

**MidAmerican Energy Company**  
**South Dakota Energy Efficiency**  
**2012 Annual Report**

This report provides the 2012 results for MidAmerican Energy Company's South Dakota Energy Efficiency programs. The 2012 Annual Report includes the following:

1. 2012 Program Results
2. Significant Activities for 2012
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 (February 25, 2010) and as approved by the South Dakota Public Utilities Commission (Commission) on March 24, 2010, in Docket No. EL07-015. On February 19, 2011, MidAmerican filed changes to the plan, which were approved by the Commission on April 6, 2011, in Docket No. GE10-001. Currently, MidAmerican offers six different energy efficiency programs to South Dakota customers, five are combination electric/gas programs and one is an electric only program.

**1. 2012 Program Results**

In 2012, a total of 465 audits were conducted and 4,746 measures were installed, for an expected annual savings of 1,743,647 kWh (loss adjusted) of electricity and 176,179 therms of natural gas. In 2012, MidAmerican paid a total of \$847,200 in equipment rebates and customer incentives and incurred costs totaling \$228,699 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 2012 is 1.36<sup>1</sup>.

---

<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.

Overall electric savings achieved by MidAmerican's South Dakota energy efficiency programs in 2012 were greater than projected in the plan; largely due to five variable speed drive projects included in the nonresidential equipment program.

Total expenses for 2012 were \$966,197 for gas programs and \$109,703 for electric programs. Based on these expenses and the Commission-approved incentive mechanisms, MidAmerican is requesting approval for a 2012 incentive of \$79,837 for natural gas and \$9,191 for electric programs. Significant results for 2012 are as follows:

- Residential electric program savings totaled 113,940 kWh, which was 42 percent lower than 2011, and was 62 percent lower than the 2012 kWh savings goal.
- Residential gas program savings totaled 131,405 therms, which was 22 percent less than 2011, and was 10 percent lower than the 2012 therm savings goal.
- Total residential spending was seven percent below budget for 2012.
- Nonresidential electric program savings totaled 1,629,707 kWh, which was an increase of 700 percent from 2011, and was 284 percent of the 2012 kWh savings goal.
- Nonresidential gas program savings totaled 44,774 therms, which was an 18 percent decrease over 2011, and was 12 percent greater than the 2012 therm savings goal.
- Total nonresidential spending was 11 percent above budget for 2012.

Detailed 2012 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 2012**

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 Online audit, HomeCheck on-site audit, Residential Equipment, BusinessCheck online audit and BusinessCheck on-site audit were promoted in the February 2012 newsletter.
  - HomeCheck Online audit, HomeCheck on-site audit, Nonresidential Equipment, Variable-Speed Drives and Residential Equipment were promoted in the May 2012 newsletter.
  - HomeCheck Online audit, HomeCheck on-site audit, Residential Equipment BusinessCheck online audit and BusinessCheck on-site audit were promoted in the August 2012 newsletter.
  - HomeCheck Online audit, HomeCheck on-site audit, Residential Equipment, BusinessCheck Online audit and BusinessCheck on-site audit were promoted in the November 2012 newsletter.
- MidAmerican continued to promote all of its programs through its trade allies. This promotion is particularly important for the Residential Equipment program, the Nonresidential Equipment program and the Custom program.
  - On November 13, 2012, 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 and inform MidAmerican's trade ally partners about MidAmerican's energy efficiency programs and provide trade allies with tools and information to successfully market MidAmerican's energy efficiency programs to their customers.
- Additional promotional activities included:
  - Promotion of the Residential Audit program by:

- Placing follow-up door hangers in neighborhoods after a customer in the neighborhood completed an audit.
- 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 93,693 kWh, which was 69 percent lower than expected and 91,002 therms, which was 14 percent lower than expected. Total program spending was \$449,313, which was 20 percent lower than expected.

The combined B/C ratio including both gas and electric components for the Residential Equipment program for 2012 is calculated as 0.89. The B/C ratio for the gas component is calculated as 0.90 and the B/C ratio for the electric component is calculated as 0.77.

Lower participation in ground source heat pump, furnace fan, and electric water heater measures caused the program to not meet the electric savings goal. Participation in 2012 was lower than projected for many measures. Participation was higher than projected in 2011 due to recovery efforts after the unprecedented 2010 flooding in MidAmerican's service territory. Concern that the higher than normal 2011 participation would continue on into 2012 led MidAmerican to increase the budgeted participation for 2012. However, the increased participation throughout 2012 did not materialize as projected. Significant highlights for the Residential Equipment program for 2012 include:

- 994 new furnaces were rebated in 2012, which was 30 percent lower than 2011 but only 12 percent lower than projected. Furnace equipment rebates provided 98 percent of the achieved total therm savings for the Residential Equipment program.
- 6 ground source heat pumps and 25 air source heat pumps were rebated in 2012, which was 11 percent lower than total heat pumps rebated in 2011, and 38 percent lower than projected.
- 20 furnace fans were rebated in 2012, which was 64 percent less than 2011, and 72 percent lower than projected. Furnace fans and heat pumps provided 88 percent of the achieved total kWh savings for the Residential Equipment program.
- The Residential Equipment program was promoted by special articles in the February, May, August 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<sup>®</sup>.

The Residential Audit program achieved annual energy savings of 16,218 kWh, which was 387 percent higher than expected and 40,403 therms, which was 3 percent higher than expected. Total program spending was \$388,527, which was 10 percent higher than expected.

The combined B/C ratio including gas and electric components for the Residential Audit program for 2012 is calculated as 0.99. The B/C ratio for the gas component is calculated as 0.93 and the B/C ratio for the electric component is calculated as 3.22.

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 2012 include:

- 414 in-home audits were completed in 2012, which was 13 percent less than 2011 and 14 percent less than expected.
- 377 insulation measures were installed, which was two percent more than 2011 and was four percent more than projected. Insulation measures installed in 2012 saved an estimated 23,415 therms and 13,154 kWh.
- 1,722 direct install measures were installed, which was 16 percent lower than 2011 and was 11 percent lower than expected. 2012 direct install measures saved an estimated 16,988 therms and 2,120 kWh.
- The Residential Audit program was promoted by:
  - Placing follow-up door hangers in neighborhoods after a customer in the neighborhood completed an audit.
  - 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, May, August and November editions of the *At Your Service* newsletter.

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 2012, the Residential Load Management program achieved annual peak demand savings of 169 kW, up from 85 kW in 2011. The 169 kW savings in 2012 was 48 percent lower than target. During 2012, the program achieved 4,029 kWh savings which was 155% higher than target. Total program spending was \$23,459, which was 24 percent higher than target.. The B/C ratio for the Residential Load Management program for 2012 is calculated as 1.45.

Significant highlights for the Residential Load Management program for 2012 include:

- MidAmerican had 138 load control receivers (LCRs) operating in the field during 2012, which was 11 percent higher than the goal of 124. 47 new LCRs were added during 2012 and 5 were removed for a net gain of 42 LCRs.
- MidAmerican promoted the program by;
  - direct mail to eligible customers.
  - Having HomeCheck<sup>®</sup> 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 12 times during 2012 on June 28, July 3, July 5, July 6, July 16, July 17, July 18, July 23, July 24, July 25, August 3, and August 30.

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 five sections for program delivery:

- Heating, ventilation and air conditioning
- Lighting
- Motors and variable speed drives
- Commercial kitchen equipment
- Other – Insulation

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 1,625,203 kWh, which was 405 percent higher than target. and 8,477 therms, which was seven percent higher than target. Total program spending was \$69,898, which was 0.6 percent higher than target.

The combined B/C ratio including gas and electric components for the Nonresidential Equipment program for 2012 is calculated as 4.26. The B/C ratio for the gas component is calculated as 0.63 and the B/C ratio for the electric component is calculated as 10.75.

Significant highlights for the Nonresidential Equipment program for 2012 include:

- 56 new furnaces were rebated in 2012 compared to 36 in 2011, representing a 56 percent increase.
- Seven variable speed drives were rebated in 2012 compared to zero in 2011. The variable speed drives contributed 1,500,496 kWh in energy savings to the program in 2012, explaining the large positive variance the program experienced compared to planned savings.



- Four new boilers were rebated in 2012, which was two more than 2011.
- One heat pump was rebated in 2012, matching the participation in 2011.
- 36 lighting measures were rebated in 2012 compared to 97 in 2011. One insulation project was completed in 2012 compared to two projects in 2011.
- The Nonresidential Equipment program was promoted by a special article in the May edition of the *At Your Service* newsletter.

e. 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 0 kWh which was 100 percent lower than target and 16,124 therms, which was nine percent higher than target. Total program spending was \$54,309, which was six percent lower than budget.

The combined B/C ratio including gas and electric components for the Nonresidential Custom program for 2012 is calculated as 2.29. The B/C ratio for the gas component is calculated as 2.36 and the B/C ratio for the electric component is not applicable since there were no electric savings.

Significant highlights for the Nonresidential Custom program for 2012 include:

- Natural gas savings were on target.
- 20 boiler stack draft controls were installed, comprising all of the 2012 natural gas savings.

- In 2011, a large heat exchange project contributed to electric savings that were 202 percent higher than target. However, in 2012 there were no qualifying custom projects that included electric savings.

f. 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, LED exit sign kits, etc. 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 4,503 kWh, which was 18 percent above target, and 20,173 therms, which was 18 percent greater than expected. Total program spending was \$90,394, which was 41 percent greater than budget.

The combined B/C ratio including gas and electric components for the Small Commercial Audit program for 2012 is calculated as 1.44. The B/C ratio for the gas component is calculated as 1.45 and the B/C ratio for the electric component is calculated as 1.03.

Significant highlights for the Small Commercial Audit program for 2012 include:

- 51 energy audits were completed in 2012.
- 1,181 direct install measures were installed in audited buildings, compared to 3,939 in 2011. These direct install measures saved an estimated 11,911 therms and 2,028 kWh.
- Eight gas projects recommended by audits were installed in 2012, compared to two in 2011.