

# Energy Efficiency for Office Management

Office building owners and managers face high-energy requirements for heating, cooling, lighting and the operation of office equipment.

Opportunities exist to decrease energy consumption and realize cost savings in all of these areas. In addition, improving energy efficiency can increase user comfort, lower maintenance costs and enhance building asset value.

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 office-building 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 all non-essential interior lights at the end of the day in fitness rooms, storage facilities, washrooms, conference rooms and offices.
- Turn off non-essential exterior lighting at night.
- Educate maintenance 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. The following measures should be carried out regularly:

- Replace the air filters in the HVAC system.
- Clean the condenser coils in the HVAC system.
- Clean the vents in the HVAC system to ensure that airflow is unobstructed.
- Clean lights to maximize lighting efficiency.

## 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 lighting system in common areas:
  - Replace all incandescent lamps with compact fluorescent lamps.
  - Upgrade all T12 with magnetic ballasts to T8 lamps with low-power electronic ballasts.
  - Replace all incandescent and compact fluorescent exit sign lamps with LED lamps.
- Replace older, inefficient HVAC equipment with more efficient models.
- Install a heat recovery system such as a heat exchanger or an economizer on the rooftop HVAC unit.

(see over)

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- Install time clocks and/or occupancy sensors to turn lights on only when needed.
- Install photocells on exterior lighting.
- Install dimmer controls on lighting in common areas.
- Install carbon monoxide sensors in underground parking to regulate exhaust fans, and install variable speed drives on the fans to improve their energy efficiency.
- Replace the chiller with a more energy-efficient model.
- Recommission all building systems to ensure 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](http://www.bchydro.com/business).