



PG&E and Safeway – An Alliance in Energy Conservation



A Quietly Green Company

Safeway's Energy Savings and Incentives

\$6 million in incentives
received from PG&E
during 2005 – mid 2009

Total Energy Savings (2005 – mid 2009)

- 8.5 MW reduced electric load
- 65,000,000 kWh saved
- 64,000 therms saved

Lifestyle Remodels Retrofits

- **Lighting:**
Reduced energy usage
8.0 million kWh
- **ECM Motors:**
Reduced energy usage
3.6 million kWh
- **Door Gaskets:**
Reduced energy usage
21.3 million kWh

Safeway Inc. is the largest supermarket chain in California, and has 1730 stores across the U.S. and Canada. Over 200 of its stores are in the Pacific Gas and Electric Company (PG&E) service area. Safeway has quietly built one of the most impressive environmental records of any retailer in America. In 2008, Safeway was the nation's 7th largest purchaser of renewable energy among retailers, using about 93 million kilowatt hours (kWh) of renewable power; and continued its comprehensive energy efficiency and greenhouse gas (GHG) reduction and sustainability programs.

Safeway is a leader in the retail sector when it comes to carbon footprint development and management – it was the first retailer to join the California Climate Action Registry and the Chicago Climate Exchange, a cap and trade system for GHG reductions. The company recycles more than 85 percent of its stores' solid waste in California and diverted more than 500,000 tons of waste from landfills in 2008. Safeway also drives employee commitment with its "Power to Save" program, a multimedia outreach effort that includes tactical guidelines for daily energy conservation, store operations improvement and performance tools that monitor the program's success.

Safeway began the design of its sustainable building strategy three years ago and completed its first Leadership in Energy and Environmental Design (LEED) certified store in 2009 with the opening of a new store in Santa Cruz, which is on track to receive a LEED 'gold' rating. Safeway is in discussions with the U.S. Green Building Council to enter its Retail Portfolio Program (for multiple buildings) which allows certification of future new store projects.

Safeway's Partnership with PG&E

Safeway and PG&E's partnership in initiating and collaborating on energy efficiency projects dates back to 1990. The two companies have worked together on numerous energy supply and conservation program initiatives enhancing Safeway's commitment to energy reduction and preserving the environment. Over the years, Safeway has earned \$38.4 million in PG&E rebates from projects that improve building performance and equipment efficiency and reduce its carbon footprint.

Today, PG&E continues to support Safeway's efforts to reduce energy consumption and manage its carbon footprint through its programs, including Demand Response (DR), Savings by Design, Self-Generation Incentives and Retrocommissioning.

Safeway has also worked with PG&E affiliate programs, like EnergySmart Grocer. From 2005 through mid 2009, these projects have resulted in load reductions of over 8.5 megawatts (MW), produced energy savings of over 65 million kWh and reduced gas usage by more than 64,000 therms. These efforts were made possible by the nearly \$6 million in PG&E incentives that helped fund the projects.



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Energy Reduction: Safeway's Lifestyle Remodels

Safeway is engaged in a major store remodeling effort across the PG&E service area, and throughout California at large. The Lifestyle remodels impact the profile and decor of the store as well as the customer experience. A complete overhaul of the lighting system is a cornerstone of the process coupled with efficiency upgrades to refrigerated cases and mechanical and production equipment. The result is a more energy-efficient facility and a better customer experience.

With support from the PG&E Nonresidential Retrofit incentives, Safeway has executed retrofit projects involving:



- **Sales Floor and Refrigerated Case Lighting and De-lamping** – Many of the Lifestyle remodels include a sales floor lighting retrofit program that replaces fixtures with three first-generation T8 32-watt lamps with two third-generation T8 28-watt lamps and installs ceramic metal halides for spotlighting. Additionally, refrigerated case lighting has been improved by removing one lamp, adding a reflector and upgrading to more efficient T8 lamps. The result is comparable light levels with less than half of the energy consumption. These retrofits were supported by over \$450,000 in PG&E incentives.
- **Refrigeration** – Safeway has earned more than \$1.7 million in PG&E rebates for the replacement of inefficient refrigerated cases, controls, compressors, doors and strip curtains.
- **Reach-in Frozen Food Case Gaskets and Walk-in Box Strip Curtains** – Safeway utilized over a million dollars in rebates to replace refrigerated door gaskets saving approximately 21.3 million kWh. That improvement was augmented with an additional \$70,000 of incentives to retrofit walk-in box doors with heat strips and curtains preventing the loss of costly refrigerated air.
- **ECM Fan Motors** – Safeway is replacing most shaded pole refrigerated case fan motors with energy-efficient electronically commutated motors (ECM) and has saved 3.6 million kWh and collected more than \$250,000 in PG&E incentives.
- **Food Service and HVAC Equipment** – PG&E provided an additional \$250,000 in rebates for new more efficient food service equipment, like high-efficiency ovens and ice machines, heating, ventilation, air conditioning (HVAC) units and HVAC system controls.

The Lifestyle remodel partnership between Safeway and PG&E began in 2004. Anticipated energy savings from the specific Lifestyle measures coupled with standard energy efficiency building and equipment retrofit opportunities have had a positive impact on Safeway's bottom line thus resulting in benefits to its customers and shareholders.

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“PG&E and Safeway have a longstanding relationship of working together to improve Safeway’s energy operations as well as PG&E’s commercial products and services. PG&E incentive programs are crucial to our company’s success in reducing energy costs, managing risk, and improving facility efficiency.”

George Waidelich,
Vice President,
Energy Operations, Safeway

Energy-Efficient New Construction

Safeway has built 12 new supermarkets in the PG&E service area over the last three years taking advantage of PG&E’s Savings by Design consulting services and earned \$200,000 in PG&E design incentives. The design incentive for each new store is based on the percentage by which the energy efficiency of the building exceeds California’s Title 24 commercial building energy standards.

One example of a Savings by Design project is the construction of a new 55,400-square foot Safeway store in Novato, California that was completed in the summer of 2008. The projected energy use of the store was modeled before construction with simulation software that predicted the demands of the lighting, refrigeration and HVAC systems. Multiple energy efficiency measures (EEM) were then implemented for each system based on the simulations, including the impact of building insulation options. The cost of the improved measures incorporated into the construction design was covered in the first year with a combination of PG&E rebates and the value of the additional annual energy savings produced by the combined efficiency measures.

Demand Response and Energy Management Systems

Safeway joined PG&E’s DR program in 2008, quickly becoming a valued partner with the capacity to reduce energy consumption during critical peak periods. Safeway installed technology which enabled curtailment signals to be sent directly to the equipment in the store from a remote station. When a DR event is declared, signals are sent to the building’s energy management system automatically reducing power consumption in key areas. The \$400,000 in PG&E Technical Assistance/Technology Incentives (TA/TI) program incentives was instrumental to project development.

PG&E rebate programs and technical expertise is a critical element in project development at Safeway. These services support Safeway’s commitment to deploying new energy-efficient technologies across the spectrum of Safeway’s operations; which include lighting, refrigeration and HVAC equipment – effectively maximizing DR capability within each store. The rebates allow the development of a customized solution for the specific building characteristics of each store thus factoring in such variables as square footage, operating hours, customer traffic, design, location, and outside weather conditions. The company is working toward a 10 MW reduction in power consumption during DR events.

Self-Generation

With the support of the California Solar Initiative and PG&E, Safeway has installed rooftop solar arrays at eight stores in PG&E’s service area. The first such project was in Dublin, California in 2007, and subsequent installations have ranged from Chico in the north to Placerville in the east and Soquel in the south. At peak times, the solar arrays will produce an estimated 16 percent of the average electricity each store requires for the year. Plans are underway to expand and install solar at additional locations.



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Safeway is in the process of piloting a new fuel cell technology at its store in Santa Cruz, which has been registered for LEED certification by the end of 2009. This facility will be powered by energy from wind, solar and a clean burning fuel cell. It will be one of the first retail facilities in North America to combine these different sources of clean power.



New Endeavors – Retrocommissioning, Sensors and Lighting

Safeway has recently begun leveraging PG&E's Retrocommissioning program, where engineers conduct facility surveys to identify operating inefficiencies that waste energy. PG&E and Safeway are starting with 13 facilities, with plans to expand to additional sites. The projects target refrigeration, lighting and HVAC system controls, variable frequency drives, door seals and doors as energy savings measures.

Safeway is also conducting beta testing of occupancy sensors and light emitting diode (LED) case lighting to determine the potential value of these technologies in reducing energy demand. In a pilot project, LED lighting was installed to replace T8 fluorescent fixtures in a row of freezer cases. The changeover lowered the power demand of the lighting case system by about 43 percent, producing projected energy savings of over 8,800 kWh per year,

which would in turn reduce the store's energy costs. Safeway has already installed LEDs for channel lighting and exit signs based on successful pilots with the assistance of PG&E incentives.

Occupancy sensors, which can identify the presence and volume of customer traffic and direct energy usage accordingly, are now standard in all new store construction and are being considered as possible retrofit opportunities for existing facilities. Sensors currently in place save 51,000 kWh per year. Sensor economics now make sense thanks to PG&E rebates.

How Can PG&E Help?

To learn how PG&E can help your business reduce costs and energy consumption, contact your local PG&E account manager or call our **Business Customer Service Center** at [1-800-468-4743](tel:1-800-468-4743). More information is available at www.pge.com/retail.

