

# Commercial New Construction Program

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## 1. Program Description

This program promotes the design and construction of high-efficiency commercial buildings, serving customers undergoing new construction as well as major renovation of existing buildings. The program is delivered in partnership with key developers, architects, engineering firms and equipment contractors and provides separate delivery strategies targeting large and small buildings. The program provides a mix of technical and financial assistance to help reduce market barriers to energy efficiency. MidAmerican will implement the program in South Dakota beginning in 2010.

## 2. Operations

The program is delivered through the assistance of a program contractor, who provides energy design assistance, project management and verification. The contractor also helps MidAmerican strengthen relations with key trade allies. A second program contractor also assists with data tracking and rebate processing.

The program has slightly different tracks for large and small buildings, with larger buildings typically defined as those greater than 50,000 square feet in floor space. However, depending on the complexity of the building, the program manager may deviate from this strict size limit in specifying program services.

The program uses a similar process for both large and small buildings, although more detailed design and verification services are provided for larger building projects.

Key steps in program participation include:

- Program enrollment,

- Energy design assistance, through which the program contractor works with the design team to identify energy-efficiency strategies for the building project and then uses computer modeling to assess the costs and benefits of different bundles of combined strategies,
- Selection of preferred design strategies by the building developer/owner,
- Verification by the program contractor that the preferred design strategies are incorporated into construction documents and into actual building (including rerunning computer models to capture the costs and benefits of revised construction approaches) and
- Processing rebate checks which are provided directly to building owners.

### 3. Value Proposition

Buildings participating in the program receive three main benefits:

- ***Financial benefits*** in the form of:
  - Free energy design assistance,
  - Comprehensive construction incentives that reduce the payback period of selected energy-efficiency measures and
  - Lower monthly operating costs.
- ***Decision support*** in the form of:
  - High-quality information on the costs and benefits of energy-efficiency strategies potentially adaptable to the building and
  - Detailed design specifications for selected measures.
- ***Confidence*** in their final design decision due to
  - Owner/developer involvement in the measure selection and review process and

- Independent verification that selected measures are included in design specifications, construction documents and final installation.

#### **4. Customer Targets**

This program targets owners and developers of proposed new construction or renovation projects. Owners and developers who decide not to participate in the program still are eligible for energy-efficiency incentives through MidAmerican's other nonresidential programs.

The large building component targets buildings larger than 50,000 square feet such as schools, universities and large office buildings. The small building component targets buildings such as medical clinics, small offices, commercial strip malls, school additions and retail space.

This program is not designed to help industrial customers constructing new manufacturing facilities and processes. These customers would be served under the Nonresidential Custom program. However, industrial customers would be eligible for this program for new, non-process buildings (e.g., office buildings, non-process warehouses).

Transportation gas customers with daily metering would be ineligible for prescriptive gas measures; customers with monthly metering (which covers most schools using transportation tariffs) would be eligible.

Table 1 outlines customer eligibility requirements.

**Table 1  
Customer Eligibility Parameters**

	<b>Electric Equipment*</b>	<b>Gas Equipment*</b>
<b>Customer Class</b>	Nonresidential electric rates	Nonresidential gas rates; Gas transportation customers with daily metering are ineligible
<b>Customer Status</b>	Building owners and developers	Building owners and developers
<b>Building Type</b>	Commercial buildings (i.e., non-manufacturing)	Commercial buildings (i.e., non-manufacturing)
<b>Business Type</b>	All	All
<b>Building Vintage</b>	New construction	New construction
<b>Geography</b>	South Dakota	South Dakota
<b>Size</b>	Large: 50,000 sq. ft. or more in size Small: below 50,000 sq. ft. in size	Large: 50,000 sq. ft. or more in size Small: below 50,000 sq. ft. in size

\* Projects involving replacement of individual pieces of equipment are addressed through the Nonresidential Equipment and Nonresidential Custom programs.

## 5. Trade Ally Targets

The program relies primarily on the following trade allies for program delivery:

- Architect and engineering (A/E) firms,
- Developers,
- Construction firms/building contractors,
- Design-to-build contractors,
- Mechanical contractors and
- Equipment contractors, such as HVAC and electrical equipment.

## 6. Eligible Measures

All energy-efficiency measures that improve energy efficiency relative to South Dakota building standards codes are potentially eligible. MidAmerican expects to set baseline targets for most buildings using ASHRAE 90.1-1999, the current code for all state facilities built in South Dakota. However, in Minnehaha County, the baseline targets will be set relative to the local

code, which is IECC 2003. Typical measures include daylighting, lighting controls, custom task lighting, Low-E windows, increased wall and roof insulation, efficient heating and cooling equipment, efficient motors, variable-speed drives and building controls.

## **7. Financial Incentives**

The program offers financial incentives in three areas: design assistance, verification and comprehensive construction incentive. Design assistance and verification services are paid for by MidAmerican and come at no cost to the building owner/developer. In addition, a participation fee is paid to the design team used by the building owner/developer in order to compensate them for their additional costs of program participation. Participation fees are structured per square foot, to simplify administration for both MidAmerican and participating design firms.

Construction incentives are structured per unit of annual energy saved (e.g., \$/kWh and \$/therm) relative to the appropriate baseline. To encourage more comprehensive solutions, MidAmerican structures incentives to increase as annual savings increase. In 2007, Iowa incentives range from 5 to 14 cents per annual kilowatt-hour saved and from 40 cents to \$1.80 per annual therm saved. MidAmerican will work with builders and public officials to set South Dakota incentives at levels that reflect local market conditions, especially the existing building code in Minnehaha County. MidAmerican also performs an annual review of qualifying equipment to ensure that program incentives evolve to meet changing market conditions.

## **8. Promotion**

The promotional strategy for this program focuses on targeted trade allies through direct mail, magazine advertising and personal communication. Program-specific promotional materials and brochures will be mailed to interested parties, including owners, developers, architects, engineers, contractors and trade allies. Advertisements will be placed in appropriate

professional and trade journals and publications. Presentations will be made at trade shows and professional association meetings. Presentations also will be made to targeted customer segments, such as school and hospital administrators.

## 9. Participation

Table 2 provides program participation assumptions.

**Table 2  
Participation**

	2008	2009	2010
<b>Electric Buildings</b>			
<i>Large Buildings</i>			
Design Assistance	-	-	-
Completed Buildings	-	-	-
<i>Small Buildings</i>			
Design Assistance	-	-	-
Completed Buildings	-	-	-
<b>Natural Gas Buildings</b>			
<i>Large Buildings</i>			
Design Assistance	-	-	3
Completed Buildings	-	-	-
<i>Small Buildings</i>			
Design Assistance	-	-	-
Completed Buildings	-	-	-

## 10. Energy and Demand Savings

Table 3 provides energy and demand savings goals.

**Table 3  
Cumulative Energy and Demand Savings**

	2008	2009	2010
<b>Electric Impacts</b>			
Annual Energy (kWh)	-	-	-
Peak Demand (kW)	-	-	-
<b>Natural Gas Impacts</b>			
Annual Energy (therms)	-	-	-
Peak-Day Demand (therms)	-	-	-

**11. Budget**

Table 4 provides program budget assumptions.

**Table 4  
Budget**

	2008	2009	2010
<b>Electric Budget</b>			
Planning & Design	\$0	\$0	\$0
Administration	\$0	\$0	\$7,000
Advertising & Promotion	\$0	\$0	\$0
Customer Incentives	\$0	\$0	\$0
Monitoring & Evaluation	\$0	\$0	\$0
Equipment	\$0	\$0	\$0
Installation	\$0	\$0	\$0
<b>Electric Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,000</b>
<b>Natural Gas Budget</b>			
Planning & Design	\$0	\$0	\$2,000
Administration	\$0	\$0	\$9,000
Advertising & Promotion	\$0	\$0	\$5,000
Customer Incentives	\$0	\$0	\$3,000
Monitoring & Evaluation	\$0	\$0	\$6,000
Equipment	\$0	\$0	\$0
Installation	\$0	\$0	\$0
<b>Natural Gas Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$25,000</b>
<b>Total Budget</b>			
Planning & Design	\$0	\$0	\$2,000
Administration	\$0	\$0	\$16,000
Advertising & Promotion	\$0	\$0	\$5,000
Customer Incentives	\$0	\$0	\$3,000
Monitoring & Evaluation	\$0	\$0	\$6,000
Equipment	\$0	\$0	\$0
Installation	\$0	\$0	\$0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$32,000</b>

## 12. Cost-Effectiveness Results

Table 5 provides program cost-effectiveness results.

**Table 5**  
**Cost-Effectiveness Results\***

Lifecycle Societal Benefits (NPV)	\$ 269,925
Lifecycle Societal Costs (NPV)	\$ 125,469
Net Societal Benefits (NPV)	\$ 144,456
Benefit-Cost Ratio	2.15

\*Includes lifecycle cost and benefits of new participants added from 2010-12, to allow programs to reach full participation.

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