

What Does Green Mean?

Sustainable or green building design is the dominant subject just about everywhere you turn. Flip through your favorite magazine, watch a popular television program or surf the Internet and you'll see that everyone is "going green."

But what does that mean to you and how can you get started?

Simple changes in home lighting habits are an easy first step, resulting in less greenhouse gas emissions and significant financial savings as well.

For instance:

By replacing standard incandescent fixtures with those using green-friendly compact fluorescent bulbs, over the long run a household can save an estimated \$30 per CFL over its lifetime. Fluorescent bulbs are more expensive than incandescent, but last as much as ten times longer, and use significantly less energy over their lifetime.

The following pages contain many tips for those who are just beginning to 'go green' as well as technical information about lighting that will help you understand what 'green lighting' means.

Your Home, Your Work, Your Environment

How we light up the places where we live, work and play makes a significant difference in how we feel; it also makes a big impact on the environment. Proper and effective lighting placement and energy-efficient fixture operation is important with any lighting application. Effective lighting can increase comfort and productivity while saving energy costs and minimizing pollution.

Did You Know?

Despite various new and efficient technological advancements, lighting remains one of the least energy-efficient practices in the home. Nearly 90 percent of energy in traditional incandescent sources is lost to heat, leaving only 10 percent for light. Lighting generally accounts for nearly a tenth of a homeowner's energy bill, and is one of the least environmentally sound aspects of modern living. CFLs produce 75% less heat than incandescent sources, which is 75% less load on your HVAC system due to contributions from lighting.

This need not be the case with the lighting technology currently available. Energy efficient lighting can reduce energy consumption by as much as 75 percent. Additionally, energy-efficient sources last an average of 10 times longer than incandescent sources. The following pages contain information and resources that can help you contribute to a greener environment.

Green Basics

It can be a daunting task when you see unfamiliar terms and acronyms. Included in this book are some terms that relate to lighting and sustainability practices.

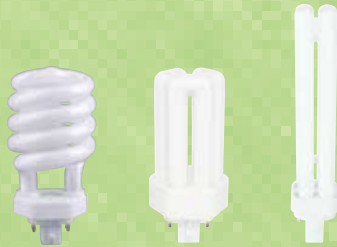
Green Friendly

Green friendly lighting products are less damaging to the environment than traditional lighting products, such as incandescent bulbs. They light more efficiently and reduce power consumption to contribute to a healthier living environment.



Incandescent

The standard incandescent bulb incorporates a tungsten filament. When the filament is heated it glows. Incandescent bulbs tend to have a very poor lamp life and lose most of their energy (up to 90%) to heat.



CFL

Compact fluorescent lamps (CFL) are filled with low-pressure gas. The gas emits ultraviolet light that is converted to visible light when it strikes phosphors on the glass. CFLs generate significantly more light per watt than incandescent lamps and have a far superior lamp life.



LED

LED stands for Light Emitting Diode. An LED is a semiconductor device that emits visible light when an electric current passes through it. LEDs don't burn out like traditional bulbs, they simply dim over time. They use two to five times less energy than an incandescent lamp.

ENERGY STAR



Besides saving energy, when you choose Energy Star qualified products, you help protect the environment from air pollution associated with power generation.

If just one room in every U.S. home was brightened by Energy Star qualified lighting, the change would have the pollution savings equal to removing more than 8 million cars from the road.

Energy Star is the mark of quality for energy efficient, green friendly lighting. Progress Lighting offers a wide array of Energy Star fixtures and was named the 2007 Energy Star Product Manufacturing Partner of the Year.

Most Energy Star fixtures include lamps that last more than 10,000 hours.

Energy Star fixtures are tested to meet strict energy efficiency guidelines set by the US Environmental Protection Agency (EPA) and US Department of Energy (DOE).

More Light for Less Money

A 20-watt CFL has about the same light output as a 100-watt incandescent, and uses 50-80% less energy.

CFL
Total cost of lamp + energy = **\$49.60**

Cost of energy over lamp life \$40.60

Cost of 1 bulb \$9.00

Incandescent
Total cost of lamp + energy = **\$104.05**

Cost of energy for 1 bulb \$9.85

Cost of 1 bulb \$0.50

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Green Lingo

Progress Lighting is a committed ENERGY STAR partner and helps to change people's lives through education and product availability. The ENERGY STAR mark identifies products that are designed to meet the highest standards of energy efficiency.

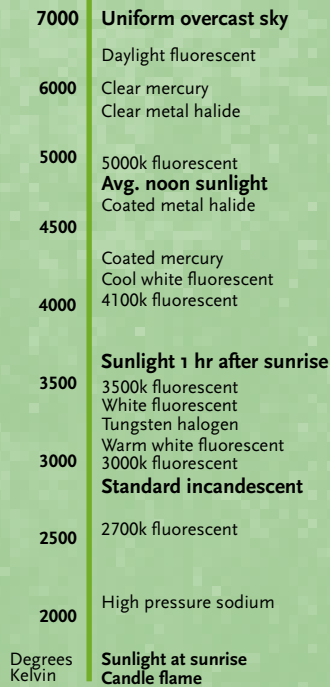
ENERGY STAR



ENERGY STAR qualified light fixtures lower the cost of lighting in your home because they use less electricity than non-qualified models. Besides saving energy, when you choose ENERGY STAR qualified fixtures, you also protect the environment from air pollution associated with power generation.

Color Temperature

Color temperature is measured in degrees Kelvin and describes the visual warmth or coolness of light. Numerically high color temperatures have visually cool (blue) appearance and vice versa.



California Title 24

Title 24 legislation was started in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 addresses lighting in a residential building based on the room type. For each room in the house, there are specific standards that must be met to comply with Title 24.



Incandescent lamp life: 167 days



CFL lamp life: 1,642 days (4.5 years)

Lamp Life

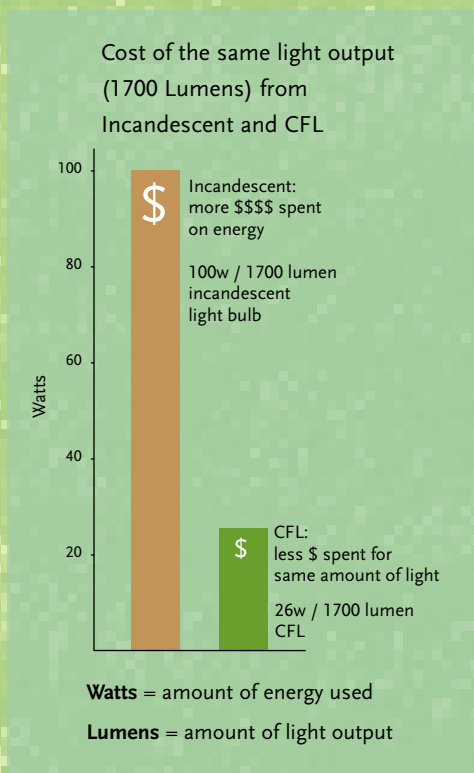
Lamp life is measured in operating hours and is determined based on "half average life method." The rated life is the number of operating hours required for half of the lamps to fail.

LED



Light Emitting Diodes (LED) are the most recent development in residential lighting technology. Light is generated by semi-conductors and modified by tiny diode lenses. These lamps do not burn out like traditional lighting, but gradually dim over several decades.

Lumens vs. Watts. Why You Should Care.



You've probably heard these two terms used in discussions about green lighting.

But do you know how they are different and why (or if) this is important to you?

Lumens are a measure of light output. The more lumens, the more light.

Wattage is a measure of energy. The more watts, the more energy needed. A higher-wattage light bulb is not necessarily a brighter bulb. It is, however, more expensive to use than a lower-wattage bulb.

CFLs with light output comparable to typical incandescent light bulbs will have lower wattages for the same amount of lumens, meaning less energy is used by the CFL for the same amount of light.

As shown in the chart to the left, a 26w CFL with light output similar to that of a 100w incandescent uses much less energy. (It also lasts up to ten times as long as the incandescent bulb, saving even more in the long run.)

Green Light, Clear Sky

Replacing one incandescent light bulb with one CFL will save 150 pounds of carbon dioxide per year, which would result in reduced pollution and cleaner, blue skies.

If everyone in the U.S. used energy-efficient lighting, we could retire 90 average size power plants.



Calculate Your Savings

Calculate lamp light savings, calculate yearly savings! By visiting <http://www.energyefficientlight.com>, you can learn more about solid state lighting, ENERGY STAR benefits and other energy efficient lighting options. You can even calculate your savings by comparing energy efficient products to similar units using incandescent lamps with our energy savings calculator!