

DELIGHTFUL IDEAS DEPARTMENT

A Bright Idea May Change Home Lighting

(NAPS)—One bright idea many homeowners may appreciate is a more efficient way to light homes.

That's because research breakthroughs in solid-state lighting (SSL) technology have the potential to transform how homes are lit and help homeowners save energy and money. Solid-state lighting technology shows promise of more than doubling the efficiency of current lighting systems, making it one of the best options for reducing home energy use and costs.

Today's Technology

Just as transistors replaced vacuum tubes 50 years ago, and just as flat panel displays are now replacing cathode ray tube monitors and televisions, experts believe that solid-state lighting will take the place of incandescent and fluorescent lighting—moving the technology from glowing wires to semiconductors.

The SSL device that most consumers recognize today is the LED, or light emitting diode. LEDs have been around since the 1960s, and are commonly found in digital clocks and remote controls.

Recent technology advances have opened the door to specialty applications where the durability, impact resistance, and long lifetime of SSL devices offer huge advantages. Communities around the country are now installing SSL traffic lights that will save big on maintenance costs.

Tomorrow's Home

Research to achieve further technology advances is focused on improving the energy efficiency, performance, and cost of white-light SSL sources. Advances in these areas will result in SSL technologies that can compete in the general lighting market and deliver significant energy savings.

SSL technology is fundamentally different from conventional



Solid-state lighting has the potential to more than double the efficiency of today's typical lighting systems, making it one of the best options for reducing energy use and costs in our homes.

lighting technologies, enabling completely new and different approaches to household lighting. Tomorrow's home will mount SSL devices in the floors, walls, ceiling, and even the furniture, providing light that can be tuned to any shade or intensity desired.

Desktop lamps will no longer be needed—the desk itself could be illuminated. Thin films of solid-state light could be integrated with surfaces—even windows—to provide both light and information displays. Smart lighting environments could respond to our changing needs and activities, making our homes more comfortable while reducing energy use and costs.

Much of the research that is developing new applications for SSL is supported by investments made by the U.S. Department of Energy (DOE). At the same time, DOE commercialization support strategies—such as developing an Energy Star® designation for new SSL products—are designed to ensure that DOE research investments result in successful technology commercialization. To learn more, visit the Web site at www.netl.doe.gov/ssl/.