

Savings Analysis Worksheet

LED Exit Signs

Opportunity

Lighting makes up a significant portion of electricity usage in most commercial buildings. This makes lighting a big target for efficiency improvements. When we think of lighting, we don't often think about exit signs, but they perform important directional and safety functions. Exit signs operate 24 hours a day and are relied on in emergency situations.

Action: Replace incandescent or fluorescent exit signs with LEDs.

Light Emitting Diodes

Light emitting diodes (LEDs) use solid-state electronics to create light. A typical LED exit sign consumes 95 percent less energy than a comparable incandescent exit sign and 80 percent less than a comparable fluorescent. Maintenance costs are also a factor. Incandescent exit sign lamps last 2,500 to 10,000 hours. This can mean multiple bulb changes per year for each exit sign. In comparison, LEDs are estimated to have a lifetime of 25 years or more. This translates into lower replacement and maintenance costs for the LED exit sign. And, it's not just a matter of cost. An exit sign with a burned-out bulb is a safety issue.

Options

Energy efficient LED exit signs are available as both new fixtures and upgrade kits. If the upgrade kit will fit your existing exit sign panel, you may be able to save money by installing the screw-in kit yourself. Or, you can hire a contractor to install new exit signs. The best LED exit signs on the market are produced by manufacturers who follow ENERGY STAR® guidelines for energy efficiency. Look for the ENERGY STAR label when purchasing new fixtures or retrofit kits.

Savings

A typical exit sign with two 20-watt incandescent bulbs can cost \$21 (at \$0.065 per kWh) a year more to operate than the electricity for an LED exit sign. Incandescent bulbs have to be replaced, on average, almost two times per year at a cost of approximately \$30 per year (including labor cost). Count the number of incandescent exit signs in your facility and multiply by \$51 (\$21 in additional energy costs plus \$30 in burned out bulb replacement cost per year), to estimate your savings with LED exit signs.

Compare that with an average cost of \$39 for an LED upgrade kit, \$30 to \$50 for a new fixture or \$60 for a new fixture with battery backup. Depending on which option you choose, payback on LED exit signs is about a year!

If your exit signs have fluorescent lamps (CFLs), you can still save on energy. A typical CFL-equipped exit sign will consume \$6 per year more in electricity than an LED exit sign and will average about \$19 per year in replacement lamps and labor costs.

More Information

You can use this worksheet to gain an understanding of the savings potential. Consult a lighting dealer for better estimates on prices and savings. Focus on Energy can provide the names of lighting professionals in your area. For additional fact sheets on energy saving opportunities and more information on the Focus on Energy Program, call 800.762.7077 or visit our Web site at focusonenergy.com. Information in this fact sheet was derived from the ENERGY STAR Small Business Guide published by EPA, and other sources. For further information on the ENERGY STAR Small Business Program, visit www.energystar.gov or call Focus on Energy.

Estimate Your Savings

Using the chart below, you can estimate the savings you would see by using LED exit signs in your building:

1. Enter the number of exit signs in your building.
2. Enter the watts per exit sign from the table below.

Lighting Type	Average Wattage
Incandescent 1 bulb fixture	20
Incandescent 2 bulb fixture	40
Compact fluorescent 1 bulb fixture	7
Compact fluorescent 2 bulb fixture	14
LED 1 bulb fixture	2.5
LED 2 bulb fixture	5

3. Exit signs operated 8,760 hours per year.
4. Enter your average energy cost (from your electric bill). If you don't know what it is, enter \$0.065.
5. Calculate your current annual operating cost based on the formula in the chart below. (Repeat steps 1-5 for the LED exit signs).
6. Enter existing exit sign annual operating cost (5A).
7. Enter LED exit sign annual operating cost (5B).
8. Subtract 7 from 6 for annual estimated savings.

Existing Exit Signs										
1A) # of Signs		2A) Watts per Sign		3A) Hours per Year				4A) Rate per kWh		5A) Annual Operation Cost
	x		x	8760	÷	1000	x		=	
LED Exit Signs										
1B) # of Signs		2B) Watts per Sign		3B) Hours per Year				4B) Rate per kWh		5B) Annual Operation Cost
	x		x	8760	÷	1000	x		=	
Estimated Savings from Converting Your Existing Exit Signs to LED Exit Signs										
6) Existing Exit Signs' Annual Operating Cost (5A)				7) LED Exit Signs' Operating Cost (5B)				8) Annual Savings		
			-				=			