

With incandescent light bulbs disappearing, here's what you could use next

As energy inefficient incandescent bulbs are phased out, we look at the pros and cons of the other options.



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A vintage-style incandescent light bulb (C) is shown with an LED light bulb (R) and a compact florescent (CFL) light bulb.

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By the end of this year, Thomas Edison's classic incandescent light bulb, a fixture in homes and offices for more than a century, will disappear from the shelves.

As the bulbs are phased out in favour of more energy efficient ones, consumers will have some choices to make.

Some of the options cost a little more — and some a lot more — upfront. But you can save money in the long run by trimming your electricity bill. And the Ontario government is offering coupons to soften the blow of buying new bulbs.

Each bulb comes with pros and cons. It all comes down to the [purpose of the illumination](#) — to read a book, or light a closet.

Incandescent bulbs don't meet new energy performance standards, because up to 96 per cent of the energy used by the bulbs is turned into heat.

The average Canadian household has 25 light bulbs, so those inefficiencies add up.

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New federal standards, which came into effect on New Year's Day, mean retailers can no longer buy 100W and 75W bulbs. By the end of year they will not be able to buy 60W and 40W bulbs either.

Ron Clearly, Home Depot Canada's senior merchant for electronics, isn't sorry to see them go.

"They're not long lasting and they're not energy efficient in any way at all," he said. "They were great a hundred years ago, [but not] now."

Katie Hockton, a spokeswoman for Canadian Tire, said some stores have already run out of 100W bulbs, and Clearly said most Home Depot locations expect to run out by late February.

Some specialty incandescent bulbs are exempt from the ban, including hardened utility bulbs, infrared and oven light bulbs. (The [Natural Resources Canada web site](#) has a full list.)

This leaves consumers with three lighting alternatives.

	Incandescent	Incandescent Halogen	CFL	LED
Cost	\$0.75	\$3 to \$10	\$6 to \$22	\$10 to \$42
Lifespan (hours)	1,000	3,000	10,000	25,000
Energy saving	-	28%	75%	90%
Advantage	Inexpensive	Similar light to incandescent	Lasts 10 times longer than incandescent	Longest lasting

Disadvantage	94% energy lost as heat	So-so efficiency	Not all are dimmable	Most expensive
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The bulbs closest to the old ones in terms of the quality of light cast is the halogen incandescent. These bulbs last two or three times longer and are about 28 per cent more efficient. They cast a bright, clean light, Clearly said.

The most well-known energy efficient bulb is the compact fluorescent lamp (CFL), which was first introduced in the late '90s. The spiral-shaped bulbs are miniature versions of the long, tubular fluorescent lights.

Unlike an incandescent bulb, which generates light by passing an electric current through a fragile filament, a fluorescent lamp passes a current through an ionized gas.

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The bulbs use up to 75 per cent less electricity to produce the same amount of light as the old incandescent ones.

“They last much longer — (up) to 10,000 hours. It’ll vary based on the bulb itself, as we have different types of sockets,” Clearly said.

When CFLs were first introduced, the bulbs earned a reputation for being slow to start, not working with dimmer switches and casting an off-putting, flickering light. But Clearly says the technology has improved a lot.

The bulbs come in a range of styles and colours, some of which work with dimmers, but the real advantage is the energy savings.

CFLs have been criticized because they contain trace amounts of mercury.

[Health Canada says](#) there is no health risk posed by the bulbs during regular use, and only a very small risk if the bulb is broken. Because of the mercury content, CFLs should not be thrown out in the regular trash.

Instead, dispose them at a household hazardous waste location.

The most expensive option is a light-emitting diode (LED) bulb. These bright, tiny bulbs have been common in Christmas lights and are now available in compact bulbs for regular use.

Clearly says LEDs are the Cadillac of light bulbs, with an energy efficiency 85 to 90 per cent greater than incandescents. And they have an average lifespan of 25,000 hours. A bulb used for three hours a day might not need to be replaced for more than 20 years.

LEDs cost between \$10 and \$40 each but the price continues to fall as the quality improves. They come in soft white, bright white or daylight.

The new bulbs are also changing the way we talk about brightness. In the past we would refer to bulbs according to their wattage, 60W vs. 40W, for example.

But watts are a measure of electricity usage, not brightness. By comparison, a 13W CFL bulb is just as bright as a 60W incandescent bulb.

The new bulbs are described in terms of lumens, a measure of brightness. An incandescent bulb needs 60W to give off about 800 lumens. A CFL can generate the same amount of light using only 13W, and a LED uses only 9.5W.

When you're shopping for a light bulb, more lumens mean the bulb is brighter; more watts means the bulb uses more energy.

Ontario offers coupons to offset the cost of LEDs and CFLs, which are available online and can be redeemed at major retailers, including Canadian Tire, Home Depot and Rona. Go to saveonenergy.ca to print coupons, which are valid for all of 2014.