



PG&E's Energy Management Solutions for

MAJOR RETAIL STORES

Pacific Gas and Electric Company offers design assistance and financial incentives, as well as education and training to support energy efficient, high performance retail stores. Whether you are planning a new facility, retrofitting old inefficient equipment, or implementing demand response capabilities, PG&E's energy management solutions can be customized to meet the unique needs of your project.

Retail facilities, on average, are relatively lower energy consumers than other building types on a per square-foot basis, but opportunities to improve energy efficiency abound.

The substantial energy consumption seen by major retailers is due to the large physical size of the stores, long run hours, and the quantity of stores within a geographic area. Opportunities for a competitive edge and increased profitability are opening the door to the benefits from energy-efficient and environment friendly designs, which also provide marketing and community-approval benefits.

Planning should start in the design or major renovation stage of a new store, and involve judicious selections for the building envelope, lighting, space-conditioning, and control systems. PG&E can help you develop an integrated plan, which considers the inherent characteristics of your store and identifies the most economical energy management strategies.

DESIGN ASSISTANCE, REBATES AND INCENTIVES MAY BE AVAILABLE FOR THE FOLLOWING MEASURES:

NATURAL LIGHT – Utilize natural daylight to illuminate sales areas using skylights. Daylighting can substantially decrease energy use while enhancing the brightness of interior space. Choose appropriate window glazing to help reduce glare and thermal gain issues from sunlight. The sun's energy can also be used as an energy saving heat source or blocked to reduce cooling load, depending on climate conditions.

LIGHTING – Installing energy-efficient lighting fixtures, lamps, and ballasts can substantially reduce energy use with minimal impact on lighting quality. Consider lighting technologies recommended for specific retail applications such as fluorescent lighting systems for large floor areas and solid state or LED lighting for jewelry cases, refrigeration cases, and exterior store signs.

HEATING AND COOLING – Specify high efficiency HVAC (Heating, Ventilation, and Air Conditioning) equipment. Multiple rooftop package units coupled with economizers may take advantage of free cooling as appropriate for some areas. Other HVAC alternatives such as evaporative cooling for arid regions and gas-absorption chillers may be worth evaluating to reduce energy use.

CONTROLS – Install occupancy sensors in spaces with infrequent or short-term occupation to control thermostats and lighting. Maximum cost savings can be achieved when lighting is combined with natural lighting and controlled by photosensors to maintain optimal lighting conditions. Restrooms, dressing rooms, and storage areas are ideally suited to this strategy. Considerable savings can be achieved by HVAC systems that are functioning properly and operated by digital controls.

DEMAND RESPONSE STRATEGIES – Shift or eliminate electricity use during peak utility periods to reduce energy demand and drastically lower utility bills. Pre-cooling of the shopping area and the use of daylighting combined with the sequencing of HVAC and lighting equipment are effective demand response strategies.

COOL ROOFS – Use highly reflective roofing material to reduce the absorption of thermal energy from sunlight and lower air cooling requirements within the store.

COMMISSIONING – Insist on new construction commissioning, retro-commissioning, or re-commissioning to ensure that building systems are built and operate as intended.

For more information on PG&E's ENERGY MANAGEMENT SOLUTIONS, call the Business Customer Center (800) 468-4743 or visit www.pge.com/business



Pacific Gas and Electric Company®



OTHER STRATEGIES

- Photovoltaic (PV) panels can be used to offset a store's electricity use. With federal and state incentives, PV systems are becoming cost effective for supplementing utility-supplied electricity and supplying power for both interior and exterior store applications.
- Use highly efficient fans in walk-in refrigeration units, refrigerated display cases, and premium efficiency motors on process loads.
- Educate employees on ways to conserve energy and promote efficiency.

PG&E'S Energy Management Solutions



PG&E OFFERS
A WIDE RANGE
OF SOLUTIONS
TO HELP YOU
MANAGE THE
ENERGY AT
YOUR FACILITY.
CONTACT
PG&E TO FIND
OUT HOW
YOU CAN TAKE
ADVANTAGE
OF THESE
SERVICES.

- **PG&E'S ENERGY MANAGEMENT SOLUTIONS** can help you control your operating expenses through building energy efficiency and demand response capabilities into your new and existing facilities, and your long-range planning. Services include energy analyses of existing facilities, design assistance for planned projects, equipment rebates, project incentives, and education and training.

● **Energy Analyses**

● An energy analysis - also referred to as an "energy audit" - is the first step towards a comprehensive energy management plan and can help you identify a no cost, low cost and investment grade action plan. PG&E offers an on-site Integrated Energy Audit that identifies opportunities in demand response and self-generation as well as energy efficiency.

● **Energy Efficiency Rebates for Your Business**

● Rebates are the quickest and simplest way for you to get cash back for your eligible energy efficient purchases. PG&E offers rebates for hundreds of energy-efficient technologies in multiple categories: Appliances and General Improvements, Boilers and Water Heating, Food Service, Heating Ventilation and Air Conditioning (HVAC), Lighting, and Refrigeration. To find out if a product qualifies under the rebate program, go to www.pge.com/biz/rebates/rebates_assistance or contact the Business Customer Center at (800) 468-4743 to request an application and one or more technology catalogs.

● **Customized Energy Efficiency/Demand Response Incentive Application**

● For more customized energy efficiency projects or projects with a demand response component, PG&E offers design assistance, calculation support, and standardized incentive rates through the Customized Energy Efficiency/Demand Response Incentive. Total incentive payments are based on actual reductions in energy usage. Customers and their consultants may sponsor projects under this approach. Be sure to contact PG&E early in the design process, before you start your project, so that you can schedule optional technical support and the required pre-inspection of your existing equipment.

● **New Construction Design Assistance and Cash Incentives**

● PG&E's new construction program provides owners and design teams with cash incentives, technical design assistance, and education to support the design and construction of energy efficient new facilities and process systems. Incentives are based on exceeding Title 24 requirements by at least 10% for standard building systems, and on exceeding industry standard practice baselines for process systems. Through both the simple Systems Approach and the more integrated Whole Building Approach, owners and design teams may be eligible for cash incentives.

● **Energy Management Education and Training**

● You can learn about the latest and best energy-efficiency practices, technologies, tools and more through the hundreds of free classes offered by PG&E every year. To search by market sector, technology, class location (including web-based classes) or target audience, use the Pacific Energy Center's class search tool at www.pge.com/education_training/classes/energy_efficiency



Additional Resources on Energy Efficiency for Major Retail Stores

- PG&E's Self Generation Incentive Program – www.pge.com/suppliers_purchasing/new_generator/incentive
- Skylighting and Retail Sales Study – www.pge.com/pec/daylight/daylight.shtml
- Flex Your Power Resources for Commercial Buildings – www.fypower.org/com/index.html
- Green California, State of California Resources – www.green.ca.gov/default.htm