

Ecologic

- the green hornet

The CFL

The Federal government and most retail stores are aggressively promoting the CFL (Compact Fluorescent Lamp or Canadian Football League). Although, I guess it could be argued that supporting the Canadian Football League would be beneficial to the environment, we'll limit this discussion to the illuminating version.

CFLs are really just curly fluorescent tubes, the kind you see in many common fixtures in stores, at work or maybe in your kitchen, mostly 48" long. They do not use a heated, glowing filament to produce light as do our traditional incandescent bulbs but instead, electricity is passed through a gas that generates UV waves that excite, yes excite, a phosphor coating on the interior of the glass tube, and that produces the visible light.

Apparently someone got the bright idea, yes bright idea, to take the necessary length of a fluorescent tube and wrap it around so that it would be about the size of a regular incandescent bulb. This was important because the shape of the incandescent bulb is a standard to which the overwhelming population of light fixtures is fitted.

So CFLs use ordinary light sockets and can last up to ten times longer than typical incandescent bulbs. Further, CFLs burn cooler, generating 70% less heat, and they use about 70% less energy than our traditional light bulbs. Approximately \$35 can be saved per bulb over the life of the bulb.

In fact, 'According to the federal government, if every American home replaced just one light bulb with an Energy Star approved compact fluorescent bulb (CFL), the United States would save enough energy to light more than 2.5 million homes for a year and prevent greenhouse gases equivalent to the emissions of nearly 800,000 cars.'

That's crazy talk; if it were that easy why wouldn't we all do it? Actually, we should replace all of our lights and fast, it could save us upwards of 7% of our total energy consumption. So there must be a downside mr. green hornet; what is it?

First of all CFLs are not cheap, they used to be about ten times as expensive but are now roughly four to five times more expensive than regular incandescent bulbs. The price gap has been closing because of better manufacturing technology and increased competition through increased demand.

The other downside is that the CFLs contain trace amounts of mercury. Trace in that each bulb uses 1.5 to 5 milligrams. This can be compared to an old mercury health thermometer that had 500 milligrams and a manual thermostat that can include up to 3,000 milligrams. So there's not much mercury in the CFL lamp and the health risks, if one breaks in your house, are negligible.

The EPA publishes recommended guidelines for cleaning up broken CFLs, which includes opening windows to temporarily ventilate the area, sweeping up the mess and

sealing it in a plastic bag. It is not recommended to vacuum up the debris because vacuum cleaners tend to expel the dust into the air.

The bigger problem is not an individual CFL, broken or spent, but CFLs in the aggregate. Notice the cleanup method of CFLs, mentioned in the paragraph above, recommends bagging the debris, but there are mixed signals from the EPA regarding the disposition of the bag or otherwise useless CFLs. Local counties such as Montgomery requires/requests you take damaged or spent bulbs to a hazardous waste drop point, while Fairfax County indicates that it is ok to dispose of the lamp in the regular trash. The EPA seems to be ambivalent and is somewhere in between these two counties.

What is happening is that there is a big push towards the acceptance of CFLs, including by the EPA, but no one is exactly sure what to do with them once they are used up. In the short run with few involved, it's not such a big deal. But if the EPA and others get their wish and everyone is using them to replace all of their lighting needs, which seems to be happening rapidly, there will be tons of scrap lamps representing a whole lot of mercury; then what? It does seem as though the cart is a little before the horse.

In the meantime let's keep recycling. We should also replace our incandescent bulbs with CFLs and use them until they break or burn out. And then; well I guess we'll drive off that bridge when we get to it.

More about CFLs to include cleanup can be found at:

http://www.energystar.gov/index.cfm?c=cfls.pr_cfls