

MidAmerican Energy Company
South Dakota Energy Efficiency
2015 Annual Report

This report provides the 2015 results for MidAmerican Energy Company's South Dakota Energy Efficiency programs. The 2015 Annual Report includes the following:

1. 2015 Program Results
2. Significant Activities for 2015
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 27, 2012) and as approved by the South Dakota Public Utilities Commission (Commission) on November 27, 2012, in Docket No. GE12-005. Currently, MidAmerican offers seven different energy efficiency programs to South Dakota customers, five are combination electric/gas programs and two are electric only programs.

1. 2015 Program Results

In 2015, a total of 384 audits were conducted and 2,848 measures were installed, for an expected annual savings of 598,094 kWh of electricity and 236,570 therms of natural gas. In 2015, MidAmerican paid a total of \$667,567 in equipment rebates and customer incentives and incurred costs totaling \$182,870 to deliver energy efficiency programs. The total Benefit/Cost ratio (B/C ratio) for MidAmerican's combined energy efficiency programs, excluding the Residential Load Management program, for 2015 is 2.36¹.

Overall gas savings achieved by MidAmerican's South Dakota energy efficiency programs in 2015 were lower than projected in the plan; primarily due to the significant decrease

¹ All B/C ratios calculated in this report are based on societal test results. MidAmerican's societal test results use a 3.56% 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.

in residential and nonresidential natural gas furnace measures included in the Residential and Nonresidential Equipment programs.

Total expenses for 2015 were \$732,915 for gas programs and \$117,522 for electric programs. Based on these expenses and the Commission-approved incentive mechanisms, MidAmerican is requesting approval for a 2015 incentive of \$60,668 for natural gas and \$8,818 for electric programs. Significant results for 2015 are as follows:

- Residential electric program savings totaled 182,797 kWh, which was 29 percent higher than 2014, and was 31 percent lower than the 2015 kWh savings goal.
- Residential gas program savings totaled 168,405 therms, which was 59 percent lower than 2014, and was 62 percent lower than the 2015 therm savings goal.
- Total residential spending was 43 percent below budget for 2015.
- Nonresidential electric program savings totaled 415,297 kWh, which was 468 percent higher than 2014, and was 37 percent above the 2015 kWh savings goal.
- Nonresidential gas program savings totaled 68,165 therms, which was 21 percent higher than 2014, and was 47 percent below the 2015 therm savings goal.
- Total nonresidential spending was 19 percent below budget for 2015.

Detailed 2015 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

2. Significant Activities for 2015

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

- Energy efficiency programs were promoted 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' bill, MidAmerican also distributes a mid-month electronic newsletter to its residential customers who have provided an email 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 2015, seven South Dakota Trade Ally Partners representing 12 offices joined MidAmerican's Trade Ally Network.
 - A trade ally website was developed and launched in 2015. South Dakota Trade Ally Partners have exclusive access to this portal to manage their profile, upload documents specific to their business and have easy access to rebate forms, support materials and marketing guidelines.
 - A Trade Ally Partner Search Tool launched in November, 2015. When customers are looking to make home or business energy efficient improvements, this tool connects customers to MidAmerican Energy's Trade Ally Partners. Approximately 25 customers accessed this site per day in November and December.
 - A general lighting rebate training session was conducted by a Trade Ally Ambassador in North Sioux City in July, 2015.
 - Twelve email communications on rebate and program updates and other program reminders were sent to South Dakota trade allies throughout the year.
 - On November 17, 2015, MidAmerican conducted its annual trade ally meeting in Sioux City, Iowa. During this meeting, MidAmerican reviewed South Dakota

program offerings with approximately 70 trade allies that also do business in South Dakota. Trade ally meetings are intended to educate MidAmerican's trade ally partners about MidAmerican's energy efficiency programs and provide trade allies with the tools needed to successfully market MidAmerican's energy efficiency programs to their customers.

- MidAmerican participated in the 2015 Sioux Empire Home Show. MidAmerican's booth was staffed by the Trade Ally Ambassadors. Energy efficiency information on South Dakota programs was handed out and discussed with over 1,000 homeowners, 25 business owners and twelve trade allies.
- Additional promotional activities included:
 - Utilizing MidAmerican's call center during the heating season to inform customers about in-home audit options during in-bound calls.
 - Having HomeCheck advisors cross promote programs with eligible customers during the home energy assessment.

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 170,555 kWh, which was 27 percent lower than expected and 30 percent higher than 2014; and 142,687 therms, which was 65 percent lower than expected and 63 percent lower than 2014. Total program spending was \$391,638 which was 52 percent lower than expected.

The combined B/C ratio including both gas and electric components for the Residential Equipment program for 2015 is calculated as 1.57. The B/C ratio for the gas component is calculated as 1.60 and the B/C ratio for the electric component is calculated as 1.41.

Participation in the program related to natural gas furnaces was weak during the year causing lower than expected natural gas savings and spending. There are two reasons for the lower furnace participation results:

- The furnace measure was temporarily removed from the Residential Equipment program in early December 2014 due to funding for the program being exhausted. This resulted in contractors being slow to return to the program due to uncertainty about the program's funding.
- The rebate level was lowered from \$600 in 2014 to \$300 in 2015. MidAmerican received feedback from customers and contractors indicating this change makes it less economically attractive for customers to move to the higher efficient equipment when making their purchasing decisions.

Significant highlights for the Residential Equipment program for 2015 include:

- 824 new furnaces were rebated in 2015, which was 63 percent lower than projected and 63 percent lower than 2014. Furnace equipment rebates provided 89 percent of the achieved total therm savings for the Residential Equipment program.
- 11 ground-source heat pumps and two air-source heat pumps were rebated in 2015, which was 62 percent lower than the projected number of total heat pumps and 28 percent lower than 2014. Heat pump equipment rebates provided 84 percent of the achieved total kWh savings for the Residential Equipment program. Although there was higher ground-source heat pump participation, it was offset by the lower participation by air-source heat pumps. The lower than anticipated participation for this type of equipment is the primary reason the electric program did not meet its savings goal.

- MidAmerican promoted the Residential Equipment program by featuring the program in:
 - Special articles in the February edition of the *At Your Service* newsletter.
 - Bill insert in January.
 - The E-Newsletter, an email communication to customers in March.
 - Web banners on MidAmerican's website.
 - Social media, Facebook and Twitter in May.
 - A booth at the 2015 Sioux Empire Home Show in Sioux Falls, SD in March.

To increase participation in this program in 2016, MidAmerican will continue to conduct one-on-one trade ally education and outreach activities to ensure full understanding of all program offerings and confidence that continued program funding is available.

MidAmerican will continue its customer educational efforts which inform customers of the benefits available from both program rebates and energy bill savings.

b. Residential Audit

The Residential Audit program encourages comprehensive efficiency improvements in existing homes by providing free on-line and in-home energy audits, in-home installation of simple energy-efficiency measures including faucet aerators, low-flow showerheads, etc. and financial incentives for a predetermined list of complex measures (primarily building insulation). Both the on-line and in-home energy audits are operated under the registered trademark name of HomeCheck.

The Residential Audit program achieved annual energy savings of 4,678 kWh, which was 37 percent higher than expected and 18 percent lower than 2014; and 25,718 therms, which was 34 percent lower than expected and 9 percent lower than 2014. Total program spending was \$233,613, which was 23 percent lower than expected and one percent lower than 2014.

The combined B/C ratio including gas and electric components for the Residential Audit program for 2015 is calculated as 1.16. The B/C ratio for the gas component is calculated as 1.16 and the B/C ratio for the electric component is calculated as 1.09.

Significant highlights for the Residential Audit program for 2015 include:

- 362 in-home audits were completed in 2015, which was 24 percent lower than projected and 3 percent lower than 2014. MidAmerican will continue to advertise the program as outlined below. 163 insulation measures were installed, which was 39 percent lower than projected and one percent lower than 2014. Insulation measures installed in 2015 provided 37 percent of the achieved total kWh savings and 73 percent of the achieved therm savings for the Residential Audit program.
- 841 direct install measures were installed, which was 50 percent lower than projected and 30 percent lower than 2014. Direct install measures installed in 2015 provided 63 percent of the achieved total kWh savings and 27 percent of the achieved therm savings for the Residential Audit program. The program implementation contractor reports that it has become more difficult to install low-flow showerhead and aerator direct install measures than in past years due to customers' preferences. Customers prefer to keep their current showerheads and aerators due to aesthetic or comfort reasons. This consumer preference trend will likely continue to affect the installation rates of installed measures in future years.
- MidAmerican promoted the Residential Audit program by featuring the program through:
 - Utilizing MidAmerican's call center during the heating season to inform customers about in-home audit options during in-bound calls.
 - Special articles in the February editions of the *At Your Service* newsletter.
 - Bill inserts in April and September.
 - Web banners and seasonal tips on MidAmerican's website.
 - The E-Newsletter, an email communication to customers in February.
 - Social media, Facebook and Twitter in February, June and October.

- A press release highlighting heating season tips sent to media in January.
- Program specific radio, TV and print in the Sioux City metro area media channels throughout the year.
- A booth at the 2015 Sioux Empire Home Show in Sioux Falls, SD in March.

MidAmerican will continue to maintain assessment participation levels while investigating possible program improvements to increase natural gas savings. Two areas of possible improvement are encouraging additional follow-up insulation installations and potential changes to the direct install measures.

c. 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 SummerSaverSM.

A relatively mild summer did not warrant the need to call upon the load management program to reduce system load. To test the program's ability to reduce load, there was one system test cycling day called during the 2015 summer season; the temperatures on that day were significantly cooler than typical for a day of program operation. Therefore, the Residential Load Management program did not achieve any annual peak demand savings in 2015. Total program spending was \$14,144, which was 11 percent lower than projected. The B/C ratio for the Residential Load Management program for 2015 is calculated as 0.

Significant highlights for the Residential Load Management program for 2015 include:

- MidAmerican had 207 load control receivers (LCRs) operating in the field during 2015, which was 19 percent higher than projected and 20 percent higher than 2014. During 2015, 24 new LCRs were added and two were removed for a net gain of 22 LCRs.

- MidAmerican promoted the program by:
 - Direct mail to eligible customers.
 - Cross promotion by HomeCheck expert during the home energy assessment and including a SummerSaver program application brochure in the leave-behind packet left with each customer.

d. 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 2014.

The Appliance Recycling program achieved annual energy savings of 7,563 kWh, which was 74 percent lower than expected. Total program spending was \$1,237, which was 81 percent lower than expected. The program suffered a setback in the fourth quarter of 2015 when MidAmerican's program implementation contractor went into receivership. MidAmerican quickly secured another implementation contractor in order to continue offering the program and its services to its customers. MidAmerican took immediate action to reimburse customers for outstanding checks issued by the previous contractor. The program is back on track with the new contractor.

The B/C ratio for the Appliance Recycling program for 2015 is calculated as 2.30.

- MidAmerican promoted the program through:
 - Customer bill inserts in March and December for South Dakota electric customers.
 - Social Media, Facebook and Twitter messages in March, April and May, 2015.
 - Articles about Appliance Recycling published in PowerSource, an internal communications newsletter for MidAmerican employees throughout the year.

- An email sent to the trade allies in South Dakota in April 2015 promoting the ENERGY STAR national campaign to Flip Your Fridge. Trade allies were made aware how they could obtain promotional material about the campaign.
- General energy efficiency awareness via print, television and radio advertising conducted in the Sioux City, IA market which reaches South Dakota customers.
- An energy efficiency press release issued in May, 2015 which included South Dakota media outlets.

To increase participation in this program in 2016, MidAmerican will conduct additional program education and outreach to residential electric customers and trade allies through:

- Specific trade ally outreach efforts to new appliance dealers using our Trade Ally Ambassadors.
- Searching for new avenues to engage school-age children and community agencies in a large community contest to recycle old appliances.

e. 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 sections for program delivery:

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

The program is delivered in partnership with a network of trade allies 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 403,835 kWh, which was 67 percent higher than expected, and 50,710 therms, which was 52 percent lower than expected. Total program spending was \$147,203, which was 10 percent lower than expected. One project consisting of two 125 horsepower variable speed drives accounted for 97.5 percent of the total electric savings. Lighting retrofits and heating and cooling unit participation numbers were less than expected.

The combined B/C ratio including gas and electric components for the Nonresidential Equipment program for 2015 is calculated as 7.51. The B/C ratio for the gas component is calculated as 2.66 and the B/C ratio for the electric component is calculated as 32.82.

Significant highlights for the Nonresidential Equipment program for 2015 include:

- 75 new furnaces were installed, which was 48 percent lower than projected and 48 percent lower than 2014. Rebates for nonresidential furnaces were lowered on units purchased and installed on or after April 8, 2015 which may have had an effect on participation.
- 27 programmable thermostats were installed, which was seven percent lower than projected and 27 percent lower than 2014.
- 83 lighting measures were installed, which was 42 percent lower than projected and 48 percent lower than 2014.
- Two variable speed drives (VSDs) were installed, which was 33 percent lower than projected, however VSD measures accounted for 97.5 percent of the achieved kWh electric savings for the Nonresidential Equipment program in 2015.

Since this program is primarily delivered in partnership with a network of trade allies, MidAmerican will expand its program education and outreach effort with trade allies to include targeted emphasis with electrical contractors and distributors promoting efficient lighting upgrades to help increase participation in this program in 2016. Recent developments in light emitting diode (LED) technology coupled with lower LED pricing

is paving the way for lighting retrofits into the future. Additionally, MidAmerican will continue its education and outreach efforts with contractors and distributors selling heating and cooling measures, water heaters and variable speed drives to drive continual participation within these measure categories going forward.

f. Nonresidential Custom

The Nonresidential Custom program provides a program delivery channel for non-standard energy-saving measures. It offers financial incentives to customers installing equipment or systems not covered by a prescriptive rebate in the Nonresidential Equipment program. The program is marketed as the Custom Systems program.

The Nonresidential Custom program achieved annual energy savings of 17,082 therms, which was 24 percent higher than target and 10,411 kWh, which was 82 percent lower than target. Total program spending was \$45,873, which was five percent lower than budget.

The combined B/C ratio including gas and electric components for the Nonresidential Custom program for 2015 is calculated as 1.64. The B/C ratio for the gas component is calculated as 1.65 and the B/C ratio for the electric component is calculated as 1.57.

Significant highlights for the Nonresidential Custom program for 2015 include:

- Three custom boiler projects were installed in 2015 which is 200 percent higher than projected. These three units accounted for all of the gas savings achieved in 2015.
- Ten custom LED lighting measures were installed in 2015. These ten measures accounted for all of the electric savings achieved in 2015.

g. Small Commercial Audit

The Small Commercial Audit program promotes comprehensive energy efficiency strategies for smaller commercial customers. It provides extensive on-site energy audits, direct installation of low-cost efficiency measures including faucet aerators and LED exit sign kits, and recommendations for additional measures. MidAmerican markets the program as Commercial Energy Solutions.

The Small Commercial Audit program achieved electric annual energy savings of 1,051 kWh, which was 34 percent lower than planned. The program achieved gas savings of 374 therms, which was 96 percent lower than expected. Total program spending was \$16,731 which was 64 percent lower than budget.

The combined B/C ratio including gas and electric components for the Small Commercial Audit program for 2015 is calculated as 0.25. The B/C ratio for the gas component is calculated as 0.18 and the electric component is calculated at 0.79.

Significant highlights for the Small Commercial Audit program for 2015 include:

- 22 energy audits were completed in 2015, which was 61 percent lower than projected and 19 percent lower than 2014.
- 44 direct install measures were installed in 2015, compared to nine in 2014. These direct install measures saved an estimated 374 therms and 279 kWh. We are finding more opportunity for direct installs depending on the type of business sector.
- Nine electric projects identified during assessments were installed in 2015 resulting in electric savings of 772 kWh.

MidAmerican promoted the program in 2015 by:

- Program specific advertisement included in the Sioux City Business Journal in January, February, March, May, June, August, September, October, November and December.
- Program specific content included in MidAmerican's Business Advantage and Key Account eNewsletters every other month during the year.

- Web banners on MidAmerican's website.
- Social media, Facebook and Twitter during the second quarter of 2015.

MidAmerican intends to increase participation in 2016 by increasing its outreach, education and marketing efforts in South Dakota related to this program. MidAmerican will continue to utilize outreach efforts that were effective in the past as well as look into new avenues to reach our customers. The program is preparing a plan to increase the number of multifamily assessments in South Dakota. MidAmerican is also planning on reaching out to community and service organizations to present program information at their meetings.