



Retail Facility Energy Efficiency Opportunities

Antea® Group

Understanding today.
Improving tomorrow.

Energy efficiency can be achieved without sacrificing customer comfort and convenience. Through smart implementation, retailers can demonstrate social responsibility, which could add value to the brand by enhancing customer satisfaction and loyalty.

Follow this guide and start with low-cost improvements; then, cost savings can be leveraged into more extensive projects in the future.

Low Cost/No Cost - Management Opportunities

Managing utility costs starts with knowing how you use energy and water.

- Use U.S. Environment Protection Agency's / ENERGY STAR's Portfolio Manager® tool for tracking energy, water and recycling/materials.
 - Learn more at <https://www.energystar.gov/benchmark> and find all Portfolio Manager training and tech support at <https://www.energystar.gov/buildings/training>.
 - Create your account at <https://portfoliomanager.energystar.gov/pm/signup>.
 - After you enter energy data, a 1 -100 ENERGY STAR® score will compare your property to other U.S. facilities. A 75 or higher score is eligible for ENERGY STAR certification.
 - The key benefit of using ENERGY STAR Portfolio Manager is the system automatically normalizes the energy usage against weather and allows you to compare how your facility use energy compare to other comparable facilities.

- Alternatively, use an Excel workbook to track energy and water use/cost on a monthly basis. Understand the changes in use and cost is the key to manage utility expenses.

- Behavior based efficiency opportunities provide savings without incurring any expenses. Some simple behavior based conservation opportunities include:
 - Encourage employees to turn off lights not in use, keep doors closed to the outside and to any un-heated/cooled spaces.
 - Encourage employees to dress appropriately for the season. Adjust Winter space temperature setpoint to 68F and Summer space temperature setpoint to 74F.
 - Utilize programmable thermostats to set temperatures back during un-occupied hours (consider 60F in the winter, 80 in the summer).
 - Use window shades to block excess heat in the summer. Utilize the sun (open up the shades) in the winter to supplement heating the space.
 - Implement policy to prohibit the use of personal space heaters. These devices are safety hazard as well as energy waster.

Lighting

- Walk around the facility during the day and after hours to identify where lights have been left on in unoccupied spaces (offices, restrooms, storage/warehouse, break room, conference rooms, etc.). Where make sense, install occupancy sensors.
- During the day, look for “day-burners”. For example, exterior and parking lot lighting that is on and should only be on at night. Adjust time clock, clean or repair light sensor as appropriate.
- Consider opportunities for de-lamping, and de-energize and/or remove ballasts that are not in use. Utilize a light meter (~ \$30) to measure and compared current light level to specified design lighting levels.
- When installing new LED fixture, include dimming / daylight sensing controls in locations where natural lighting (e.g., near windows, skylights) can supplement electric lighting.
- Replace incandescent, fluorescent, CFL lamps with LED fixtures, including EXIT signs.

HVAC/R

- Ensure thermostats are installed at the appropriate location, away from heat or cold sources. For example, not right above an air supply register.
- Prevent simultaneous heating and cooling by setting all thermostats to the same temperature in and open space (such as a furniture showroom, open cubical work space, etc.)
- Utilize de-stratification fans for large and high ceiling spaces. These fans induces air flow and are designed for use both in the summer and winter to reduce HVAC/R system energy use.
- Ensure HVAC/R system are maintained regularly.
 - Inspect air filters on a regular schedule (monthly) and replace as needed.
 - Ensure supply/return air registers are clean and not blocked.
- Determine the remaining useful life of your current system. An unplanned HVAC/R system failure on the hottest/coldest day of the year could lead to revenue loss and damage to the building.

Office Equipment/Plug Loads

- Utilize power management settings on office equipment (computers, monitors, printers, and copiers) to turn off / set the system into standby mode when not in use.
- Utilize power strips to disconnect equipment from power source when not in use.
- Upgrade / replace older vending machines with motion/occupancy controls.

Building Envelope

- Identify gaps or cracks around windows and doors. Repair/replace weather-strip, fill gaps and cracks with caulk or foam insulation.
- Consider solar film, awnings, vegetation for east and west windows to reduce summer heat gain while allowing solar heating in the winter.
- If not already in place, consider vestibules / double doors. These air barrier system are useful for indoor space temperature control by reducing hot or cold air stream from entering the conditioned spaces.
- Utilize air curtains at entry ways to reduce unwanted air stream from entering conditioned spaces.
- Inspect the roof and repair cracks to prevent water from seeping through and conditioned air leakage. When replacing the roof, consider adding insulation to reduce energy use In the building.

Equipment Replacement Guidance

- Purchase ENERGY STAR and WATER SENSE certified products when replacing office equipment, kitchen appliances, and restroom components to reduce energy and water use.
- Evaluate alternatives using life cycle cost rather than simple payback.
- Research available rebate from utility companies.
<https://mn.my.xcelenergy.com/s/business/lighting-equipment-rebates>

For more information, please contact:



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