

Introduction

With this filing, MidAmerican Energy Company proposes to begin offering energy-efficiency programs to its electric and natural gas customers in South Dakota. MidAmerican has offered similar programs in Iowa for over 16 years and looks forward to helping customers take advantage of the new South Dakota programs to lower energy costs, improve business competitiveness and help the environment.

1. Overview of Programs

MidAmerican proposes to introduce a comprehensive program portfolio over a three-year period beginning Jan. 1, 2008. Table 1 lists the programs that will be offered along with their implementation schedules.

Most programs will be offered as joint electric and natural gas programs. For example, MidAmerican will hire one residential audit contractor to serve all of MidAmerican's electric and natural gas customers. However, MidAmerican will only provide rebates for measures that save energy sold by MidAmerican. For example, customers who purchase natural gas only will not be eligible to receive rebates for compact fluorescent lamps (which save electricity). When appropriate, MidAmerican also will work with other South Dakota utilities to share costs and program resources to make it as easy as possible for South Dakota customers to participate in multi-fuel programs.

MidAmerican has designed a comprehensive program portfolio to meet the varied needs of different customers. The programs offer services to:

- Electric and natural gas customers,
- Residential, commercial and industrial customers,

- Large and small customers,
- Homeowners, commercial building owners and tenants,
- Customers in existing and new buildings and
- Customers buying individual pieces of equipment and customers pursuing more comprehensive energy-efficiency solutions.

Table 1
South Dakota Program Implementation Schedule

Program	Marketing Name	Fuel		Implementation Year		
		Natural Gas	Electric	2008	2009	2010
Residential						
Residential Equipment		✓	✓	✓		
Residential Energy Audit	HomeCheck SM	✓	✓	✓		
Residential Load Management	SummerSaver SM		✓		✓	
Residential New Construction	New Homes	✓	✓			✓
Low Income		✓	✓	✓		
Nonresidential						
Nonresidential Equipment		✓	✓	✓		
Small Commercial Energy Audit	BusinessCheck SM	✓	✓	✓		
Nonresidential Load Management	Curtailment		✓		✓	
Commercial New Construction		✓	✓			✓
Nonresidential Custom	Custom Systems	✓	✓			✓

The five residential programs include:

Residential Equipment program, which provides rebates to encourage customers to purchase high-efficiency space conditioning and water heating equipment from participating contractors.

Residential Audit program (or HomeCheck), which provides free energy audits, direct installation of simple energy-efficiency measures and rebates for more extensive building shell retrofits, and also coordinates MidAmerican's participation in the national *Change a Light*,

Change the World retail sales campaign for compact fluorescent lamps, which is organized by the U.S. Environmental Protection Agency.

Residential Load Management program (or SummerSaver), which provides financial incentives to customers that allow MidAmerican to control their central air conditioning on summer peak days.

Residential New Construction program (or New Homes), which provides financial incentives to builders that implement comprehensive energy-efficiency strategies in new homes.

Residential Low-Income program, which utilizes local community action program agencies to provide free energy audits and free installation of lighting, water heating and insulation measures for low-income customers that qualify for the federal Weatherization Assistance Program.

The five nonresidential programs include:

Nonresidential Equipment program, which provides rebates to encourage customers to purchase efficient heating, cooling, lighting, motor and commercial kitchen equipment.

Small Commercial Audit program (or BusinessCheck), which serves small business customers by providing energy audits, direct installation of simple energy-efficiency measures and rebates for more extensive projects.

Nonresidential Load Management program (or Curtailment), which provides financial incentives to large customers that commit to curtailing load on summer peak days.

Commercial New Construction program, which provides financial incentives to builders and developers that implement comprehensive energy-efficiency strategies in new building construction.

Nonresidential Custom program (or Custom Systems), which provides a delivery channel for any measures that do not fit neatly into MidAmerican's other nonresidential programs.

2. Estimated Costs and Benefits

Table 2 lists estimated implementation costs for each program from 2008 to 2010, including breakdowns between natural gas and electric costs as well as between residential and nonresidential costs. MidAmerican proposes investing over \$4.1 million in these programs over the three-year period, including:

- \$3.7 million on natural gas programs and \$0.4 million on electric programs and
- \$3.2 million on residential programs and \$0.9 million on nonresidential programs.

Accounting systems will ensure that costs for providing the programs are recovered from the appropriate customers: electric program costs from electric customers and natural gas program costs from natural gas customers; residential program costs from residential customers and nonresidential program costs from nonresidential customers.

Table 3 lists estimated implementation costs by functional category, including the incentives paid directly to program participants as well as the support functions, such as administration and advertising that are necessary to deliver programs. Over two-thirds of natural gas costs and almost three-quarters of electric costs provide direct benefits to customers for energy-efficiency measures, either through incentive payments or through equipment and installation costs that MidAmerican incurs directly to operate electric load management programs.

Table 2
Estimated Budgets by Program (\$000)

	Natural Gas				Electric				Total			
	2008	2009	2010	3-year Total	2008	2009	2010	3-year Total	2008	2009	2010	3-year Total
Residential												
Residential Equipment	\$398	\$439	\$521	\$1,358	\$12	\$14	\$15	\$41	\$410	\$453	\$536	\$1,399
Residential Audit	\$422	\$437	\$446	\$1,305	\$10	\$9	\$9	\$28	\$432	\$446	\$455	\$1,333
Residential Load Management				\$0		\$36	\$31	\$67		\$36	\$31	\$67
Residential New Construction			\$164	\$164			\$2	\$2			\$166	\$166
Residential Low Income	\$74	\$92	\$93	\$259	\$2	\$3	\$3	\$8	\$76	\$95	\$96	\$267
Total residential	\$894	\$968	\$1,224	\$3,086	\$24	\$62	\$60	\$146	\$918	\$1,030	\$1,284	\$3,232
Nonresidential												
Nonresidential Equipment	\$65	\$48	\$56	\$169	\$27	\$23	\$30	\$80	\$92	\$71	\$86	\$249
Small Commercial Audit	\$148	\$100	\$142	\$390	\$7	\$4	\$5	\$16	\$155	\$104	\$147	\$406
Nonresidential Load Management				\$0		\$71	\$71	\$142		\$71	\$71	\$142
Commercial New Construction			\$25	\$25			\$7	\$7			\$32	\$32
Nonresidential Custom			\$52	\$52			\$3	\$3			\$55	\$55
Total nonresidential	\$213	\$148	\$275	\$636	\$34	\$98	\$116	\$248	\$247	\$246	\$391	\$884
Total Budget	\$1,107	\$1,116	\$1,499	\$3,722	\$58	\$160	\$176	\$394	\$1,165	\$1,276	\$1,675	\$4,116

Table 3
Estimated Budgets by Function (\$000)

	Natural Gas				Electric				Total			
	2008	2009	2010	3-Year Total	2008	2009	2010	3-Year Total	2008	2009	2010	3-Year Total
Planning & Design	\$176	\$15	\$25	\$216	\$12	\$2	\$2	\$16	\$188	\$17	\$27	\$232
Administration	\$190	\$200	\$269	\$659	\$11	\$20	\$31	\$62	\$201	\$220	\$300	\$721
Advertising & Promotion	\$70	\$71	\$102	\$243	\$0	\$8	\$9	\$17	\$70	\$79	\$111	\$260
Incentives	\$648	\$807	\$1,063	\$2,518	\$35	\$99	\$111	\$245	\$683	\$906	\$1,174	\$2,763
Monitoring & Evaluation	\$23	\$23	\$40	\$86	\$0	\$7	\$7	\$14	\$23	\$30	\$47	\$100
Equipment	\$0	\$0	\$0	\$0	\$0	\$15	\$10	\$25	\$0	\$15	\$10	\$25
Installation	\$0	\$0	\$0	\$0	\$0	\$9	\$6	\$15	\$0	\$9	\$6	\$15
Total Budget	\$1,107	\$1,116	\$1,499	\$3,722	\$58	\$160	\$176	\$394	\$1,165	\$1,276	\$1,675	\$4,116

3. Estimated Energy and Demand Savings

As a result of this investment in program implementation, MidAmerican expects to help customers install over 26,000 energy-efficiency measures in their homes and businesses. By 2010, these measures will reduce MidAmerican's annual energy requirements by almost 731,000 therms of natural gas and almost 1.8 million kilowatt-hours of electricity (see Table 4). These savings represent a little less than 1 percent of MidAmerican's annual natural gas sales and annual electricity requirements (i.e., sales plus line losses) in South Dakota. In addition, the measures will reduce MidAmerican's electric peak demand by almost two megawatts, or almost 0.5 percent of MidAmerican's South Dakota peak demand. If MidAmerican continues to offer these programs after 2010, these cumulative percentage savings will continue to grow. (For example, MidAmerican's Iowa programs now reduce energy and peak demand requirements by around 5 percent.)

Table 4
Cumulative Energy and Demand Savings

	2008	2009	2010
Electric Impacts			
Annual Energy (kWh)	483,883	1,072,694	1,773,593
Peak Demand (kW)	73	1,714	1,890
Natural Gas Impacts			
Annual Energy (therms)	189,210	418,530	730,870
Peak-Day Demand (therms)	2,720	6,070	10,910

The installed measures will continue to save customers energy and money for many years. (For example, residential furnaces typically last 17 years before requiring replacement.) Over the 30-year period that MidAmerican used to evaluate the costs and benefits of the energy-efficiency programs, the programs are expected to save almost 15 million therms of natural gas and almost 28 million kilowatt-hours of electricity.

4. Cost-Effectiveness

MidAmerican evaluated the cost-effectiveness of these program investments from a societal perspective. Key features of the societal cost-effectiveness test include the following.

- Costs and benefits both are defined incremental to what would have occurred in the absence of the program.
- Future costs and benefits are discounted at a societal discount rate (which, for this analysis, was assumed to be 5.18 percent).
- Costs include:
 - Incremental costs that program participants incur to purchase energy-efficient equipment, defined relative to the standard equipment they would have installed in the absence of the program,
 - Utility costs for administering the program, including costs for planning and design, administration, advertising and promotion and monitoring and evaluation and
 - Only those costs required to add participants over the 2008-10 period covered by this filing, as well as any additional costs required to maintain participation and associated savings over the lifetimes of the measures installed during the 2008-10 period.
- Costs do not include the financial incentives that are transferred from the utility to program participants, since from a societal perspective, these costs are a cost to one societal subgroup (the utility) and an offsetting benefit to another societal subgroup (program participants).
- Benefits include:
 - Avoided utility supply costs over the lifetimes of the measures installed from 2008-10 and

- Externalities, or those benefits that are not explicitly monetized within avoided supply costs. (For this analysis, externalities were calculated as 10 percent of avoided electric supply costs and 7.5 percent of avoided gas supply costs.)

Table 5 presents the results of the cost-effectiveness analysis of the 10 programs proposed for implementation by MidAmerican. Overall the programs are expected to create net benefits to society - that is, South Dakota's customers and the state's economy - of almost \$3.4 million. The benefit-cost ratio for the programs is 1.63. That is, for every dollar invested by customers and MidAmerican in energy-efficient equipment and program costs, \$1.63 is created in lower utility supply costs and associated externalities.

Table 5
Societal Cost-Effectiveness Results

Lifecycle Societal Benefits (NPV)	\$ 8,723,537
Lifecycle Societal Costs (NPV)	\$ 5,346,794
Net Societal Benefits (NPV)	\$ 3,376,743
Benefit-Cost Ratio	1.63

MidAmerican also evaluated the societal cost-effectiveness of each individual program and includes those results in Sections B and C. For the program cost-effectiveness evaluations, each program was assumed to add participants for three years so that all programs could reach their full participation potential. For example, the Residential Equipment program, which begins in 2008, was assumed to add participants from 2008-10, while the Residential New Construction program, which begins in 2010, was assumed to add participants from 2010-12. Although these timeframes were used to fairly evaluate the cost-effectiveness of individual programs, MidAmerican is not seeking approval to operate programs past 2010 at this time. In addition, the

total results presented earlier in this section represent only the costs and benefits associated with participants added during the term of the proposed plan, i.e., 2008-10.

5. Environmental Benefits

The programs also will reduce emissions by reducing the need for natural gas burned in end use equipment, as well as the coal and natural gas required to generate electricity. Table 6 estimates the reduction in air pollution and greenhouse gases that the programs will provide over the life of the installed measures.

**Table 6
Reduction in Air Emissions from Energy-Efficiency Programs**

Emission	Reduction from 2008-2038 (tons)
Carbon Dioxide (CO ₂)	119,352
Sulfur Oxides (SO _x)	91
Nitrogen Oxides (NO _x)	113
Carbon Monoxide (CO)	50
Particulate Matter (PM ₁₀)	11

6. Cost-Recovery Adjustment Clause

MidAmerican is requesting approval of a cost-recovery adjustment clause to recover the costs for implementing these programs, including the lost revenues that will result from lower natural gas sales. Section E provides a detailed discussion of the cost-recovery proposal and calculations. Table 7 presents the energy-efficiency cost recovery factors that MidAmerican proposes for 2008.

**Table 7
Proposed 2008 Cost-Recovery Factors**

	Natural Gas	Electric
Residential	\$0.01650 per therm	\$0.00064 per kWh
Nonresidential	\$0.00556 per therm	\$0.00020 per kWh

7. Implementation Issues

MidAmerican's experience implementing energy-efficiency programs has helped it identify a number of implementation issues that may arise as the programs are introduced in South Dakota. In this section, MidAmerican describes these key issues and, for each, makes a recommendation about how to manage the issues in South Dakota. The issues include:

- a. Managing participation and budgets,
- b. Continuous program and process improvement,
- c. Reporting,
- d. Coordinating with other utilities and
- e. Customer satisfaction.

a. Managing Participation and Budgets

In this filing, MidAmerican provides budget estimates for each program and year based on estimates of participation and rebate levels for each measure offered in each program. MidAmerican used its Iowa experience, augmented by available South Dakota market information, to estimate South Dakota participation, assuming that it will take two or three years for the South Dakota programs to reach full participation rates.

For any program and any year, participation and spending may vary substantially from these estimates. For example, pent up demand or general customer interest may cause some programs to take off right away and not require the two- to three-year growth period assumed in the budget estimates. Other programs may take longer to become established.

Other factors beyond MidAmerican or customer control can have substantial impacts on program participation and budgets. For example, MidAmerican has offered a residential audit program in Iowa for over 16 years. While participation in most years is stable and somewhat

predictable, events such as extreme weather, high natural gas (energy) prices and media attention can lead to large participation swings. In a typical heating season, MidAmerican completes around 6,000 audits; after the high natural gas prices and media attention that followed the Gulf hurricanes in late 2005, MidAmerican completed almost 10,000 audits in the 2005-06 winter season.

Additional factors also may affect program participation and budgets. For example, the new construction programs are driven by levels of construction activity, which in turn can be affected by interest rates and the general health of the economy. The general economy also affects other programs, but usually to a lesser extent. For example, residential and business customers may defer major purchases of heating, ventilating and air conditioning equipment if the economy is performing poorly. And large industrial customers may expand or contract their manufacturing operations in reaction to economic conditions, possibly influencing their level of participation in the Nonresidential Load Management program.

MidAmerican makes the following recommendations for managing the issue of uncertain program participation levels in South Dakota.

Ensure program stability. MidAmerican recommends that programs continue to provide stable, predictable rebates to customers and trade allies, even if program spending in a given year exceeds the estimates provided in this filing. MidAmerican recommends against abruptly stopping individual programs as budgets run out. Experience has shown that stopping programs leads customers and trade allies to lose faith in the programs, causing participation in the programs (and customer satisfaction) to deteriorate.

Manage total budgets rather than individual program budgets. MidAmerican has developed a portfolio of programs to implement in South Dakota. The portfolio effect can help

offset budget swings in individual programs to the extent that some programs spend below their budget estimates while others exceed budgeted levels. MidAmerican has proposed a cost-recovery approach that allocates costs between electric and natural gas customers and residential and nonresidential customers. If individual programs exceed budgets, but other programs under-spend, in some cases the overall class cost-recovery factors could still remain at levels approved as part of this filing.

Adapt utility supply planning. The proposed programs all are cost-effective at the participation levels proposed in this filing; that is, they provide more in benefits from reduced electric and natural gas supply needs than they require in investments for efficient equipment and program implementation costs. Each of the programs would be even more cost-effective - that is, would deliver higher net benefits to South Dakota customers - at higher participation levels. In order to ensure that the most benefits flow to South Dakota customers, MidAmerican will manage its electric and natural gas supply planning systems to capture the benefits of lower energy and demand levels (i.e., adjusting supply purchases and construction to reflect energy savings from the energy-efficiency programs).

Adapt program operations. While some of the key factors that drive program participation are beyond MidAmerican's control, MidAmerican also has some tools at its disposal to affect participation levels. For example, MidAmerican can adjust its promotional activities, increasing press coverage and targeted advertising when participation is below goals and decreasing these activities when participation exceeds goals. In addition, MidAmerican can adjust eligibility requirements for certain measures and programs to help spur or dampen participation. For example, MidAmerican proposes to introduce the South Dakota Residential Audit program with eligibility limited to houses built prior to Dec. 31, 1986. If participation lags

for this program, MidAmerican may change eligibility to include newer homes and more customers.

b. Continuous Program and Process Improvement

MidAmerican has developed programs for South Dakota based on programs that have evolved in Iowa over the last 16 years. The program descriptions provided in Sections B and C describe the measures, rebates, promotional strategies and other features that are currently used to successfully implement programs.

MidAmerican's programs have improved over the last 16 years and MidAmerican expects continuous improvement in the future. For example, over the last few years, MidAmerican has:

- Changed qualifying efficiencies and rebate levels for residential and small commercial air conditioning equipment to reflect changes in federal equipment-efficiency standards,
- Changed qualifying requirements and rebate levels for the residential and nonresidential new construction programs to reflect changes in the Iowa building code, the International Energy Conservation Code and the U.S. EPA's ENERGY STAR[®] homes program,
- Increased rebates for natural gas heating and water heating equipment as well as residential insulation to help customers respond to sharp increases in natural gas prices,
- Added point-of-sale rebates for compact fluorescent lighting to the Residential Audit program, in coordination with the *Change A Light, Change the World* campaign and
- Added a range of measures to the Nonresidential Equipment program to help business customers improve the efficiency of commercial kitchen equipment.

MidAmerican makes the following recommendations for ensuring continuous program and process improvement in its South Dakota programs.

Create periodic long-term plans. MidAmerican's current proposal for South Dakota covers the years 2008 through 2010. Upon successful completion of the initial plan, MidAmerican proposes to file a plan update in 2010 to recommend new program features and to project program costs and savings for an additional period.

Perform annual research and development. MidAmerican performs an annual research and development effort to review new energy-efficiency technologies; program measures and features offered by utilities in other jurisdictions; changes in government standards for equipment and buildings and other issues that affect program operations. From this annual effort, MidAmerican may propose changes in measure offerings, eligibility requirements, rebate levels and other program features for the coming year. This annual effort will allow programs to continuously improve and adapt to current market conditions.

Perform periodic process evaluations. Periodically, MidAmerican performs formal process evaluations to help ensure continuous improvement of its programs. Process evaluations use independent evaluators to capture feedback from program participants, other customers, trade allies, program contractors and MidAmerican staff. The evaluators use the information they collect to structure specific recommendations for program improvements.

c. Reporting

MidAmerican believes it is important to provide the South Dakota Public Utilities Commission (PUC) and the PUC staff with timely reports on program results but also recognizes a need to balance the costs of preparing reports with the benefits those reports provide.

MidAmerican recommends the following reporting process for this South Dakota plan.

File annual reports. MidAmerican proposes to file an annual report to the PUC each year that details program results for the previous calendar year and lays out key changes to be

implemented in the current year. For example, the 2009 report will provide results for 2008 programs and describe changes planned for 2009.

In the annual report, MidAmerican will provide reviews of each individual program, outlining key quantitative results (e.g., participation levels) for the previous year, key successes and challenges addressed in the previous year and key changes to be implemented in the current year.

MidAmerican also will provide data tables across all programs that outline:

- Spending by program, fuel and functional cost category,
- Energy and demand savings, by program and fuel and
- Cost-effectiveness results, by program.

Conduct formal update meetings. MidAmerican proposes to meet with the PUC staff once each year to review program operations for the current year and preview expected program changes for the coming year. At the meeting, MidAmerican will provide a formal presentation to review each program and other key issues and also allow time for discussion with staff.

Reconcile cost-recovery adjustment clause. MidAmerican proposes to make an annual filing that reconciles the cost-recovery adjustment clause. The reconciliation will take into account actual program costs, program savings and total sales for the previous year and estimated costs, savings and sales for the coming year, and calculate new charges.

Continue other informal communications. MidAmerican encourages ongoing informal communication with the PUC staff to keep them informed of program operations and decisions as other issues arise. While MidAmerican maintains sole responsibility for program management, it prefers to make management decisions that incorporate feedback from the staff, benefiting from staff experience and insights and limiting the possibility for misunderstandings.

d. Coordinating With Other Utilities

MidAmerican serves approximately 82,000 customers in South Dakota, including almost 81,000 natural gas customers, slightly less than 4,000 electric customers and over 2,000 combined-service customers. MidAmerican's programs address electric as well as natural gas measures, but most of MidAmerican's customers only will be eligible for the natural gas measures. This situation will present some challenges for program implementation, including communicating clearly to customers to make sure they understand program eligibility requirements; delivering programs in an efficient and cost-effective manner, even when only one fuel is covered and helping customers that are interested in implementing comprehensive energy-efficiency strategies.

In Iowa, MidAmerican works jointly with the other investor-owned utilities and some of the municipal utilities to coordinate services and rebates. For example, in the residential audit program, the utilities share a common audit contractor. The utility providing the heating fuel pays for the audit, the auditor coordinates installation and specification of both electric and natural gas efficiency measures and the utilities work together to ensure that the appropriate utility funds the appropriate measures.

e. Customer Satisfaction

MidAmerican has many reasons for implementing energy-efficiency programs in South Dakota. The programs clearly are cost-effective; they will create millions of dollars of benefits to South Dakota customers; they help MidAmerican meet its short- and long-term supply needs and they help MidAmerican reduce its environmental footprint.

But MidAmerican also implements these programs for a simpler reason: customers like them. MidAmerican's Iowa customers have come to rely on the programs and they have an

expectation that MidAmerican will help them manage their utility costs. Maintaining customer satisfaction is a key driver for MidAmerican in offering energy-efficiency programs.

The fact that MidAmerican historically has not offered the programs in South Dakota has created some customer satisfaction issues. While MidAmerican is regulated separately in Iowa and South Dakota, customers do not always fully recognize this difference. Media messages cannot be contained within state boundaries and when South Dakota customers become aware of the Iowa programs, they may not understand why the programs are not offered in South Dakota as well.

MidAmerican has the following recommendations for using the South Dakota programs to increase customer satisfaction.

Offer consistent programs. MidAmerican's goal is to offer consistent programs across all of its state jurisdictions. As with any new venture, it will take time for the South Dakota programs to become established; initially, there may be small differences between the South Dakota programs and those currently offered in Iowa (and those MidAmerican hopes to be offering in Illinois in the near future). For example, in order to gradually phase in the impact of cost-recovery on customer rates, MidAmerican has proposed phasing in its programs over three years. However, MidAmerican's long-term goal is to work with each jurisdiction so that programs can be as similar as possible for all customers.

Focus on the customer. MidAmerican's programs have been designed to make it easy for customers to participate. MidAmerican has researched the key barriers customers face in adopting energy-efficiency strategies and developed financial incentives, technical assistance and other program features to overcome these barriers.

Invest in infrastructure. MidAmerican attracts customers to the programs by offering financial incentives but the programs would not be successful without additional investments in program infrastructure. Advertising is needed to increase customer awareness; trade ally management to help local contractors, architects, engineers and other professionals sell the services; monitoring and evaluation to track program performance and administrative systems to ensure efficient program operation. By investing in these additional systems, MidAmerican helps ensure that customers enjoy their participation in quality programs.

Remain flexible. While MidAmerican has designed the program requirements to meet the needs of most customers, it also understands that some customers need special services. Program managers work with individual customers to make sure their needs are being met.

8. Organization of This Report

The remainder of this filing provides additional detail on the programs and their expected results. After this introduction, the filing includes the following sections.

- Section B describes the five residential programs.
- Section C describes the five nonresidential programs.
- Section D describes support functions required to deliver the programs, including a monitoring and evaluation plan and an accounting plan.
- Section E provides a cost-recovery proposal, addressing the regulatory framework for cost-recovery, proposing language for cost-recovery riders and estimating natural gas and electric riders.