MidAmerican Energy Company
South Dakota Energy Efficiency
2019 Annual Report

This report provides the 2019 results for MidAmerican Energy Company's South Dakota Energy Efficiency programs. The 2019 Annual Report includes the following:

1. 2019 Program Results
2. Significant Activities for 2019
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.

On May 28, 2019, in Docket No. GE19-002, MidAmerican Energy Company (MidAmerican) was ordered to file a supplemental filing outlining the expected Total Resource Cost (TRC) cost-effectiveness test results of its gas and electric energy efficiency programs utilizing the new Iowa Technical Reference Manual (TRM). On September 30, 2019, MidAmerican submitted a supplemental filing outlining expected total resource cots scores. The filing indicated MidAmerican agrees that the residential gas furnace measure and the residential equipment program should be eliminated as of December 30, 2019. The filing also indicated that the nonresidential furnace measure and program are no longer cost effective as of August 30, 2019 and the electric residential equipment program will no longer be cost effective in 2020 and beyond and requested further guidance from the Commission as to the continuation of the electric residential equipment program and nonresidential furnace measure and program, if these programs are unable to obtain a TRC greater than one, should they be eliminated as of December 31, 2019.

On October 30, 2019, the Commission directed MidAmerican to end its energy efficiency programs at the end of 2019. The Commission agreed that MidAmerican should accept 2019 equipment applications through January 31, 2020 and process applications through February 29, 2020. Additional expenditures were included in March to generate this report and to finalize the field work needed to end the Residential Load Management program. Thus, this 2019 Annual Report includes expenses incurred from January 1, 2019 through March 31, 2020.

1. 2019 Program Results

In 2019, a total of 2,504 measures were installed, for an expected annual savings of 156,579 kWh of electricity and 207,679 therms of natural gas. In 2019, MidAmerican paid a total of $634,216 in equipment rebates and customer incentives and incurred costs totaling $75,180 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 2019 is 1.44.[1]

Overall electric savings achieved by MidAmerican's South Dakota energy efficiency program in 2019 were 11 percent lower than projected in the plan; due in part to lower participation in the Residential Equipment program. Overall gas savings achieved were 25 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 2019 were $624,839 for gas programs and $84,557 for electric programs. Based on these expenses and the Commission-approved incentive mechanisms, MidAmerican anticipates to request approval for a 2019 incentive of $38,278 for natural gas and $4,945 for electric programs with its EECR Reconciliation that will be filed no later than June 30, 2020 per Order dated January 24, 2020 in Docket No. GE19-002. Significant results for 2019 are as follows:

- Residential electric program savings totaled 50,030 kWh, which was 23 percent lower than the 2019 kWh savings goal.

[1] 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.

- Residential gas program savings totaled 202,093 therms, which was 43 percent above the 2019 therm savings goal.
- Total residential spending totaled $678,731, which was 23 percent higher than the budget for 2019.
- Nonresidential electric program savings totaled 106,549 kWh, which was three percent lower than the 2019 kWh savings goal.
- Nonresidential gas program savings totaled 5,586 therms, which was 79 percent lower the 2019 therm savings goal.
- Total nonresidential spending totaled $30,665, which was 58 percent lower than the budget for 2019.

Detailed 2019 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 2019

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.
- MidAmerican sent 13 email communications on rebate and program updates and other program reminders to South Dakota trade allies throughout the year.
- MidAmerican held 11 training and education sessions with trade allies who do work in South Dakota.

- MidAmerican participated in the 2019 Siouxland Home Show in Sioux City, IA. MidAmerican's booth was staffed by the Trade Ally Ambassadors. The Trade Ally Ambassadors discussed energy efficiency programs with homeowners, business owners and trade allies.

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 37,397 kWh, which was 24 percent lower than expected and 202,093 therms, which was 45 percent higher than expected. Total program spending was $637,091, which was 20 percent higher than expected. Approximately $124,858 or 20 percent of total program spending was incurred between January 1, 2020 and March 31, 2020.

The combined B/C ratio including both gas and electric components for the Residential Equipment program for 2019 is calculated as 0.85. The B/C ratio for the gas component is calculated as 0.84 and the B/C ratio for the electric component is calculated as 1.61.

Significant highlights for the Residential Equipment program for 2019 include:

- 1,862 furnaces were rebated in 2019, which was 16 percent higher than projected. Furnace equipment rebates provided 95 percent of the achieved total therm savings for this program.
- 257 smart thermostats were rebated in 2019, which was 414 percent higher than projected. Smart thermostats provided five percent of the achieved total therm savings and seven percent of the achieved total kWh savings for this program.
- 34 central air conditioners were rebated in 2019, which was 13 percent higher than projected. Central air conditioner equipment rebates provided 39 percent of the achieved total kWh savings for this program.
- 29 furnace fans were rebated in 2019, which was 45 percent higher than the projected. Furnace fan equipment rebates provided 42 percent of the achieved total kWh savings for this program.
- MidAmerican promoted the Residential Equipment program by featuring the program in:
    - Sheldon Home Show in April
    - The E-Newsletter, an email communication to customers
    - Social media in Facebook and Twitter messages throughout the year

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[SM].

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 2019. A certification event was conducted on September 16, 2019 for MidAmerican's control group only. MidAmerican's control group, consisting of 132 residential interval

meters, is used to verify the programs' ability to communicate with load control receivers (LCRs) used to cycle air conditioners and to calculate the actual reduction in MidAmerican's system's load when these devices are called upon to be curtailed. The temperatures on the day of certification were cooler than typical for a day of program operation. Therefore, the peak demand reduction and kWh savings recorded in 2019 from the control group only test event was limited; thus making the program not cost-effective. However, if all 225 devices installed in South Dakota participated in this test, MidAmerican's peak reduction would have been 63 kW which was 60 percent lower than planned. Total program spending was $39,409 was 122 percent higher than expected. Approximately 63 percent or $25,015 of total program spending was incurred between January 1, 2020 and March 31, 2020 and is directly related to the removal of LCRs due to the elimination of energy efficiency program in South Dakota as of December 31, 2019.

Significant 2019 Residential Load Management program highlights include:

- MidAmerican had 225 load control receivers (LCRs) operating in the field during 2019, which was ten percent lower than planned.
- MidAmerican planned to remove all LCRs installed at customer's homes by June 1, 2020. However, the COVID-19 pandemic has delayed this work indefinitely. Once the pandemic has eased and public safety is no longer at risk, the removal of these devices will get underway. MidAmerican will remotely disconnect all LCRs in the field to ensure customers will not be cycled should an event be called before all devices are removed from the field.
- 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.
    - Promotion as part of MidAmerican's suite of energy efficiency programs on MidAmerican Energy's website.

c. Appliance Recycling

The Appliance Recycling program encourages customers to stop using old, inefficient refrigerators and freezers 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.

The Appliance Recycling program achieved annual energy savings of 12,633 kWh which is 10 percent lower than expected. Total program spending was $2,231 which was 49 percent lower than expected. Approximately 14 percent or $309 of total program spending was incurred between January 1, 2020 and March 31, 2020. Thirteen appliances were recycled in 2019 which was 86 percent of the goal.

The B/C ratio for the Appliance Recycling program for 2019 is calculated as 1.48.

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

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 two prescriptive sections for program delivery:

- Heating, ventilation and air conditioning
- Lighting

The program also includes a custom-track for non-standard energy efficiency measures.

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 106,549 kWh, which was three percent lower than expected, and 5,586 therms, which was 79 percent lower than expected. Total program spending was $30,665, which was 58 percent lower than expected. Approximately 16 percent or $4,838 of total program spending was incurred between January 1, 2020 and March 31, 2020.

The combined B/C ratio including gas and electric components for the Nonresidential Equipment program for 2019 is calculated as 1.23. The B/C ratio for the gas component is calculated as 1.21 and the B/C ratio for the electric component is calculated as 1.25.

Significant highlights for the Nonresidential Equipment program for 2019 include:

- 14 LED lighting measures were installed which was 97 percent lower than projected accounted for 14,691 kWh or 14 percent of the achieved kWh savings for the program.
- 34 furnaces were installed, which was 70 percent lower than projected, accounted for 5,586 therms or 100 percent of the achieved therm savings for the program.
- Two custom measures were installed which provided savings of 91,858 kWh representing 86 percent of the achieved kWh savings for the Nonresidential Equipment program in 2019.