



# Bright Ideas!

LED LIGHTING FOR STRATAS

# COMMON EXTERIOR FIXTURES

## High Pressure Sodium

These lamps are often used for street lighting. The lamp works by creating an electric arc through vaporized sodium metal.

## Metal-halide

A type of high-intensity discharge (HID) gas discharge lamp. Produces light by an electric arc through a gaseous mixture of vaporized mercury and metal halides.

## LED

LED stands for Light Emitting Diode, a semiconductor device that converts electricity into light.

Commercial Exterior LED Fixtures are typically All-In-One.  
No light bulbs to change.

# CHOOSING LEDs



Consider:

- Purpose
- Height
- Lumens
- Colour
- Adjustability
- Footprint
- Sensors (PE)
- Samples

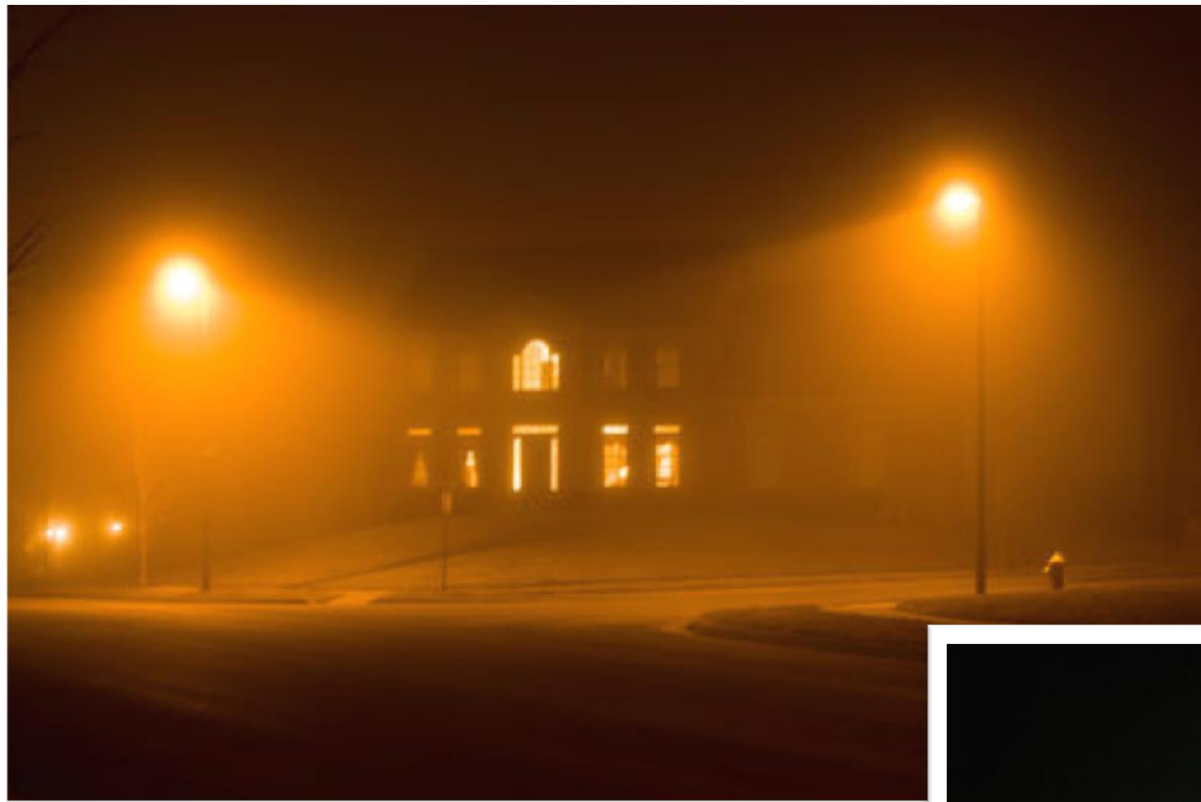


## LEDs: PROS

- Energy savings
- Whiter light
- Less heat
- No mercury
- Instant-on
- Low or no maintenance
- Rebates available

## LEDs: CONS

- More concentrated centre spot
- Sharper angle
- Possible complaints from residents or neighbours



HPS: softer  
wider beam

LED: more concentrated  
centre spot, “blinding”



The range of LED  
products has

***EXPANDED***

# CHECK AND COMPARE

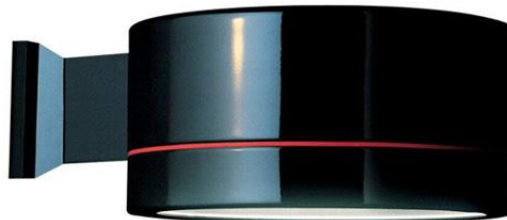
- Price
- Life (L70)
- Light Output Lumens
- Efficiency (Lumens per Watt)
- Colour temperature (Kelvin) (such as 4,000 K)
- Compatibility of Ballasts if applicable
- Instant-on / Dimmability
- Rebates available



More selection and styles of  
Downlights / Security Lighting



# More selection and styles of Interior and Exterior Sconces



# Bulbs for Fully Enclosed Fixtures

12 watt LED replaces  
75 watt incandescent



25,000 hr life LED.



# Architectural Lighting



# Solar LED Luminaires

No trenching, wiring, hydro bills or bulbs to change. Immune to power outages. 8-10 year battery life. Easy to change.



100,000 hr life. 8-12 feet high. Various factory set lighting profiles.

# Vapourproof LED Fixtures

42watt LED fixture replaces 2 lamp T8



30-40% energy savings. 100,000 hr life.

# Replacement Lamps

What's New?

# HID to LED

The GE LED replacement for HID lamps is the key to improved energy usage and lamp life in industrial, warehouse, retail, commercial and outdoor applications.



**2.5x** longer life

The GE LED has a 50,000-hour rated life vs. HID (20,000 hours)



**50%**  
less energy  
usage

with similar light output—  
18,500 vs. 23,500 lumens

# Why switch to LED Tubes?



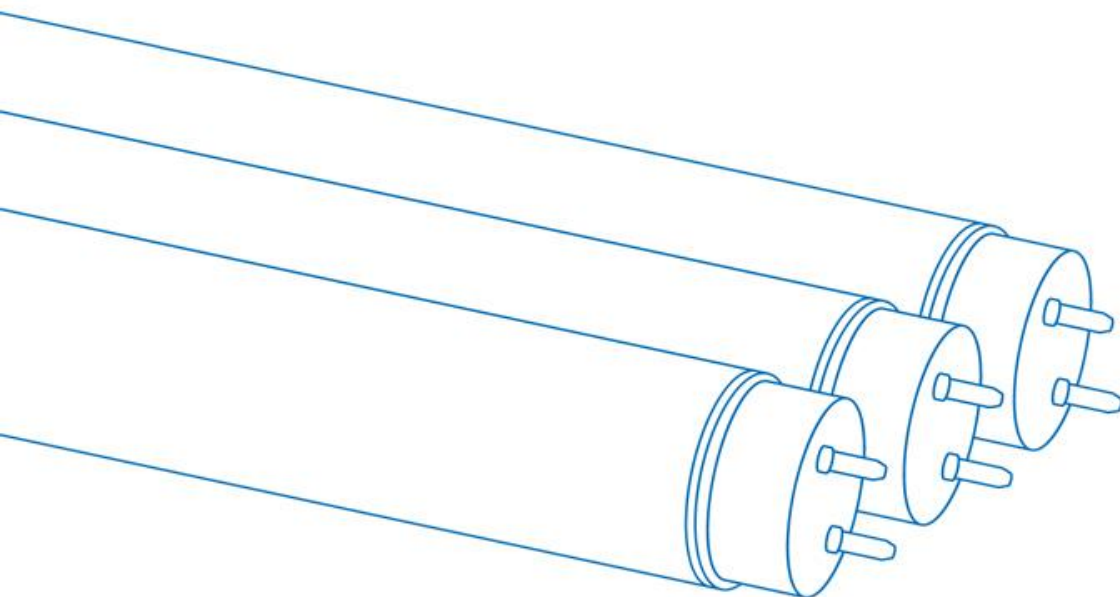
**66% longer life**  
(50K vs. 30K hrs.)



**Uses 43% less energy**  
(18W and 2200 lumens  
vs LFL 32W and 2725 lumens)



**Better quality of light**  
(Instant-On)



## GE's Integrated LED Tube (UL Type A)

### Easy Plug & Play Performance

Uses existing ballast

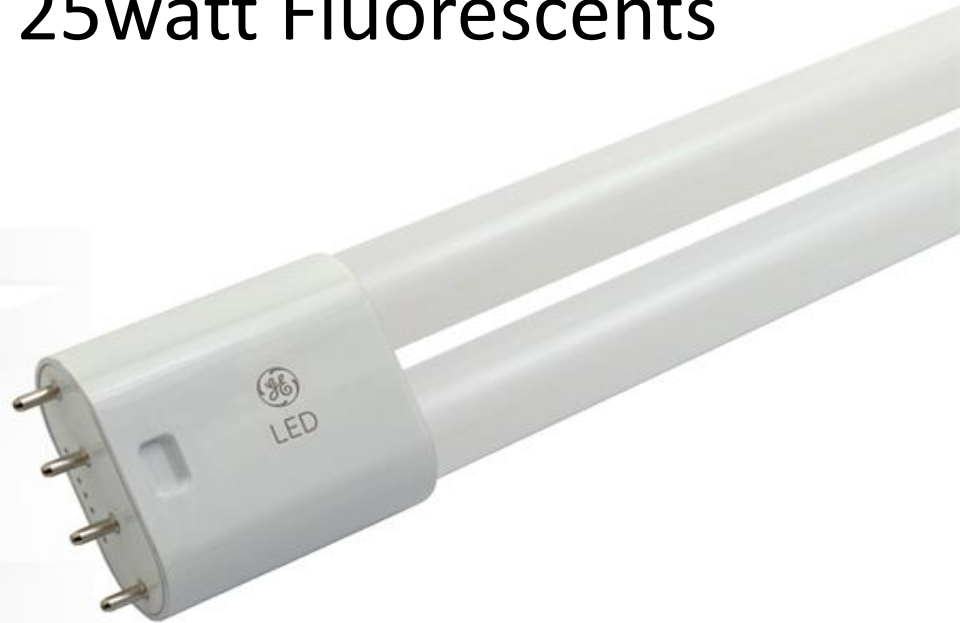
Quickest installation

Lowest installation cost

System compatibility  
depends on LFL ballast

# LED High Lumen Biax Plug-In

17watt LEDs replace 25watt Fluorescents

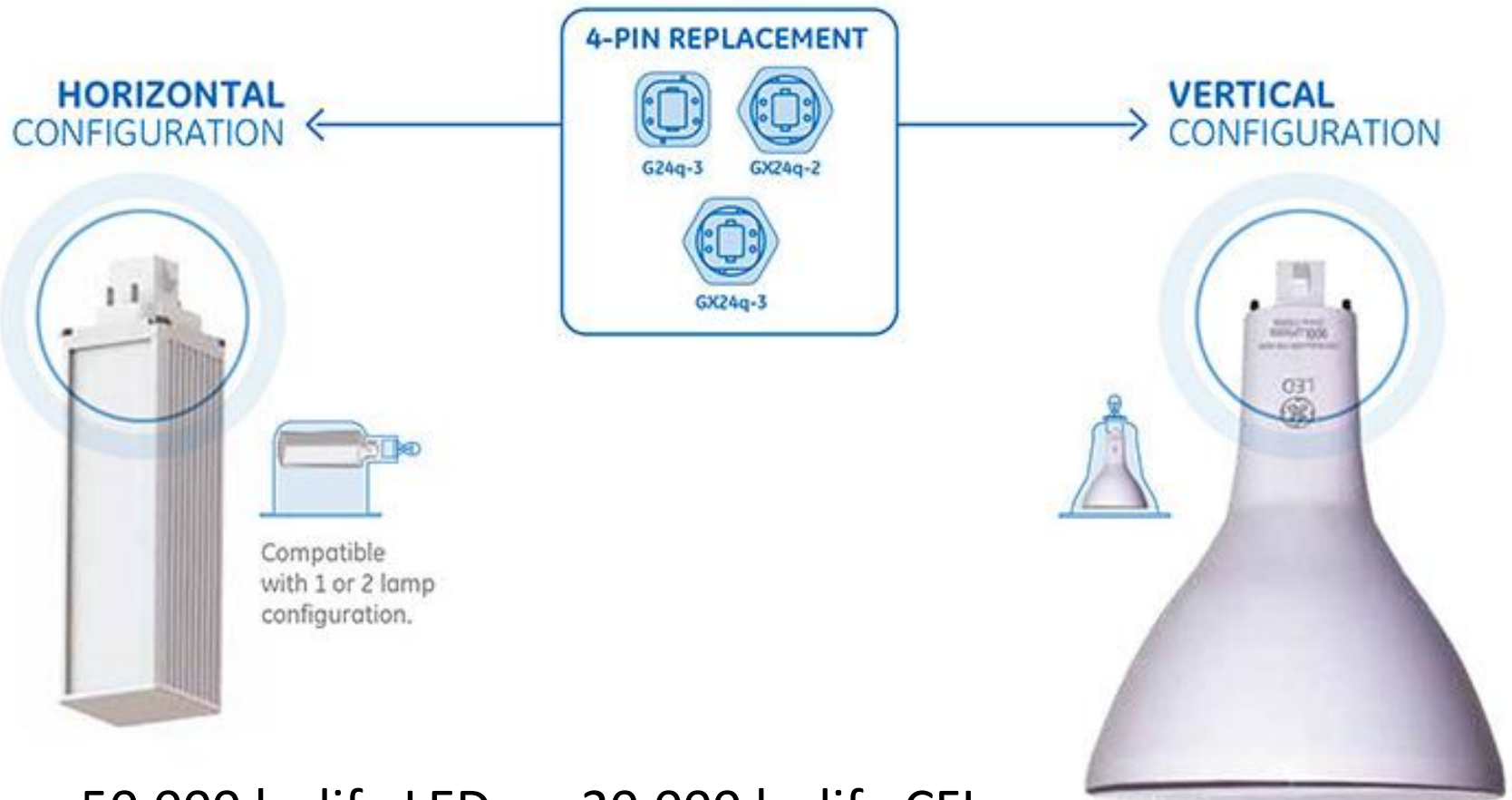


50,000 hr life LED vs. 20,000 hr life CFL

Colours 3000, 3500, 4000, 5000 Kelvin

# Plug-In Replacement Lamps

12 watt LEDs replace 26 watt CFLs



50,000 hr life LED vs. 20,000 hr life CFL

# MR16 and GU10 LEDs

3.5-7 watt LEDs replace 35-50 watt Halogens



# Spotlights / Downlights / Directional Lamps

LED replaces Halogens



# LED Refit Solution for Recessed Downlights

Screws into existing fixture. No wiring or tools.



10-13 watt LED vs. 65-90 watt incandescent. 50,000 hr vs. 2,000 hr life.

# Decorative / Vintage and Chandeliers

Dimmable LED bulbs replace Incandescent



3.5-7 watt LED vs. 25-60 watt. 15,000 hr life LED vs. 1,000 hr life incandescent.

# THINKING GREEN

*“It is essential that we re-examine ethically what we have inherited, what we are responsible for, and what we will pass on to coming generations.*

*We have the capacity, and the responsibility. We must act before it is too late.”*

- The Dalai Lama

# VIS1052 CASE STUDY



- 94 Units
- Built 1974
- Original lights

## EXTERIOR LIGHTING PROJECT



What fixtures did we choose?

## 6 High Pressure Sodium Luminaires



- Each fixture uses 75 watts
- Bulb life 24K hours (5 yrs)
- Maintenance costs (over 20 yrs)  
bulbs + ballast + labour = \$268 each

## 6 LED Luminaires



- Each fixture uses 19 watts
- Life 100K hours (20 yrs)
- Fixture cost \$197
- No bulbs/maintenance costs

## 15 High Pressure Sodium



- A = 75 watts
- B = 160 watts
- Bulb life 24K hours (5 yrs)
- Maintenance costs (over 20 yrs)  
bulbs + ballast + labour = \$268 each

## 15 LED Floods



- Each fixture uses 19 watts
- Life 100K hours (20 yrs)
- Fixture cost \$269
- No bulbs/maintenance costs

## 5 “Coach Lights” with CFL Bulb



- Each fixture uses 13-23 watt bulb
- Bulb life 10K hours (2.1 yrs)
- Maintenance costs (over 20 yrs)  
bulbs + labour = \$57 each

## 5 LED Flush Mounts



- Each fixture uses 16.5 watts
- Life 50K hours (10 yrs)
- Fixture cost \$196
- No bulbs/maintenance costs

# Energy Savings

<b>1974 Fixtures</b>	<b>Watts (bulb + ballasts)</b>	<b>2015 LEDs</b>	<b>Watts</b>	<b>Savings</b>
8 HPS Flood Lights	160 watts	8 LED Flood Lights	19 watts	
7 HPS Wall Luminaires	75 watts	7 LED Flood Lights	19 watts	
Carport: 6 HPS Wall Luminaires	75 watts	6 LED Wall Luminaires	19 watts	
5 Coach Lights	23 watts	5 LED Flush Mounts	16.5 watts	
<b>watts/1000 = kWh</b>	<b>2.37 kW</b>		<b>0.484 kW</b>	<b>79.6%</b>
<b>Consumption per Year</b>	<b>11,246 kWh</b>		<b>2,297 kWh</b>	<b>8,949 kWh</b>
<b>Hydro Cost per Year</b>	<b>\$1,462</b>		<b>\$293</b>	<b>\$1,169</b>

# Project Cost

Item	Cost
26 Fixtures	\$6,201.51
Labour & Materials	\$1,677.45
Photo Control installation	\$339.00
Electrical Permit	\$239.00
Less BC Hydro Rebate	-\$800.68
<b>Total</b>	<b>\$7,656.28</b>

# Return on Investment

Energy Savings per Year	\$1,169.
Maintenance Savings per Year (\$35,913/20 yrs)	\$296.
<b>Total Savings per Year</b>	<b>\$1,465.</b>
Project Cost	\$7,656.
<b>Return on Investment (ROI)</b>	<b>5.2 Years</b>

# ASSUMPTIONS

## Hydro

- Lights aver 13 hrs/day
- 365 days = 4,745 hrs/yr
- Hydro cost \$0.13/kWh

NOTE: Soon parts for High Pressure Sodium Fixtures will no longer be available.

## Maintenance

- HPS bulbs \$22 each
- \$10 labour to change
- Ballast replaced once
- Ballast \$70 each
- Min 1 hour labour \$70

# Getting Started

# GETTING YOUR STRATA PROJECT STARTED

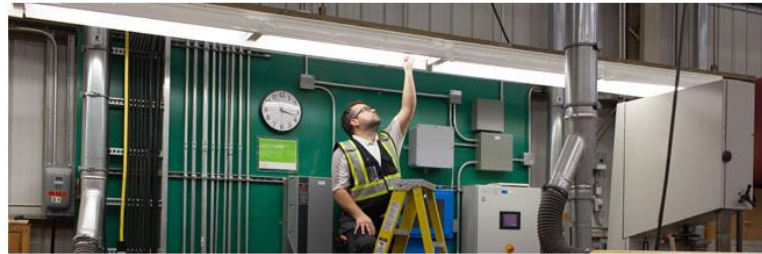
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1.  
2.  
3.



Home > Energy Savings > Business > Programs & Incentives > Business Energy-Saving Incentives

## Energy-Saving Incentives For Businesses



### Helping businesses save money and energy

Get help to reduce your operating costs through the implementation of energy efficiency projects. Whether you run a small or a large business, we have incentives that can help cover a portion of the cost of simple one-to-one retrofits.

Already familiar with our incentives for businesses? [See the latest program updates.](#)

### Available incentives

Incentives are available for [a variety of technologies](#) (PDF, 196 KB).

### Get help from industry experts

Already have an energy efficiency project in mind? Members of our Alliance of Energy Professionals can help you get started. The Alliance is an independent network of registered contractors and distributors that can help provide you with solutions and implement your project. They are trained to help you with energy-saving projects from start to finish so that your experience is seamless.

For a list of Alliance members that can help with your project, request a referral.

[Request a referral](#)

### Program resources

- [Confirm your eligibility by using the business program eligibility tool](#)
- [Read through the FAQ before you get started](#) (PDF, 104 KB)
- [Refer to e.Catalog to see the eligible technologies and products](#)

#### PROGRAMS & INCENTIVES

[Leaders in energy management](#)

[Business energy-saving incentives](#)

[Commercial energy management assessment](#)

[Energy performance contracts](#)

[Continuous optimization](#)

[Energy studies & audits](#)

[Industrial project incentives](#)

[Strategic energy management](#)

[New plant design](#)

[Build energy efficient homes](#)

[Commercial new construction](#)

[Customer build program](#)

[Sustainable communities program](#)

#### Business energy saving incentives login

- [Login](#)
- [Register](#)

[See also](#)

[Accounts & Billing](#)[Energy savings](#)[News, events & media](#)[Energy in B.C.](#)[Community](#)[Safety & Outages](#)

## Business Program Eligibility Tool

Welcome to the Power Smart business program eligibility tool. To find out which programs you are eligible to participate in, please enter your 11-digit business account number.

Account Number

[Next](#)

Your account number is located in the top right corner of your BC Hydro bill. For assistance, please contact the BC Hydro Business Help Desk at 604 522 4713 (Lower Mainland) and 1 866 522 4713 (elsewhere in B.C.).

### COMMERCIAL

#### Business Program Eligibility Tool

[Power Smart Partner Program](#)[Energy Manager Online](#)[Workplace Conservation Awareness](#)[Energy Management Assessment](#)[Energy Performance Contracts](#)[Continuous Optimization](#)[Success Stories](#)

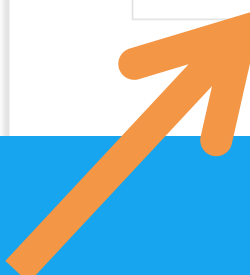
### Hours of Operation

Monday to Friday,  
8:00 a.m. - 4:30 p.m., PST

**Phone In Lower Mainland**  
604 522 4713

**Other areas, call toll free**  
1 866 522 4713

**Email:**  
incentives@bchydro.com



Enter your strata's BC Hydro account number to verify eligibility.

The e.Catalog lists thousands of conversions that are eligible for rebates.

[www.bchydro.com/ecatalog/](http://www.bchydro.com/ecatalog/)

Contact a commercial lighting supplier for assistance.

## e.Catalog

e.Catalog is the sole source of eligible configurations and products for the business energy saving incentive program. Over 10,000 energy-efficient products from over 250 brands in one place, helping your business save time and money. You can also download the eligible configurations list.

### Business Energy Saving Incentives

The business energy saving incentive program provides B.C.'s commercial businesses with financial incentives that can cover up to 75% of the cost of your energy-efficiency project. [Learn more.](#)

#### BUSINESS ENERGY SAVING INCENTIVES

##### e.Catalog

[Advanced Search](#)

[Eligible Products](#)

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#### Search

Keyword Search

Manufacturer

All Manufacturers

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#### Incentives Available

361 incentives found,

Items per page 10 ▾

< 1 2 3 4 5 .... 36 37 >

##### Replace Existing Technology

##### With Energy Efficiency Technology

All Product Categories ▾

All Product Categories ▾

[View](#)

##### Replace Existing Technology

##### With Energy Efficient Technology

PDF CSV

10-100 HP HVAC Fan



Add variable frequency drive

All makes and models are eligible

10-100 HP HVAC Pump



Add variable frequency drive

All makes and models are eligible

100 W High Pressure Sodium



4' 54W T5HO, 1 lamp (overlit)

[View Eligible Products](#)



100 W High Pressure Sodium








Induction luminaire or retrofit kit <= 80W

[View Eligible Products](#)



# HOUSEHOLD LIGHTBULBS

		☀ DIMMER  BRIGHTER ☀			
LUMENS		450	800	1100	1600
LEAST EFFICIENT ↓ ↑ MOST EFFICIENT	Standard Incandescents 	40W	60W	75W	100W
	New Halogen Incandescents  Save up to 28%*	29W	43W	53W	72W
	CFLs  Save up to 75%*	9W	14W	19W	23W
	LEDs  Save up to 77%*	8W	13W	17W	N/A

LED light bulbs use about 75% less energy than standard incandescent bulbs.

Learn more about **HOUSEHOLD LIGHTBULBS** here:

[www.energystar.gov/products/lighting\\_fans](http://www.energystar.gov/products/lighting_fans)



The simple choice for energy efficiency.

ENERGY EFFICIENT  
**products**

ENERGY SAVINGS  
**at home**

ENERGY EFFICIENT  
**new homes**

ENERGY STRATEGIES FOR  
**buildings & plants**

Home » Certified Products » Lighting

## Certified Products

Your source for energy efficient product information

All Certified Products

Appliances

**Lighting**

Office Equipment

Electronics

Product Specifications Search

## Lighting & Fans



Lighting products that have earned the ENERGY STAR deliver exceptional features, while using less energy. Saving energy helps you save money on utility bills and protect the environment by reducing greenhouse gas emissions in the fight against climate change.

## LIGHTING RESOURCES



### Buyer's Guide (PDF)

Useful info and facts to help you make the right lighting choices for your renovation needs.



### Illuminated Podcast

Can't keep track of all the new energy-efficient lighting options out there? Check out ENERGY STAR's Illuminated podcast.



### GALLERY OF BRIGHT BULBS

Watch the Gallery of Dim Bulbs videos and see why ENERGY STAR is the "Bright" choice.

[Guide to Dimmable LED Lighting \(PDF\)](#)

[Learn About LED Bulbs](#)

[Learn About CFL Bulbs](#)

[Light Bulb Savings Calculator \(EXCEL\)](#)

[Interactive Choose a Light Guide](#) [EXIT →](#)

[FAQs about Lighting](#)

Use the **Energy Star Light Bulb Savings Calculator** to calculate savings for Household bulbs



Vancouver Island Strata Owners Association

[www.visoa.bc.ca](http://www.visoa.bc.ca)

Thank you to Commercial Lighting  
for research and assistance. (250) 385-8816 [comlight.com](http://comlight.com)

