



Energy Efficiency: LED Lights - Why Upgrade?

(General)

LEDs or Light Emitting Diodes provide many significant benefits that incandescent light bulbs just cannot compete with. Here are some of the benefits.

Long Life

LEDs have an expected lifespan of 50,000 to 100,000 hours. That's 40x as long as incandescent light bulbs.

High Efficiency

Incandescent bulbs waste 90% of the energy they use as heat! Only 10% is converted into light. LEDs convert 90% of their energy into light. Because LEDs are more efficient, you can replace an old 60 watt incandescent bulb with an 8 watt LED and produce the same amount or more light. Also, LEDs produce little to no UV light, as the majority of the light produced is useful "visible light".

Safety

An often overlooked fact is that LED light bulbs are safer than incandescent light bulbs. They produce very little waste heat, so have little risk of fire. Plus, LEDs are very durable and resist breakage.

On Demand Lighting

LEDs are dimmable, require zero warm up time and are effective in cold weather.

Energy Savings

Many ACFN homes have incandescent bulbs, which are inefficient and need to be replaced about every 2 years. By upgrading to LEDs you will save on electricity costs and they will last about 20 years. In institutional or commercial settings, the longer life span of an LED bulb will also reduce maintenance labour costs.

Colour

LEDs are available in different hues or colors. The color is measured using the Kelvin Scale.

The scale spans between a "warm" or yellowish light that is like the old incandescent bulbs to a "cool" white light more similar to sunlight which can show colors more accurately. The choice is up to you.

Improved Direction

Incandescent light bulbs emit light in all directions (360°). This creates a lot of wasted energy as the majority of the light is directed towards the ceiling, not the room that it is meant to be lit. You can purchase LEDs that have directional light (180°), reducing wasted energy.

Lumens

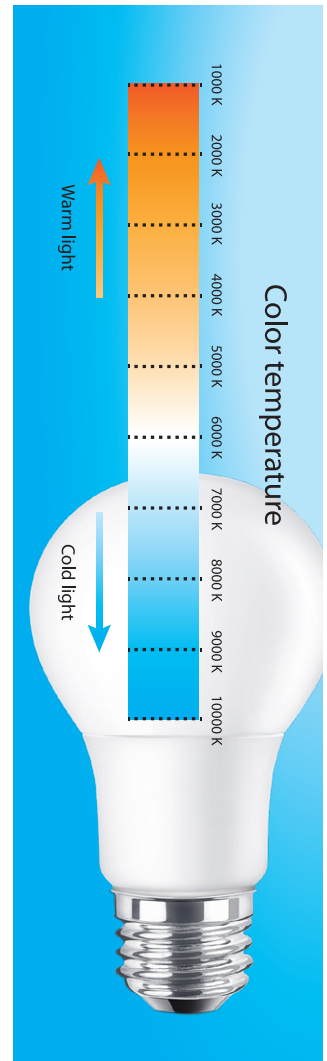
LED bulbs are brighter than incandescents. Brightness is measured in lumens. The higher the number of lumens, the more light is produced. For example, an average LED bulb will produce about 800 Lumens.



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A Note About CFL's (Compact Fluorescent Lamp)

Spiral shaped CFL bulbs are also an efficient light source, providing close to the same amount of efficiency as LEDs so they are not recommended to be replaced right away like incandescent bulbs. However, if you're shopping for new bulbs, LEDs provide better light, last longer, are more environmentally friendly and are more robust.



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| Current Situation | What You Can Do | Energy Savings (\$/year) | Green House Gas Savings (kilograms of carbon dioxide equivalent per year) |
|---|--|--------------------------|---|
| 40 incandescent bulbs (least efficient), replaced every 2 years | Upgrade up to 40 LEDs, replaced every 20 years | \$130 | 400 |
| 40 CFLs (less efficient), replaced every 5 years | Upgrade up to 40 LEDs, replaced every 20 years | \$20 | 30 |