

Energy Efficiency for Retail Industry

Retail business owners and managers face high-energy requirements for lighting, heating, cooling, ventilating and operating computers and other equipment. Opportunities exist to decrease energy consumption and realize cost savings in all of these areas. In addition, improving energy efficiency can increase staff and customer comfort and reduce maintenance costs.

Typically, energy efficiency can be achieved through three types of measures: simple behavioral changes, regular operations and maintenance of energy-using systems, and capital expenditure in energy efficiency projects. These measures can result in significant energy savings, and large-scale projects can often be paid for with the savings from less costly initiatives.

Following are recommended energy efficiency measures that can benefit retail business owners and managers.

Behavioral Change

The easiest and most inexpensive way to reduce energy costs is behavioral change. Behavioural measures require no capital outlay and can return energy savings of up to 10 per cent. Power Smart actions include:

- Turn off lights when not in use and during closed hours.
- Avoid over-lighting displays by using the appropriate amount of lighting, and turn off electronic store displays during closed hours.

- Set heating temperatures back to 16°C to 18°C (61°F to 64°F) and cooling temperatures forward to 24°C to 28°C (75°F to 82°F) at the end of the day or during unoccupied periods.
- Educate staff on energy efficiency procedures – both “why” and “how.”

Operations and Maintenance

To prevent excessive energy and repair costs, it is important to perform routine operations and maintenance on energy-using systems. Key measures include:

- Perform regular operations and maintenance on the HVAC system (change air filters, clean condenser coils and vents, etc.).
- Clean lights to maximize lighting efficiency
- Remove unneeded lights in unused or over-lit areas.
- Weatherstrip customer entrance and exit doors.

Capital Expenditures

Capital expenditures offer long-term energy efficiency solutions. Although large-scale projects require more planning and resources to implement, they can provide energy savings of up to 30 per cent, and the ongoing benefits justify the initial costs. Suggested capital projects include:

- Retrofit the indoor lighting system:
 - Replace lower efficiency (Parabolic Aluminized Reflector) PAR 38 (79 Watt) spotlights with

(see over)

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more efficient PAR 38 (50 Watt) (Halogen-Infrared) HIR lamps. [Note: What is HIR? This is a GE designation for a new form of high efficiency tungsten halogen lamp. HIR lamps utilize shaped filament tubes coated with layers of materials, which selectively reflect and transmit infrared energy and light. Reflecting the infrared back onto the filament reduces the power needed to keep the filament hot. Is it supposed to be HID? No. Also, is "PAR 38" correct in both places? Yes.]

- Replace all incandescent lamps with compact fluorescent lamps.
- Upgrade T12 fluorescent lamps to T8 or T5 lamps.
- Replace older, inefficient HVAC equipment with more efficient models.

- Replace old electronic store displays with more energy-efficient displays.
- Install photocells on exterior lighting.
- Install automatic door closers to prevent heating and cooling loss.
- Install an energy management system.
- Recommission all building systems to ensure that they are operating at optimum levels.

Contact Us

For more information on how Power Smart can energize your bottom line, call us today at 604 453-6400 in the Lower Mainland, 1 866 453-6400 elsewhere, or visit our web site at www.bchydro.com/business.