

Lighting the Way

Experts talk about what's new on the green horizon

BY JULIE SANDERS

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An Arlington, Virginia, homeowner recently went through her whole house, replacing every incandescent bulb with more energy-efficient compact fluorescent bulbs (CFLs). "She wanted to do her part," explains Dominion Electric's Nicole Brose, ASID, the lighting designer who steered her in the right direction. While changing bulbs is a small contribution to the energy conservation effort, it reflects America's increasing interest in sustainable living. "Green lighting is still a newer concept," Brose says, "but it's the wave of the future. Just within the last six months we've seen factories producing more products, and people in the industry getting trained to work with them."

In fact, a wide range of green lighting products is already available. And though many homeowners—including the Arlington resident above—can't afford or are not ready to make sweeping changes to their existing electrical systems, smaller-scale eco-friendly alternatives do exist. Incandescent bulbs, with a lifespan of 750 to 1,000 hours, can be replaced by halogens, which offer a very crisp, white light and last about 3,000 hours. CFLs offer the greenest alternative; they are Energy Star-rated and will last up to 10,000 hours. Though some say they don't give off as pleasing a light as incandescents and halogens, they are available in a warm white tinged with orangey pink, as well as the cool white associated with traditional fluorescents.

If you're interested in installing a new, eco-friendly lighting system, low-voltage LED (light emitting diode) lights are the best way to go. They provide much greater



This environmentally friendly custom home in McLean features an energy-efficient lighting system. Working with DC lighting designer Wayne Hinson, interior designer Barbara Hawthorn utilized a number of low-voltage fixtures suspended from the ceiling and from cable wire in the great room (top). In the dining room (bottom), a chandelier by FLOS is combined with low-voltage recessed lighting. Architecture: Robert Wilkoff, AIA, Cabin John, Maryland. Interior Design: Barbara Hawthorn Interiors, McLean, Virginia. Builder: Monticello Homes, McLean, Virginia.

energy efficiency than any other light on the market today: An LED light will last 10 times longer than a CFL and use a third of the energy. Also, unlike CFLs, LEDs are mercury-free, which makes recycling them easier and safer.

LEDs can be recessed, or used in under-counter applications, fixtures, lamps and cable and monorail systems. However, because of their low voltage, they cannot replace all forms of lighting in the home. "LED lighting is a work in progress in terms of providing larger and brighter lights," says David Neumaier, a partner with Sound Images, a Falls Church, Virginia-based lighting and automation dealer. Neumaier suggests that a daylight system such as Solatube be used in conjunction with LEDs. "Daylight systems reflect and magnify sunlight in the home through a long, recessed channel from the roof to the ceiling," he explains. He also advocates custom-programmed shade control systems, which help with climate control as well as light

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by monitoring shade positions day to day with sensors and software modules.

Unfortunately, the greener the lighting product, the higher the price—which can be discouraging to would-be environmentalists. It's important to remember, however, that buyers will ultimately recoup their cash outlay; CFLs, for example, cost more than a regular bulb but last four times as long. And, as Nicole Brose of Dominion points out, "LED lighting is 50 percent more expensive than regular under-cabinet lighting but lasts four times as long."

Lighting control offers another significant way to be energy efficient. There are several options, according to Lee Odess, marketing and sales director of Vienna, Virginia-based Integrated Media Systems, a lighting and automation dealer. "There are three families of controls," Odess explains. "Wallbox dimmers, which are your traditional dimmer; single-room systems, where you take multiple switches in one room and introduce a master control for them in order to create atmosphere; and whole-home systems, where you would have a combination of dimmers and master controls."

Dimmers offer an inexpensive way to save energy. Dimming your lights by 50 percent, for example, will save 50 percent of your electricity. In addition, says Odess, dimming your lights makes bulbs last longer. Remember to match the dimmer type to the fixture and bulb type, however;



Through the use of remote controls like these from Crestron (left), a whole-house system can monitor a home's shade system as well as its lighting. This McLean home incorporates an automated shade system by Lutron (above, left), which raises and lowers shades on its wall of windows (above) in unison, eliminating heat gain during certain times of day.

mixing them will result in poor performance and possibly a fire hazard.

Though a whole-house system is expensive, typically starting at \$3,000, the energy savings can be substantial; master controls enable homeowners to reduce and regulate light usage anywhere in the house. For instance, says Odess, "a time clock feature can be set to turn lights on and off or to levels you want," so that rooms not in use will never be needlessly lit. Lighting control systems can also include sensors that read the ambient light outside and adjust the level of artificial light to match. In addition to lighting, whole-house systems can control HVAC and security systems, home theaters, audio/video systems and more. Single-room and whole-house systems are available through lighting control

companies such as Lutron and Crestron (Crestron has a Green Light product line specializing in eco-friendly methods and materials). Both companies offer a variety of options for retro-fitting a home with hard-wired and wireless systems for single rooms and whole houses.

Despite the burgeoning interest in green lighting, as Nicole Brose of Dominion Electric sees it, homeowners still have a way to go. "We are taking the lead from European countries, but we're not there yet. At Dominion, every month we get more customers interested in introducing sustainable lighting into their homes, usually on a smaller scale." But, she adds, "It's important to do your part, even on a smaller scale." ♦

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