

WHY LED LIGHTING?

LED - Light Emitting Diode

The **incandescent** bulb is being phased out for good reason. They are notoriously inefficient, converting most of the energy to heat, with less than 1/20th consumed becoming light.

The **halogen** lamp is actually a type of incandescent light filled with an inert gas, producing a high quality light able to operate at higher temperatures. The electrical cost to run the halogen bulbs is much higher than LEDs, besides the potential lifespan of LEDs being much longer.

The **mercury vapor** light is much more energy efficient than the incandescent. Not as efficient as the LED, but better than some others. It also produces a high quality light and has a fairly long lifespan. Mercury vapor lights produce short wave uv radiation a potential hazard to eyes and skin. If the outer bulb becomes damaged protection is lost. In the event of breakage in an area with poor ventilation the mercury vapor emitted is dangerous. In fact, citing the dangers, mercury vapor and some sodium vapor lights are being phased out entirely in the European Union.

The **metal halide** bulb is useful for high intensity applications such as headlights, athletic facilities, or photographic lighting. They produce light by passing electric current thru a combination of mercury and metal halide gas. Some metal halide lights have a long "warm up" time. (5-10 minutes). LEDs come on instantly and are capable of producing the same high quality light.

The **fluorescent tube** is another type of mercury vapor discharge light. They have a long lifespan and produce a high quality light, but have been surpassed by LEDs in efficiency. They also require a ballast to stabilize the internal current. The ballast will produce a buzzing noise if there is a minor imperfection or damage. They also present disposal issues due to the use of mercury.

The **compact fluorescent bulb** is more efficient and lasts about 10 times longer than the incandescent bulb it was designed to replace. The LED bulb lasts much longer and does not use the ballast required by the fluorescent that can cause buzzing. (An annoyance for which there is no "fix"). The mercury required by the bulb also creates a safe disposal issue.

The **sodium lamp** (high & low pressure) have been in production since the 1930s. They produce a yellow light which severely limits applications of street & tunnel lighting as examples. The light also has a warm up period of 5 to 10 minutes. The sodium have been known to start fires in the event of breakage. The safest disposal method is breaking the bulb under water. Needless to say, LED has no special disposal methods.