The New York Times

March 20, 2013

New Reasons to Change Light Bulbs

By DAVID POGUE

People sometimes have trouble making small sacrifices now that will reward them handsomely later. How often do we ignore the advice to make a few diet and exercise changes to live a longer, healthier life? Or to put some money aside to grow into a nest egg? Intellectually, we get it — but instant gratification is a powerful force.

You don't have to be one of those self-defeating rubes. Start buying LED light bulbs.

You've probably seen LED flashlights, the LED "flash" on phone cameras and LED indicator lights on electronics. But LED bulbs, for use in the lamps and light sockets of your home, have been slow to arrive, mainly because of their high price: their electronics and heat-management features have made them much, much more expensive than other kinds of bulbs.

That's a pity, because LED bulbs are a gigantic improvement over incandescent bulbs and even the compact fluorescents, or CFLs, that the world spent several years telling us to buy.

LEDs last about 25 times as long as incandescents and three times as long as CFLs; we're talking maybe 25,000 hours of light. Install one today, and you may not own your house, or even live, long enough to see it burn out. (Actually, LED bulbs generally don't burn out at all; they just get dimmer.)

You know how hot incandescent bulbs become. That's because they convert only 5 to 10 percent of your electricity into light; they waste the rest as heat. LED bulbs are far more efficient. They convert 60 percent of their electricity into light, so they consume far less electricity. You pay less, you pollute less.

But wait, there's more: LED bulbs also turn on to full brightness instantly. They're dimmable. The light color is wonderful; you can choose whiter or warmer bulbs. They're rugged, too. It's hard to break an LED bulb, but if the worst should come to pass, a special coating prevents flying shards.

Yet despite all of these advantages, few people install LED lights. They never get farther than: "$30 for a light bulb? That's nuts!" Never mind that they will save about $200 in replacement bulbs and electricity over 25 years. (More, if your electric company offers LED-lighting rebates.)

Surely there's some price, though, where that math isn't so off-putting. What if each bulb were only

$15? Or $10?

Well, guess what? We're there. LED bulbs now cost less than $10.

Nor is that the only recent LED breakthrough. The light from an LED bulb doesn't have to be white. Several companies make bulbs that can be any color you want.

I tried out a whole Times Square's worth of LED bulbs and kits from six manufacturers. May these capsule reviews shed some light on the latest in home illumination.

3M ADVANCED LED BULBS On most LED bulbs, heat-dissipating fins adorn the stem. (The glass of an LED bulb never gets hot, but the circuitry does. And the cooler the bulb, the better its efficiency.) As a result, light shines out only from the top of the bulb.

But the 3M bulbs' fins are low enough that you get lovely, omnidirectional light.

These are weird-looking, though, with a strange reflective material in the glass and odd slots on top. You won't care about aesthetics if the bulb is hidden in a lamp, but $25 each is unnecessarily expensive; read on.

CREE LED BULBS Cree's new home LED bulbs, available at Home Depot, start at $10 apiece, or $57 for a six-pack. That's about as cheap as they come.

The $10 bulb provides light equivalent to that from a 40-watt incandescent. Cree's 60-watt equivalent is $14 for "daylight" light, $13 for warmer light.

The great thing about these bulbs is that they look almost exactly like incandescent bulbs. Cree says that its bulbs are extraordinarily efficient; its "60-watt" daylight bulb consumes only nine watts of juice (compared with 13 watts on the 3M, for example). As a result, this bulb runs cooler, so its heat sink can be much smaller and nicer looking.

TORCHSTAR These color-changeable light bulbs (available on Amazon) range from $10 for a tracklight-style spotlight to $23 for a more omnidirectional bulb. Each comes with a flat, plastic remote control that can be used to dim the lights, turn them on and off, or change their color (the remote has 15 color buttons). You can also make them pulse, flash or strobe, which is totally annoying.

The TorchStars never get totally white — only a feeble blue — and they're not very bright. But you get the point: LED bulbs can do more than just turn on and be white.

PHILIPS HUE For $200, you get a box with three flat-top bulbs and a round plastic transmitter, which plugs into your network router. At that point, you can control both the brightness and colors

of these lights using an iPhone or Android phone app, either in your home or from across the Internet, manually or on a schedule.

It offers icons for predefined combinations like Sunset (all three bulbs are orange) and Deep Sea (each bulb is a different underwaterish color). You can also create your own color schemes — by choosing a photo whose tones you want reproduced. You can dim any bulb, or turn them all off at once from your phone. (Additional bulbs, up to 500, are $60 each.)

Philips gets credit for doing something fresh with LED technology; the white color is pure and bright; and it's a blast to show them off for visitors. Still, alas, the novelty wears off fairly quickly.

INSTEON This kit ($130 for the transmitter, $30 for each 60-watt-equivalent bulb) is a lot like Philips's, except that there's no color-changing; you just use the phone app to control the white lights, individually or en masse. Impressively, each bulb consumes only 8 watts. You can expand the system up to 1,000 bulbs, if you're insane.

Unfortunately, the prerelease version I tested was a disaster. Setup was a headache. You had to sign up for an account. The instructions referred to buttons that didn't exist. You had to "pair" each bulb with the transmitter individually. Once paired, the bulbs frequently fell off the network entirely. Bleah.

GREENWAVE SOLUTION This control-your-LED-lights kit doesn't change colors, but you get four bulbs, not three, in the $200 kit. You get both a network transmitter and a remote control that requires neither network nor smartphone. Up to 500 bulbs (a reasonable $20 each) can respond. Setting up remote control over the Internet is easy.

The app is elegant and powerful. It has presets like Home, Away and Night, which turns off all lights in the house with one tap. You can also program your own schedules, light-bulb groups and dimming levels.

Unfortunately, these are only "40-watt" bulbs. Worse, each has a weird cap on its dome; in other words, light comes out only in a band around the equator of each bulb. They're not omnidirectional.

The bottom line: Choose the Cree bulbs for their superior design and low price, Philips Hue to startle houseguests, or the GreenWave system for remote control of all the lights in your house.

By setting new brightness-per-watt standards that the 135-year-old incandescent technology can't meet, the federal government has already effectively banned incandescent bulbs. And good riddance to CFL bulbs, with those ridiculous curlicue tubes and dangerous chemicals inside.

LED bulbs last decades, save electricity, don't shatter, don't burn you, save hundreds of dollars, and now offer plummeting prices and blossoming features. What's not to like? You'd have to be a pretty dim bulb not to realize that LED light is the future.

E-mail: pogue@nytimes.com