non-standard energy efficiency measures. Custom previously was a stand-alone program.

The program is delivered in partnership with a trade ally network specifying, selling, and installing qualified equipment. The program targets replacement and first-time purchases, but also is available to customers making retrofit installations.

The Nonresidential Equipment program achieved annual energy savings of 85,110 kWh, which was 22 percent lower than expected, and 31,624 therms, which was 17 percent higher than expected. Total program spending was \$65,433, which was 11 percent lower than expected.

The combined B/C ratio including gas and electric components for the Nonresidential Equipment program for 2018 is calculated as 2.08. The B/C ratio for the gas component is calculated as 2.15 and the B/C ratio for the electric component is calculated as 1.73.

Significant highlights for the Nonresidential Equipment program for 2018 include:

- 1,144 LED lighting measures were installed which was 221 percent higher than projected. LED lighting measures accounted for savings of 84,862 kWh representing 99.7 percent of the achieved kWh savings for the Nonresidential Equipment program in 2018.
- 119 furnaces were installed, which was three percent higher than projected and 59 percent lower than 2017. Furnaces accounted for savings of 24,169 therms representing 76 percent of the achieved therm savings for the Nonresidential Equipment program in 2018.
- Three custom measures were installed which provided savings of 5,041 therms representing 16 percent of the achieved therms savings for the Nonresidential Equipment program in 2018.

Since this program is primarily delivered in partnership with a network of trade allies, MidAmerican will continue its program education and outreach efforts with trade allies to include targeted emphasis with HVAC dealers to help increase natural gas and electric participation in this program in 2019.