

## **Xcel DSM Programs From Monitoring and Evaluation Report, 2008**

Demand-side management programs have been used since the 1970s to reduce the energy use patterns of electricity and natural gas consumption. This was done to reduce demand on the grid during peak hours and reduce the amount of energy consumed over a period of time. Xcel provides electricity and natural gas to much of Denver and the metro area. As part of their goal to reduce demand and energy consumption, Xcel offers many DSM programs to residential and commercial customers to help reduce electricity and natural gas use.

The business programs include: Boiler efficiency, compressed air efficiency, cooling efficiency, custom efficiency, energy assessments, energy design assistance, energy management systems, lighting efficiency, motor and drive efficiency, recommissioning.

Residential programs include (6 following): Central AC tune-up, evaporative cooling, home lighting, residential Saver's Switch, Energy Savings Partners (Electric and Gas).

Business:

1. **Compressed Air Efficiency:** In 2008, the program had 37 participants and saved 667 kWh generator demand savings and 4,847,769 kWh of generator energy savings. The program provided incentives for businesses with compressed air systems greater than 50 hp to receive an audit and additional incentives if the customers corrected the air leakage or waste detected.
2. **Cooling Efficiency:** In 2008, this program had 123 participants and was expected to increase in the coming years. The program offers rebates to businesses that choose a range of high efficiency air conditioning equipment.
3. **Custom Efficiency:** this program provides custom audits to customers to see where they can improve their efficiency. Projects must meet certain qualifications. Qualifying projects can receive a rebate of up to \$400 per kWh. In 2008, 22 custom efficiency projects were completed.
4. **Energy Assessments:** Provides a low-cost method to learn how their business uses energy. Three forms of analysis are available to customers including online energy assessment, on-site energy assessment and engineering assistance study. In 2008, 312 customers completed assessments, which helped to pipe participants into other DSM programs.
5. **Energy Design Assistance:** Offers professional energy consulting and comprehensive, whole-building energy analysis to customers and architectural/engineering firms designing new buildings. Includes: Computer Modeling of Design Alternatives, Construction Incentives, Design Team Reimbursements, Construction Document Review, Measurement and Verification. Thirteen projects were completed in 2008, for a total savings of 1,249 kWh.
6. **Energy Management Systems:** offers incentives to customers installing or expanding systems that control their facilities' HVAC and lighting systems. This program encourages peak period energy savings while rewarding off-peak energy efficiency. Four projects were completed in 2008, achieving savings of 90 kW and 1,645,817 kWh at the generator.

7. **Lighting Efficiency:** The Lighting Efficiency Program offers cash rebates to customers who purchase and install qualifying energy-efficient lighting equipment in existing or new construction facilities. In 2008, 652 Lighting Efficiency Program projects were completed, for a savings of 5,588 kW and 29,628,489 kWh at the generator.
8. **Motor Efficiency:** The Motor Efficiency Program offers cash rebates to business customers who purchase and install NEMA Premium® efficiency motors and energy saving variable frequency drives (VFDs) in existing or new construction buildings. The Motor Efficiency Program did extremely well in 2008, achieving savings of 6,336 generator kW and 45,724,854 generator kWh with 285 participants.
9. **Recommissioning:** designed to help business customers improve the efficiency of existing buildings. Savings are realized through the systematic evaluation of building systems and implementation of low- and no-cost measures targeted to improve system operation and, in many cases, improve occupant comfort. Public Service funds up to 50 percent of the customer's Recommissioning study cost, up to \$15,000.

#### Residential:

1. **Central Air-Conditioning Tune-Up:** offers an energy efficiency 'tune-up' to customers with an existing central AC system. The key component of the program is diagnostic testing, which identifies factors that affect refrigerant charge and airflow, and thus, efficiency. The 2008 program goal was 2,000 participants, but, as mentioned above, actual achievements were 117 participants. With this low participation level, the program may not be cost effective. It is not known at this time whether a new Central AC Tune Up Program will launch in 2009.
2. **Evaporative Cooling:** The Evaporative Cooling Program offers rebates to eligible residential electric customers who purchase and install qualifying evaporative cooling equipment rather than choosing a central AC system. In 2008, Public Service expanded the program to include a \$500 rebate for higher efficiency units. In 2008, the Evaporative Cooling Program rebated 3,276 units which yielded savings of 4,634 generator kW and 3,116,556 generator kWh.
3. **Home Lighting:** offers two ways customers can obtain energy efficient CFLs: customers may purchase CFLs through limited time discount promotions with local retailers and customers may purchase CFLs through a mail-order sales program. The Company distributed 510,291 CFLs in 2008. In total, the Home Lighting Program achieved 5,045 kW of net coincident generator peak demand savings and 45,058,922 generator kWh energy savings.
4. **Residential Saver's Switch®:** offers an incentive for residential customers to allow the Company to control operation of their central air conditioners on days when the system is approaching its peak. In return, participants received a \$25 annual credit on their October bill. In 2008, the Residential Saver's Switch Program added 12,334 new participants and achieved savings of 14,664 generator kW and 195,516 generator kWh per control event.
5. **Low-Income Energy Savings Partners:** The purpose of the program is to fund natural gas energy efficiency measures for low-income customers. These funds are matched with federal funds for low-income weatherization and health and safety measures. In 2008, the E\$P Program generated gas savings of 272,250 therms. The program implemented measures at 2,178 homes, generating average savings of 125 therms per home.