

**MidAmerican Energy Company**  
**South Dakota Energy Efficiency**  
**2013 Annual Report**

This report provides the 2013 results for MidAmerican Energy Company's South Dakota Energy Efficiency programs. The 2013 Annual Report includes the following:

1. 2013 Program Results
2. Significant Activities for 2013
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. 2013 Program Results**

In 2013, a total of 350 audits were conducted and 5,134 measures were installed, for an expected annual savings of 693,156 kWh of electricity and 378,835 therms of natural gas. In 2013, MidAmerican paid a total of \$1,433,487 in equipment rebates and customer incentives and incurred costs totaling \$187,922 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 2013 is 1.86<sup>1</sup>.

Overall electric savings achieved by MidAmerican's South Dakota energy efficiency programs in 2013 were greater than projected in the plan; largely due to 593 lighting measures included in the Nonresidential Equipment program.

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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 4.81% 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.

Total expenses for 2013 were \$1,501,495 for gas programs and \$119,914 for electric programs. Based on these expenses and the Commission-approved incentive mechanisms, MidAmerican is requesting approval for a 2013 incentive of \$151,087 for natural gas and \$9,300 for electric programs. Significant results for 2013 are as follows:

- Residential electric program savings totaled 193,661 kWh, which was 70 percent higher than 2012, and was nine percent higher than the 2013 kWh savings goal.
- Residential gas program savings totaled 312,830 therms, which was 138 percent higher than 2012, and was 24 percent higher than the 2013 therm savings goal.
- Total residential spending was seven percent above budget for 2013.
- Nonresidential electric program savings totaled 499,490 kWh, which was 69 percent lower than 2012, and was 98 percent above the 2013 kWh savings goal.
- Nonresidential gas program savings totaled 66,006 therms, which was 47 percent above 2012, and was 28 percent above the 2013 therm savings goal.

Total nonresidential spending was 56 percent above budget for 2013. MidAmerican suspended the nonresidential electric programs in August 2013 once funds were exhausted. MidAmerican did not suspend natural gas programs during this time. During program review and project forecasting, it was determined that gas Nonresidential Equipment was over budget but gas Nonresidential Custom was under budget. Through May, 2013, only two gas projects were preapproved in Nonresidential Custom and MidAmerican anticipated the overall portfolio would be within goal. One additional Nonresidential Custom gas project was preapproved and completed in October, 2013. Gas savings were above target at this point, however it did not make sense to suspend the program so far into the year. Detailed 2013 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 2013

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.
  - HomeCheck<sup>®</sup> Online audit, HomeCheck on-site audit, and Residential Equipment were promoted in the May 2013 newsletter.
  - HomeCheck Online audit and HomeCheck on-site audit were promoted in the August 2013 newsletter.
  - HomeCheck on-site audit and Residential Equipment were promoted in the November 2013 newsletter.
- In addition, an e-newsletter edition began for Appliance Recycling in November, 2013 and for HomeCheck on-site audit in December, 2013.
- MidAmerican continued to promote all programs through trade allies. This promotion is particularly important for the Residential Equipment, Nonresidential Equipment program and Nonresidential Custom programs.
  - On November 19, 2013, MidAmerican conducted a trade ally meeting in Sioux City, Iowa. During this meeting, MidAmerican reviewed South Dakota program offerings with 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.
- Additional promotional activities included:
  - Promotion of the Residential Audit program by:
    - Utilizing MidAmerican's call center during the heating season to inform customers about in-home audit options during in-bound calls.

- Promotion of the SummerSaver program by:
  - Direct mail to eligible customers.
  - Having HomeCheck auditors discuss the program with eligible customers during the home energy audit and leave behind a SummerSaver program application brochure.

### **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, cooling, and water heating equipment. This program is delivered in partnership with a network of heating, cooling, and water heating dealers as well as retail outlets selling qualifying equipment.

The Residential Equipment program achieved annual energy savings of 182,850 kWh, which was 20 percent higher than expected and 279,248 therms, which was 31 percent higher than expected. Total program spending was \$1,133,066 which was 15 percent higher than expected.

The combined B/C ratio including both gas and electric components for the Residential Equipment program for 2013 is calculated as 1.74. The B/C ratio for the gas component is calculated as 1.75 and the B/C ratio for the electric component is calculated as 1.62.

Participation in the furnace measure was very strong during the year causing higher than expected natural gas savings and spending. Significant highlights for the Residential Equipment program for 2013 include:

- In April, MidAmerican notified trade allies the furnace and ground-source heat pump measures were retroactively added to the program for the entire 2013

calendar year. The measures were originally removed from the program starting January 2013.

- 1,541 new furnaces were rebated in 2013, which was 55 percent higher than 2012 and 30 percent higher than projected. Furnace equipment rebates provided 92 percent of the achieved total therm savings for the Residential Equipment program.
- 12 ground-source heat pumps and 12 air-source heat pumps were rebated in 2013, which was 23 percent lower than total heat pumps rebated in 2012, and 20 percent higher than projected.
- 14 furnace fans were rebated in 2013, which was 30 percent lower than 2012, and 60 percent lower than projected. Furnace fans and heat pumps provided 85 percent of the achieved total kWh savings for the Residential Equipment program.
- The Residential Equipment program was promoted by special articles in the May and November editions of the *At Your Service* newsletter.

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 5,674 kWh, which was 66 percent higher than expected and 33,582 therms, which was 14 percent lower than expected. Total program spending was \$242,488, which was 19 percent lower than expected.

The combined B/C ratio including gas and electric components for the Residential Audit program for 2013 is calculated as 1.33. The B/C ratio for the gas component is calculated as 1.32 and the B/C ratio for the electric component is calculated as 2.87.

The impacts for insulation measures, which were not budgeted, resulted in the program exceeding the expected electric savings goal. Significant highlights for the Residential Audit program for 2013 include:

- 321 in-home audits were completed in 2013, which was 21 percent lower than 2012 and 30 percent lower than expected. To increase participation in 2014, MidAmerican will continue to advertise through bill inserts and will begin using door hangers or yard signs to advertise the program to the neighbors of HomeCheck participants. By increasing the on-site audit participation, the participation for installed measures and follow-up insulation should improve.
- 184 insulation measures were installed, which was 48 percent lower than 2012 and was 31 percent lower than projected. Insulation measures installed in 2013 saved an estimated 23,292 therms and 3,977 kWh.
- 1,232 direct install measures were installed, which was 28 percent lower than 2012 and was 26 percent lower than expected. 2013 direct install measures saved an estimated 10,289 therms and 1,696 kWh.
- The Residential Audit program was promoted by:
  - 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 May, August and November editions of the *At Your Service* newsletter.
  - The program was promoted with bill inserts in February, June, September, and November.

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 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>.

During 2013, the Residential Load Management program achieved annual peak demand savings of 101 kW, down from 169 kW in 2012. The 101 kW savings in 2013 was five percent lower than target. During 2013, the program achieved 378 kWh savings which was 52 percent of target. Total program spending was \$18,544, which was 33 percent higher than target. The B/C ratio for the Residential Load Management program for 2013 is calculated as 1.65.

Significant highlights for the Residential Load Management program for 2013 include:

- MidAmerican had 168 load control receivers (LCRs) operating in the field during 2013, which was 35 percent higher than the goal of 124. During 2013, 36 new LCRs were added and five were removed for a net gain of 31 LCRs.
- MidAmerican promoted the program by:
  - Direct mail to eligible customers.
  - Having HomeCheck auditors discuss the program with eligible customers during the home energy audit and leave behind a SummerSaver program application brochure.
- MidAmerican successfully cycled air conditioners twice during 2013 on July 18 and August 27.

d. Appliance Recycling

The Appliance Recycling program was a new program offering in 2013. The purpose of this program is to encourage 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.

The Appliance Recycling program achieved annual energy savings of 4,765 kWh, which was 78 percent lower than target. Total program spending was \$1,875 which was 64 percent lower than target.

The B/C ratio for the Appliance Recycling program for 2013 is calculated as .85.

Significant highlights for the Appliance Recycling program for 2013 include:

- Two refrigerators, two freezers, and two room air conditioners were recycled.
- Appliance Recycling was included in the overall promotional efforts in 2013 for South Dakota; however a targeted marketing promotion was not conducted.

Additional marketing outreach to residential electric customers will be conducted in 2014 to increase participation in this program.

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 485,736 kWh, which was 153 percent higher than target, and 50,509 therms, which was 83 percent higher than target. Total program spending was \$172,079, which was 235 percent higher than target. The electric savings and budget exceeded goal due to increased participation and the size of lighting projects submitted to the Nonresidential Equipment program. As a result, MidAmerican suspended the electric portion of the nonresidential portfolio for part of the year. Customers had until August 15, 2013 to complete equipment installations and submit rebate applications. Applications received prior to this date were processed in the order they were received and rebates were paid as funding allowed. Equipment applications submitted from August 16, 2013 through December 31, 2013 were deemed ineligible for electric rebates. During program review



and project forecasting, the natural gas portion of the nonresidential portfolio also was evaluated. While Nonresidential Equipment did exceed the natural gas budget, the Custom Systems program had been under the natural gas budget and the overall portfolio was anticipated to be on target. Therefore, MidAmerican did not suspend nonresidential natural gas programs at that time. However, in the last quarter of 2013, MidAmerican did preapprove and pay a rebate for one custom gas project that resulted in overall gas spending to be above target. Since this occurred so late in the year, the natural gas program was not suspended.

The combined B/C ratio including gas and electric components for the Nonresidential Equipment program for 2013 is calculated as 2.83. The B/C ratio for the gas component is calculated as 2.21 and the B/C ratio for the electric component is calculated as 4.77.

Significant highlights for the Nonresidential Equipment program for 2013 include:

- 105 new furnaces were rebated in 2013 compared to 56 in 2012, representing an 88 percent increase.
- 23 programmable thermostats were rebated in 2013, compared to zero in 2012.
- 593 lighting measures were rebated in 2013, which was 575 percent higher than projected. Lighting measures accounted for 99.7 percent of the achieved kWh electric savings for the Nonresidential Equipment program in 2013.
- One insulation project was processed in 2013 matching the participation in 2012.

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. It also is available to customers with more complex energy needs than can be accommodated through the Small Commercial Audit program. The program is marketed as the Custom Systems program.

The Nonresidential Custom program achieved annual energy savings of 13,474 kWh which was 77 percent lower than target and 12,748 therms, which was seven percent lower than target. Total program spending was \$36,469, which was 24 percent lower than budget.

The combined B/C ratio including gas and electric components for the Nonresidential Custom program for 2013 is calculated as 2.76. The B/C ratio for the gas component is calculated as 2.82 and the B/C ratio for the electric component is calculated as 2.27.

Significant highlights for the Nonresidential Custom program for 2013 include:

- Gas savings were within seven percent of target.
- Seven boiler stack draft controls were installed in 2013, accounting for 87 percent of the gas savings goal.
- A paint booth project provided 780 therms of gas savings and 13,474 kWh of electric savings in 2013.

g. Small Commercial Audit

The Small Commercial Audit program promotes comprehensive energy efficiency strategies for smaller commercial customers. It provides an on-line energy audit, more 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. The program is supported by a program contractor and marketed under the registered trademark name of BusinessCheck<sup>®</sup>.

The Small Commercial Audit program achieved annual energy savings of 279 kWh, which was 82 percent below target, and 2,749 therms, which was 73 percent lower than expected. Total program spending was \$16,888 which was 62 percent lower than budget. The Small Commercial Audit program was not suspended August 16, 2013 through December 31, 2013 as was Nonresidential Equipment because Small Commercial Audit was far below savings goals at the time. MidAmerican intends to increase participation in 2014 by making in-person visits with the Chamber of Commerce

in communities to determine which businesses may be good candidates for the program. With this information, contacts can be made with the business owners.

The combined B/C ratio including gas and electric components for the Small Commercial Audit program for 2013 is calculated as 1.59. The B/C ratio for the gas component is calculated as 1.69 and the B/C ratio for the electric component is calculated as .14.

Significant highlights for the Small Commercial Audit program for 2013 include:

- 29 energy audits were completed in 2013, compared to 51 in 2012.
- 58 direct install measures were installed in audited buildings, compared to 1,181 in 2012. These direct install measures saved an estimated 520 therms and 279 kWh.
- Six gas projects recommended by audits were installed in 2013, compared to eight in 2012.