

The New Look of Energy Efficient Lighting



Minka Light Fixture
(ENERGY STAR Qualified)



Concord Boardwalk Ceiling Fan
(ENERGY STAR Qualified)



Giftpak of Hong Kong
(multiple fixture types)



Journees Lighting
(LED light fixture)

The choice to go “green” when you are ready to purchase a product can sometimes mean having less options or variety in the marketplace compared to more conventional product lines. Additionally, this lack of green product selection can lead some not to choose green (who normally would) due to product choices that might be less aesthetically pleasing than conventional products. However, the argument not to go green due to the lack of variety or lack of aesthetically pleasing product choices in the marketplace are beginning to fall by the wayside as more and more “green” products are now becoming available.

Currently, lighting manufacturers are offering many more energy efficient lighting fixture choices that include outdoor, decorative, under-cabinet, wall mount, and recessed – just to name a few. Most energy efficient fixtures (such as ENERGY STAR Qualified light fixtures) accept pin-based compact fluorescent light bulbs that on average, last up to ten times longer and use up to 2/3 less energy than standard incandescent bulbs. Additional cooling savings are potentially available from the reduction in internal heat gains.

Axiom Power offers a Cold Cathode Fluorescent Lamp (CCFL) that provides a reported 70 lumens per watt for their GX-53 18 Watt lamp, which is dimmable. The interesting twist on these is the absence of a line voltage incandescent can. The Axbulb GX-53 RRL Recessed Light Kit uses a standard 2-hour fire rated Carlon A615DE plastic ceiling outlet box. This lamp lasts 15 times longer and can save up to 80% in lighting cost compared to similar incandescent bulbs. Even when compared to standard CFLs, the equivalent lifetime is 3 times longer. But all the advancements are not just in fluorescent lighting technologies, with the eventual phasing out of incandescent bulbs by 2012 to 2014, LED lighting is growing at a rapid rate and becoming a realistic alternative.



Companies, such as **Cree LED Lighting Solutions**, are already tackling many of the issues of efficient lighting alternatives. Cree's LR6 dimmable recessed light bulb recently was awarded the grand prize at the American Lighting Association's 2007 Lighting for Tomorrow competition. It received "high marks for light output and color quality with luminaire efficacy exceeding even the most efficient fluorescent downlights currently available." At roughly 54 lumens per watt, the 12 Watt LR6 uses approximately 85% less energy and last up to 50 times longer than incandescent lights, and can last up to five times longer than CFLs without any concerns over mercury usage. Companies, such as International House of Pancakes, have already begun adopting the LR6 as their preferred lighting for all existing and future restaurants.



As the desire for a more sustainable lifestyle continues to grow and energy prices continue to increase, the marketplace has responded by offering more green light fixture choices than ever before. As these are still fairly new to the market, there is still a high price premium on these technologies, but this will continue to drop as market demand grows for this technology.

Energy Efficiency Springs Up In Warrenton, VA

In response to the growing demands for homes that are "green," **High Ridge Custom Homes** is partnering with the U.S. Department of Energy's Building America Program to achieve even greater levels of home performance. In addition to partnering with CARB to design homes that are 40% more efficient than typical 1990s built homes, High Ridge is participating in **USGBC's Leadership in Energy and Environmental Design (LEED) for Homes** program, as well as, **ENERGY STAR® Qualified New Homes**.



A defining characteristic of these townhomes is the option to have ground-source heat pumps (GSHP). CARB will be monitoring the GSHP in this model home as follow-on work to the research effort discussed in the Feb 08' CARBNews. In addition, High Ridge's homes include low-density foam insulation (R-20) for all exterior walls, low-e windows with argon fill, and R-50 cellulose insulation in attic.

For more information contact SWA's Ric Guilbert at rquilbert@swinter.com.

Building America Green Expert Meeting

On March 11, 2008, CARB conducted an "Expert Meeting" prior to the **NESEA BuildingEnergy08** conference in Boston, MA on the topic of Green Housing: Accelerating Development of Zero Energy Homes. CARB invited leading experts to present at the meeting and discuss research potentials with the Building America (BA) teams. The discussion included presentations and discussion on various topics along with potential barriers and opportunities.



Topics covered included:

- national (i.e. LEED, NAHB) and local Green Building Programs (GBPs) and their energy performance criteria compared to BA program goals.
- recent BA initiatives conducted in conjunction with green building certification programs and the yielded benefits and barriers.
- the goals of BA and how they mesh and overlap with other GBPs (cited were energy efficiency, durability, tight thermal envelope, material use reduction, and integrated design and planning).

Copies of the report on the meeting are available from SWA's Erica Brabon at ebrabon@swinter.com.