Goodbye fluorescent bulb? Philips says yes.

Toby Sterling, Associated Press

AMSTERDAM (AP) -- If you've worked in an office, you're probably familiar with the soft glow of fluorescent tubes drifting from the ceiling. If Europe's Philips brand is right, those lamps could soon be history.

Royal Philips NV, the Dutch consumer appliances giant, said Thursday that it has developed an LED light that will soon be far more efficient than the best fluorescents on the market. That should make it cheaper and greener, as well.

It's a combination that will inevitably help the LED dominate the market for illuminating the world's workplaces, according to the global leader in lighting sales.

In an interview with The Associated Press ahead of the unveiling of the new light, a top executive said the prototype LED is headed to mass production and will hit the market in 2015. He claimed that in 10 years, LEDs will replace at least half of the world's fluorescent bulbs, which have been the main source of workplace lighting since shortly after World War II.

"This is a major step forward for the lighting world," said Rene van Schooten, CEO of Philips' light sources division. "It will bring an enormous savings in energy."

Experts outside the Dutch company say they have long expected LEDs to eclipse fluorescents. If Philips' predictions are correct, however, the arrival of the LED in office spaces will come faster than expected.

The potential impact in energy and cost savings, as well as pollution reduction, is significant — though toxic materials are used in manufacturing both fluorescents and LEDs.

Lights suck up more than 15 percent of all energy produced globally, and fluorescent lights currently make up more than half of the total lighting market.

In the United States alone, fluorescents consume about 200 terawatts annually, according to Philips' estimates. Cutting that in half would save $12 billion in electricity costs and lessen carbon dioxide emissions by 60 million metric tons per year, the company said.

Dr. Eugenia Ellis, a professor of engineering and architecture at Drexel University, who works with LED installations, said an efficiency improvement at the level Philips forecasts would be impressive. Cost savings from using LEDs can already be significant: Ellis gave the example of a hospital recently saving $75,000 a year on energy bills by switching.

In recent years, energy-efficient lights made by Philips, Siemens AG, General

Electric Co., Cree Inc. and others using LEDs, or light-emitting diodes, have made significant inroads in the home market, replacing many incandescent and halogen bulbs.

But because fluorescent bulbs are themselves highly efficient, LED lights have so far achieved only a small foothold in business and industry. LEDs are competitive in heavy use settings where their longer lifespans and a minor energy edge pay off.

Philips says its new lamp will change all of that. The technical milestone the company claims to have achieved is the ability to produce 200 lumens of light per watt. A lumen is the standard measure of the amount of light a lamp casts in a given area.

According to Mark Hand, a technology expert at Philips competitor Acuity Brands Inc., that's about twice the output per watt of the best fluorescent tubes currently on the market; he estimated the best LED lamps may get up to 120 lumens per watt.

Cree already advertises an LED lamp it says reaches 200 lumens per watt under some circumstances. Van Schooten said the Philips lamp is different. It will be the first on the market that reaches that level of efficiency and functions across a normal range of temperatures and is capable of consistently producing the same amount of warm white colored light as comparable fluorescent tubes.

Essentially, Van Schooten said, "if you walk into the room, you don't say, 'what a funny lamp.'"

U.S. Department of Energy projections published in April 2012 showed the government had expected the industry would only achieve efficiencies of 160 lumens per watt for LED lamps by 2015.

Philips' Van Schooten said that initially, prices of its LED tubes will still be higher than fluorescent lights. But taking into account electricity costs, the increased efficiency in 2015 will make them cheaper to own within a year, as opposed to three years at present.

And further manufacturing savings and efficiency improvements to LED lights will come with each generation of technology.

"The case is rather compelling, but of course it takes some time to replace existing infrastructure," Van Schooten said.

Philips lighting sales in 2012 amounted to 8.4 billion euros ($11 billion) in a total global market that consulting firm McKinsey puts at 70 billion euros.

Acuity Brands' Hand said that Philips' 10-year view may even be pessimistic. Although LEDs currently make up only a small percentage of his company's $1.9 billion in annual sales, he expects that to change quickly.

"LEDs will take over, definitely within 10 years," he said. He predicted that LEDs would make up more than 50 percent of new sales "certainly within 5 years, maybe within three."

Ironically, Philips will both lose and gain from the change: It is not only the largest maker of LEDs, but also of fluorescent tubes.

"Clearly we'll have to phase that out," Van Schooten said. But "we knew this moment was coming for some time."

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