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Old-Fashioned, Inefficient Light Bulbs Live On at the Nation's Dollar Stores

A Trump administration weakening of climate rules has kept incandescent bulbs on store shelves, and research shows they're concentrated in shops serving poorer areas.

Deborah Turner of Columbus, Ohio, found that her local dollar stores didn't stock LED bulbs, which could have saved her hundreds of dollars in electricity bills. Maddie McGarvey for The New York Times

By Hiroko Tabuchi
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For years, Deborah Turner bought her light bulbs at one of the many dollar stores that serve her neighborhood in Columbus, Ohio.

But the bulbs for sale were highly inefficient, shorter lasting, incandescent ones — the pear-shaped orbs with glowing wire centers — meaning that over time Mrs. Turner, who lives in a neighborhood where a quarter of the residents are below the poverty line, would spend hundreds of dollars more on electrical bills, because of the extra power they use, than if she'd purchased energy-saving LED lights.

It's a pattern repeated nationwide. Research has shown that lower-end retailers like dollar stores or convenience shops still extensively stock their shelves with traditional or halogen incandescent bulbs, even as stores serving more affluent communities have shifted to selling far more efficient LEDs. One Michigan study, for instance, found that not only were LED bulbs less available in poorer areas, they also tended to cost on average $2.50 more per bulb than in wealthier communities.

"You just don't see them in places like Dollar General," said Mrs. Turner, a semi-retired addiction-treatment counselor.

The continued prevalence of incandescent bulbs in the United States is one result of a successful effort during the Trump presidency, by an industry group representing the world's biggest light-bulb makers, to stall energy efficiency standards in the United States. By contrast, in the European Union, those same companies have adhered to a phaseout of incandescent bulbs.

The delay has enabled manufacturers to prolong profits from an inefficient technology, often at the expense of lower-income households, which end up having to replace the short-lived bulbs more frequently, while also paying more to power them.

For the world's biggest manufacturers — like Signify, the Dutch multinational that makes Philips light bulbs — that is a lucrative strategy. Signify's financial reports show that profit margins for conventional lighting are significantly higher than for its LED business. In its corporate reports, Signify has called extracting value from its conventional lighting a "cash engine" for the company.

That's partly because investment in manufacturing equipment has long been paid off (incandescent bulbs have been around for more than a century) and there is relatively little competition. The LED market, on the other hand, has attracted new manufacturers and has become far more competitive.

Incandescent bulbs were supposed to be phased out in the United States beginning a decade ago. While the older types of incandescent bulbs have mostly disappeared, the halogen-filled types, which are not much better though they are often marketed as environmentally friendly, are still easy to find everywhere from dollar stores to big-box hardware chains.

About 30 percent of standard bulbs sold in the United States in 2020 — excluding California, which phased out most halogen and incandescent light bulbs in 2020 — were still incandescent or halogen bulbs, according to the most recent data available. In the European Union, that percentage has been close to zero since 2018.

The National Electrical Manufacturers Association, the industry group that represents more than 300 corporations including Signify and GE Lighting, said that the industry had already contributed greatly to trimming electricity use by investing in energy-saving LED technology in the first place. Lighting manufacturers supported accelerating a transition toward more efficient LED bulbs in a way that "continues to drive energy savings while offering a range of choices for consumers," the group said in an emailed statement.

Signify said LEDs represent more than 80 percent of its sales. It also said that prices for energy-efficient light bulbs had continued to fall, making them available to a broadening audience. Dollar General said its offerings reflected local community and customer demand, and that many stores did carry LED options that allowed its customers "to choose what best fit their budget and preference."

Manufacturers sometimes label incandescent bulbs to suggest they are energy efficient, though they use much more power than LED lights. Maddie McGarvey for The New York Times

A typical 60-watt incandescent bulb uses as much as 12 times the electricity as a 5-watt LED that

provides nearly the same amount of light. And LED bulbs typically last far longer. According to the manufacturers' own ratings, at 3 hours of use per day, an incandescent bulb would be good for 1 to 3 years, while a typical LED would last at least 10 years.

The Natural Resources Defense Council, the environmental group, calculates that over the longer life of an LED, savings can range from $50 to more than $150 per bulb. The average American household has about 52 light bulbs, according to Department of Energy estimates.

Still, incandescent bulbs have also been marketed as offering "energy savings" or "longer life," though they use considerably more energy than LED lights and have a shorter life span. Signify acknowledged that language was outdated, and said it had updated its products, though some with older packaging may still be on sale from third-party resellers. Savant Systems, which owns GE Lighting, did not respond to requests for comment.

Every additional month that the bulbs are sold will mean $300 million in lost energy savings for American consumers over the bulbs' lifetime, and will result in 800,000 tons of carbon dioxide emissions, according to calculations by the Appliance Standards Awareness Project, a coalition of environmental and consumer advocacy groups and businesses focused on energy efficiency issues. That's equivalent to emissions from almost 200,000 passenger cars driven for a year.

"The profit margins of those manufacturers shouldn't hold weight against our concerns for communities that may be struggling to pay their electricity bills," said Ben Stacey, one of the researchers involved in the Michigan study. "Being energy efficient can be much more effective than building additional power plants."

The disparity underscores how, even as an energy efficiency revolution sweeps the United States, its benefits aren't being shared equally.

Electricity use by American households, which climbed for decades, has dipped in recent years, thanks to energy-saving refrigerators, light bulbs and more. That represents a promising step toward cutting greenhouse gas emissions and combating global warming.

Still, many households risk being left behind, missing out on even the simplest ways to cut home energy use, like upgrading to LED lighting researchers say.

An old incandescent bulb in Ms. Turner's home. Maddie McGarvey for The New York Times

Lighting accounts for as much as a fifth of the average American household's electricity bill, and lower-income households spend a disproportionately large part of their income on utilities, even as poorer Americans — many of them Black, Latino, Asian and Native Americans — on

average use less energy overall, and tend to suffer disproportionately from pollution from the energy sector.

Congress established the first national light bulb efficiency standards in 2007, which were signed into law by President George W. Bush. Starting in 2012, the law required new light bulbs to use 28 percent less power than existing incandescent lights, essentially ending the sale of some older bulbs.

A second phase of the lighting efficiency rules was scheduled to go into effect in 2020, which would have eliminated virtually all incandescent bulbs, including the recent generation of halogens, from store shelves. But in 2017, the industry sued, setting up a settlement with the Trump administration that set the path for a rollback of standards. In 2019, the Trump administration blocked a rule designed to phase out older incandescent bulbs, calling it unnecessary and an impediment to consumer choice.

With the move, the administration heeded to both industry demands as well as free market proponents who have long railed against tougher efficiency regulations for consumer appliances and goods, like energy-saving bulbs or water-saving dishwashers, as governmental overreach.

"The new bulb is many times more expensive, and I hate to say it, it doesn't make you look as good," Donald J. Trump, the former president, quipped at a White House meeting in 2019, referring to an early common complaint that LEDs emit a harsher light, though recent LED lights come in warmer hues. "We're bringing back the old light bulb," he later told a rally in Michigan.

The Biden administration has moved to reinstate the standards. But in a letter to the Department of Energy last year, NEMA, the industry group, urged federal rules to allow companies to manufacture and import inefficient bulbs for at least another year, followed by another year or more to sell out stockpiled inventory. Signify went further, asking for more time to manufacture or import wasteful bulbs, followed by the ability to sell the bulbs for a period yet to be determined.

"National laws make it very difficult to find alternative markets to sell newly restricted products," the group wrote. "While manufacturers or retailers can attempt to find other markets for these products, it is likely that most stranded inventory will need to be disposed of in landfills."

Of course, even if the bulbs were used they would likely end up in landfills eventually. Asked about that, NEMA, the industry group, said that any abrupt transition raised concerns of a "wasteful mass disposal" of bulbs.

Ms. Turner upgraded the light in her home last fall with the help of a local energy-efficiency program. Maddie McGarvey for The New York Times

The good news, experts say, is that a full transition to more efficient lighting is easy to achieve. New bulbs fit the same sockets as older ones, and households can simply replace old bulbs one-by-one, as they burn out, with minimum disruptions.

Some states are taking the lead. California and Nevada have now essentially implemented the standards that would have taken effect had Trump not acted.

Last fall, Mrs. Turner finally upgraded the lighting in her home with the help of an energy efficiency program for low-income households run by Ohio Partners for Affordable Energy, a local nonprofit. “I think a lot of people, a lot of elders, just don’t know they’re paying more in the long run,” she said.

Hiroko Tabuchi is an investigative reporter on the Climate desk. She was part of the Times team that received the 2013 Pulitzer Prize for explanatory reporting.

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