Ready or Not: Incandescent Bulbs Set to Disappear From Store Shelves
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Most people may not know it yet, but lighting aisles in California stores are about to undergo a profound transformation. Beginning Jan. 1, the sale of old-style incandescent light bulbs will officially be phased out.

California is the first state to implement the initiative, a year ahead of the rest of the country.

It was on Dec. 31, 1879 that Thomas Edison unveiled the first practical incandescent light bulb to the world as a viable alternative to the gaslight. Dec. 31, 2010, will mark the last day manufacturers will be able to produce traditional 100-watt incandescents for the California market. And over the next two years, 75-, 60- and 40-watt incandescents will be phased out in California as well.

The phase-out is mandated by federal law, the Energy Independence and Security Act of 2007. The law does not “ban” incandescents per se, but provides that they must use about 30 percent less energy while offering similar levels of light.

The federal law provided that California, which had been working to develop similar lighting standards at the time, could implement the phase-out in 2011. The rest of the country will do so beginning in 2012.

The change will not be an easy one for many consumers. After more than 100 years, the Edison light bulb remains the light source of choice in American homes, despite massive utility and government efforts over the last decade to get people to switch to compact fluorescent light bulbs, or CFLs.

While more expensive to buy, CFLs are said to use up to 75 percent less energy than incandescents, last up to 10 times longer and more than pay for themselves in reduced energy costs. And yet, more than five out of every six general-service light bulbs shipped from factories today are incandescents.

Consumers who have long relied on inexpensive incandescents to satisfy their lighting needs will soon find they need to select from a confusing array of pricier alternatives. These include halogens (a type of incandescent that employs a glass capsule, fill gases or other means to make them more efficient), CFLs and products made with light-emitting diodes, or LEDs.

Policymakers, efficiency advocates and manufacturers have agreed that consumer education will be a critical component of the phase-out. Similar incandescent phase-outs in Australia and Europe had rocky starts, with negative media coverage and people purchasing large volumes of old-style bulbs and stockpiling them for future use.

“A major lesson from Australia and Europe is that consumer education is key to a good transition to new standards for increased replacement bulb efficiency,” wrote James Brodrick, who manages the U.S. Department of Energy’s Solid-State Lighting Program, in a recent trade journal article. “One aspect of
this education involves teaching consumers how to distinguish between the different energy-efficient products that are entering the marketplace.”

But with implementation of the phase-out in California just days away, many people—about three out of four American adults, according to a survey by GE Lighting—are still in the dark about the new lighting regulations.

“What is pretty amazing to me is the fact that this first part of the standard goes into effect in less than a month and there has been little to no public education on this topic,” said Noah Horowitz, senior scientist with the Natural Resources Defense Council.

An education initiative led by DOE to increase consumer awareness and the need to comparison shop based on lumens, or light output, rather than watts, is still in the planning stages. And a coalition headed by the National Electrical Manufacturers Association (a trade group that represents major light-bulb manufacturers), the Alliance to Save Energy, and the American Lighting Association is planning a consumer education campaign.

Rather than waiting for direction from government agencies or trade groups, Home Depot has been gearing up for the phase-out in California for some time. The company, which is the largest light-bulb retailer in the world, has provided special training to sales associates and developed point-of-sale signage to make it easier for customers to find commensurate replacement products, according to Jorge Fernandez, Home Depot’s chief lighting merchant.

“California is a nice proving ground for what we’re going to do across the rest of the country,” said Fernandez. The last thing the company wants, he added, is for customers to exit a store out of frustration. “We want to make sure they just don’t leave,” he said.

While it is in the interests of all retailers to reduce customer confusion, consumer education is also critical to achieving the hoped-for energy savings. Lighting accounts for 15 to 20 percent of household electricity use in the United States, according to government statistics, and ultimately the new standards are meant to provide a relatively easy way of slashing energy use in the home.

They also fit in nicely with a California directive, laid out in AB 1109, to reduce average statewide energy consumption for indoor residential lighting by at least 50 percent from 2007 levels by 2018.

Given there are an estimated four billion Edison screw-based light sockets in American homes, it’s not hard to see that the energy savings and environmental benefits related to the transition should be huge.

The 100-watt lamp, for example, is one of the most commonly used household light bulbs, with more than 200 million sold annually in the United States, according to GE.

After the 100-watt incandescent is phased out, consumers will be able to get about the same light output by using 72-watt halogen bulbs or 25-watt CFLs. If half of Americans chose halogen bulbs and half chose CFLs to replace 100-watt incandescents, GE estimates, it would lead to the elimination of 7.8 million tons of carbon dioxide, or the equivalent of removing nearly 1.4 million cars from the road.
But what if, in the real world, consumers don’t make the “right” choices? An alternative scenario is that people who now use CFLs could replace them with the newer, more efficient halogens that are now on store shelves. Both are compliant with the standards— but given CFLs are roughly three times more efficient than halogens, this could lead to an increase in lighting-energy consumption.

Another possibility is that a consumer who selects bulbs based on similar wattage rather than light output could replace an old 75-watt incandescent with a new 72-watt halogen—a bulb that give off the light of the old 100-watt bulb. This would pretty much cancel out any expected energy savings.

These and other concerns were raised in a 2008 report to the CEC by the California Lighting Technology Center at UC Davis. “Achieving a significant reduction in lighting energy consumption in California is beyond a merely technological challenge. The real challenge lies in constructively achieving market transformation,” the report noted. “A motivated and informed public increases the likelihood that any other components will be well received and function as intended.”

To make comparison shopping easier for consumers, the Federal Trade Commission has introduced a new label for light bulbs that is modeled on the nutrition-facts label for food products. The label, which will emphasize lumens rather than watts, is supposed to appear on light-bulb packaging, but not until July of next year.

However, in a recent letter to the FTC, the National Electrical Manufacturers Association asked the agency to delay the effective date for the new labeling requirement until as late as 2013 for some products due to “supply-chain logistical challenges.”

Still, Horowitz with NRDC remains optimistic that consumer needs will eventually be addressed. “The retailers and manufacturers have a joint responsibility to get the word out, and we are hopeful that they will do a good job here,” he said. “We also encourage the utilities, who have a long history of promoting energy-efficient lighting products, to reach out to their customers and explain the new standards and provide guidance on how to buy the right bulb.”

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