



Top 5 Energy Savings Measures Retail

Optimizing the energy efficiency of your business, reduces your energy costs and allows you to earn incentives.

TOP 5 ENERGY EFFICIENCY TECHNOLOGIES FOR REDUCING COSTS IN RETAIL SPACES

Approximately, 50% of the total consumption of electrical energy in retail space in California is used for electric lighting, and 30% is used for Heating, Ventilation, and Air Conditioning (HVAC). Advances in energy-efficient technologies can significantly decrease energy consumption — and costs. Research studies have shown that reducing energy costs has the potential to boost profit margins in certain retail sectors.

The top five key measures to consider implementing in your retail facilities include:

- High Bay T8 and T5 lamps
- Super T8s (800 series)
- Energy Management Systems (EMS) to control lighting and HVAC
- Variable Frequency Drives (VFD) controls/drives for HVAC components
- Occupancy sensors

When these approaches are combined to maximize energy efficiency, retail facilities increase their value and become more cost effective and environmentally efficient.

Convert HID lamps to High Bay T8 and T5 lamps to optimize lighting quality and increase efficiency

Improved fluorescent technology makes it possible to illuminate spaces with high ceilings. The High Bay T8 and T5 fluorescent systems are more efficient than High Intensity Discharge (HID) systems, commonly used in stores, warehouses, and restaurants, and provide superior quality illumination.

High Bay T8/T5 lamps offer several important advantages over HID:

- Lower energy consumption
- Lower lumen depreciation rates
- Better dimming options, faster start-up and re-strike
- Choice of color and better color rendition
- More pupil lumens
- Reduced glare and noise
- Potential for federal tax rebates (consult your tax professional for details)

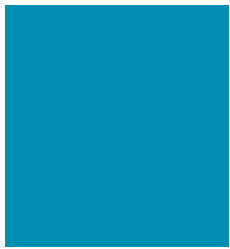
Replace existing T8s with 800 Series Super T8s and use less energy to get better light quality and control

Super T8s are up to 20% more efficient than first-generation T8 systems. If you are using pre-series 800 T8 lighting, consider converting to the latest T8 systems, which offer longer lamp life, better color quality, improved lumen maintenance, improved control and dimming options, and better fixture optics.

Install EMS to control lighting and HVAC systems and minimize the cost of maintaining comfortable spaces

The best way to reduce the electricity demand of HVAC systems is to use an EMS that adjusts HVAC operation in response to demand. The EMS monitors variables such as occupancy, available light, and thermometer readings and responds to achieve desired lighting, heating, and cooling levels.





Energy-efficient equipment and systems emit fewer green house gases into the environment.

VFD Controls and Drives for HVAC components increase operating efficiency

VFDs are a type of adjustable speed drive that controls the frequency of electrical power supplied to the device. Because VFDs let an AC motor run slower, they reduce energy costs by increasing operating efficiency. They also lower maintenance requirements, ease machine startup and shutdown, and offer more precise process control and greater equipment reliability than conventional controls.

Evaluating how the motor, controls, and drive system work together — and how they influence other building systems — makes it possible to significantly reduce the cost of purchasing, operating, and maintaining the equipment.

Occupancy sensors turn off the lights when they aren't needed

Occupancy sensors are another great approach to reducing energy consumption. They control lighting based on motion detection in a given area. Occupancy sensors offer easy installation on ceilings or walls and a variety of adjustment capabilities, are inexpensive to operate, and can be used in combination with other devices. They are sophisticated enough to work in zoned areas of large open spaces.

Occupancy sensors are ideal for spaces that have a lot of intermittent people traffic, from the larger areas — open space in retail facilities, grocery stores, and restaurants — to smaller areas — private offices, stairwells, garages, and rest rooms.

Dual-technology sensors use infrared and ultrasonic detection to improve occupancy detection. Other sensor devices combine occupancy and daylight sensing to maintain the right level of light. Typical savings for occupancy sensors range from 25% to 50%, depending on the type of space being controlled.

HOW CAN PG&E HELP?

Pacific Gas and Electric Company (PG&E) can help you control your operating expenses by building energy efficiency into your retail facility. Services include energy analyses of existing facilities, design assistance for planned projects, equipment rebates, project incentives, and education and training.

Contact your local PG&E Representative or call the **Business Customer Service Center** at **1-800-468-4743** for more information. Your representative will work with you to create a comprehensive energy efficiency plan for your business.

RESOURCES

Consortium for Energy Efficiency
www.cee1.org

Energy Design Resources
www.energydesignresources.com

