Energy Efficient Lighting Options

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There are so many options when shopping for lighting in today's marketplace. Aside from all of the design and aesthetic differences between lighting fixtures, recessed lights, track and even landscape lighting, there are still a plethora of choices when simply shopping for light bulbs (or lamps as they are known in the electrical industry).

To begin, our most common light bulb, the incandescent "A19" lamp, will shortly become obsolete. What will be the replacement? Right now you have three viable choices. First, long life incandescent will still be available for purchase. The criteria for discontinuing A19 lamps is based on two factors, lumens (actual light output) per watt (energy consumption) and lifetime of the lamp. Long life incandescent lamps will not be affected by the governments rating as standard "A19" lamps in standard wattages can come in 20,000 hour lifetimes. Compare this to the standard GE 120V 100w A19 which has a 750 hour life. So, if you love the warm light of incandescent you will still have plenty of offerings.

Our second option to replace standard incandescent lamps is halogen. The light bulbs look like a standard incandescent A19 but have a little halogen lamp where the filament of the standard lamp normally sits. These lamps are based on energy consumption: a 72 watt halogen A19 is equivalent to a 100 watt standard, a 53 watt halogen A19 is equivalent to a 75 watt standard, a 43 watt is equal to a 60 watt standard, and a 29 watt halogen is equal to a 40 watt standard incandescent. Halogen A19 lamps tend to have life expectancies between 1,000 and 2,000 hours. The quality of halogen light is brighter and whiter than incandescent light, and make a great fit for most household applications.

The third type of viable replacements is compact fluorescent. All fluorescent lamps have a ballast that makes them work. Traditionally, ballasts have been big black bricks that are bolted to the inside of light fixtures, but with modern technology today's fluorescent ballasts have shrunk quite a bit. In fact, all screw base compact fluorescent lamps have a ballast that sits inside the big white plastic base above the screw threads. Fluorescents are fantastic for long lifetimes and low energy consumption: a 13 watt fluorescent is equal to a 60 watt incandescent, an 18 watt fluorescent is equal to a 75 watt incandescent, and a 23 watt fluorescent is equivalent to a 100w lamp. Now, the brightness of a fluorescent is dependant on how much gas is inside the tube, thus the brighter the lamp, the bigger the tube. Therefore when purchasing fluorescents it is imperative to measure your current fixture to make sure the higher fluorescents wattages will physically fit into the fixture. As far as the lifetime of the lamp – fluorescent gas never quite burns out, but it does get progressively dimmer as soon as it is illuminated. The lifetimes for fluorescent lamps is 7,000 hours – at this point the lamp will have lost 40% of its light output. I must advise that fluorescents are not eco-friendly. All fluorescents contain mercury. When disposing of fluorescents, please remember that you are also disposing of the electronic ballast that is housed in the plastic base. Unfortunately, most townships do not recycle fluorescents as it is quite costly.

Fluorescent lamps can come in different colors which is measured in Kelvin temperature. Most compact fluorescents that are sold are 2700 degree Kelvin, the same color as incandescent lights. Then, why don't fluorescents look like incandescent? Fluorescents not only have a Kelvin temperature color but they have another measurement as well. This is called the "color rendering index," known as CRI, which measures how are colors perceive under that specific fluorescent lamp. Unfortunately, fluorescents have a much lower CRI than incandescent or halogen: this is why spaces, or artwork can look "washed out" under fluorescent lighting.

On the horizon are LED lamps. A light emitting diode is flat and radiates light at 180 degrees from the flat plane of the diode. Thus PAR lamps, like you would find in recessed lights or track heads, have viable LED replacements, although quite expensive; but standard A19 lamps radiate light in 360 degrees. So, manufacturers have tried numerous approaches, from a barrel of LED's in the center of the lamp to a high-powered LED in the screw base that hits an opaque glass. A true A19 LED replacement lamp is not yet on the market – however they are on the horizon and will be available soon (The ones that do exist have a lumen output equivalent to a 15 watt A19). LED's last 50,000 hours, at this point the lamp produces only 70% of it's initial lumen output. LED's are also by far the most efficient source. LED's are exciting and the technology is changing daily.

In the end, the world will be a brighter and more energy efficient place!