

Compact Fluorescents: All They're Cracked Up To Be?

We hear plenty of objections to using compact fluorescent lamps (CFLs), claiming that the benefits are oversold. The EPA says if every US household installed five CFLs we'd save the output of 21 power plants¹. But even if their estimates are off by a factor of two, isn't that still an impressive figure?

Our experience shows that the benefits of changing to CFLs are real, as long as you use them wisely. These are the most common objections and some of our findings:

CFLs have mercury in them, isn't that bad for the environment?

It takes 100 CFLs to equal the amount of mercury in one amalgam dental filling². One CFL can save the electricity created by burning 500 pounds of coal³, which will release 10 times the mercury—and a host of other pollutants—into our environment.

CFLs can't be thrown in the trash, doesn't that add to the cost?

Because of mercury, CFLs must be disposed of as universal waste. This will cost schools and businesses about 40¢ a lamp. However, the savings generated by using the lamps will earn this money back in the first 75 hours of burn time⁴.

¹ http://www.energystar.gov/index.cfm?c=lighting_pr_lighting#ProductText

³ National Geographic, September 2004 "Global Warning"

CFLs take too long to warm up.

It's true that they take a while to reach full brightness, especially when cold. This is why it's important to avoid poor applications. Stay with incandescents in places that are used intermittently for short periods of time. When using CFLs outdoors, use a premium-quality bulb (like a Panasonic capsule) that will start at temperatures down to -20°F.

If CFLs are switched on and off too much they don't last very long.

It's best to find applications where lights are switched on and stay on. If used outdoors, avoid using motion detectors. Select fixtures that run all night or use with a photocell or timer control.

All CFLs that carry the Energy Star label also carry a two-year warranty. We mark them with the install date so we know if they fail prematurely. Don't be afraid to experiment. Depending on price, you can afford to find out which applications work and which ones don't. The real danger is waiting too long. If you have one-hundred 60-watt incandescents that could be changed to 15-watt CFLs, they might be costing you \$2000 a year.



This little workhorse lasted 2.4 years in an application where incandescents were changed every few months. This unit cost \$8.65 and saved \$62.00 over its lifetime.

CFLs are too expensive.

Not when you include all aspects of the equation. We have paid anywhere between 79¢ and \$4.00 each for CFLs. We have bought them by the case from hardware stores, in bulk from electrical supply houses, and from places like WW Grainger and EFI (www.efi.org). That's up to eight times the cost of an incandescent, but the CFL works off the difference in 150 to 750 hours of burn time⁴, usually a matter of days or months.

Be sure to follow through with your CFL conversion by stocking CFLs for replacement. Yes they're more expensive but you'll need fewer of them.

One last thing, screw-in CFLs aren't the last word. Consider replacing the fixture with one that takes plug-in fluorescent (PL) or linear fluorescent lamps. These are even more efficient and longer-lasting.

² 1 CFL = 5 mg Hg, Northwest Energy Efficiency Alliance

⁴ 60W incandescent - 15W CFL * 12¢ per kWh = 0.54¢ per hr