On the Horizon and Here Today: LED Replacements for Linear Fluorescents - By Glenn Hasek

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In meeting rooms, back of house and other areas of your hotel, chances are great that you are using T-12 fluorescent lamps or the more efficient T-8s to illuminate large spaces.

At least two companies-ilumisys, Inc. in Troy, Mich., and LEDdynamics, Inc. in Randolph, Vt.-are trying to replace these linear fluorescents with LED alternatives that are more energy efficient and safer for the environment. Fluorescent tubes include mercury and despite recycling efforts, 500 million to 600 million lamps end up in landfills each year. LED alternatives do not include mercury.

'LED lamps also last longer, which means you throw away less waste,' says Dave Simon, president of ilumisys. 'They are, on average, 10 percent more efficient, are dimmable, and can interface with smart building and HVAC systems.'

While not significantly more energy efficient than their fluorescent counterparts today, linear LED lamps are expected to be three times more efficient in the next five years. They currently cost more than fluorescents but once labor and waste reduction is factored in, they begin to make sense, especially for high locations that are difficult to access.

Simon's company has installed its new products in batches of hundreds at several pilot sites. The LED lamps are 'drop in' replacements for fluorescents and are compatible with standard, ballast-equipped fluorescent light fixtures. Similarly, lamps produced by LEDdynamics are also compatible with standard fixtures.

LED Light is More Direct

Linear LED lamps perform somewhat differently than their fluorescent counterparts in that they produce a directed, rather than a disbursed light.

'They need to be aimed properly,' Simon says. 'Color temperature options can vary from very warm to classic harsh blue light. LEDs don't put out radiant light. They produce less heat than fluorescents. The heat that is generated is produced through the connection to the circuit board. The more light per watt, the less heat that is generated.'

So far, ilumisys has primarily been generating 48-inch lamps as replacements for T-8s and T-12s. LEDdynamics is also producing 48-inch lamps. The lamps are recyclable, flicker free and can last 10 years.

Late last year, ilumisys was presented with the Michigan Economic Development Corp.'s first award for outstanding diversification achievement in alternative energy companies. The company was selected as the small business winner. Also last year, LEDdynamics received the Popular Science 'Best of 2007 Innovation Award-in the Green Tech category-for the EverLED-TR product line.

According to the U.S. Department of Energy, energy consumption for lighting could be reduced by more than 20 percent by 2020 through the use of solid state LED-based lighting.

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