Nothing But Green Lights

New energy-efficiency laws have led to scores of new lightbulbs. We illuminate the choices.

By Jenni Avins Published Feb 5, 2012 ShareThis

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Michele Bachmann may have tried to demagogue the issue ("President Bachmann will allow you to buy any lightbulb you want!" she announced on the campaign trail last year), but the repeal of the 2007 energy act's lightbulb standards that she and other Republicans called for never materialized. True, they did succeed in slowing the Energy Department's enforcement of the standards, originally set to go into effect last month, until October. But manufacturers have been preparing for some time by bringing more, not fewer, options to the market. (Fear-mongering aside, the new rules don't ban any one style of bulb; they simply require bulbs to meet more rigorous efficiency standards. Industrywide, bulbs are now being labeled in lumens—a once-obscure measure of brightness.) The brightness we expect from a 100-watt bulb (about 1,600 lumens) can now be achieved with as few as 23 watts. Here, a breakdown of bulbs, from the familiar incandescent to the next-gen LED.

(Photo: Danny Kim)

Classic Incandescent

The granddaddy of all lightbulbs, improved (but not technically invented) by Thomas Edison in the 1800s.

How it works: Inert gas surrounds a metal filament that glows when heated by electricity.

Life span: Short. Traditional versions last about a thousand hours, which comes to just six or seven months when turned on five hours per day.

Energy efficiency: About 90 percent of old-fashioned incandescents' energy is lost through heat, making them the least-energy-efficient option. Many models won't pass muster with the new lumens-per-watt standards.

Price: $ A 60-watt incandescent bulb can cost less than a dollar. Between replacement and energy costs over time, however, they're actually the priciest bulbs.

Glow: "Glow is something very important to us as a human species," says lighting designer Linnaea Tillett, who teaches classes about the psychology of lighting at Parsons. "A little bit of incandescent gives your place a softer, warmer atmosphere." Still, she suggests supplementing incandescents with more-energy-efficient bulbs.

Where to buy: Satco G40 white globe light, $5 at Schoolhouse Electric & Supply, 27 Vestry St., nr. Hudson St.; 212-226-6113.

(Photo: Danny Kim)

Halogen Incandescent

A longer-lasting, brighter bulb, with roots in fifties-era track lighting. Newer versions can be screwed into regular home fixtures.

How it works: Strong quartz-glass shells surround tungsten filaments and halogen gas.

Life span: Because the halogen gas slows filaments' decay, these bulbs can last two to three times as long as old-fashioned incandescents.

Energy efficiency: Use about three-quarters the electricity of regular incandescent bulbs (and burn brighter), but they're nowhere near as "green" as CFLs.

Price: Many cost just a few dollars, slightly more than traditional incandescents.

Glow: A crisp, white light that renders colors clearly. Tillett suggests the new, larger halogen incandescents for overhead kitchen fixtures and MR16s, the smaller, low-voltage halogen bulbs, for small spaces that require focused light.

Where to buy: Trisonic halogen light, $5 at Canal General Merchandise, 331 Canal St., nr. Greene St.; 212-334-0378.

CFL

Compact fluorescent lights (CFLs) have a reputation for aesthetic harshness but also energy efficiency.

How it works: Gas-emitted ultraviolet light causes a tube's

(Photo: Danny Kim)

phosphor coating to glow.
Life span: About ten times longer than incandescents. It will be years, not months, before you have to change a CFL.
Energy efficiency: CFLs use about one-quarter the energy of incandescent bulbs. Some environmentalists fret over the presence of mercury, which is why CFLs should be recycled (take them to any Home Depot) when they burn out.
Price: A few dollars for a bulb as bright as a 60-watt incandescent—but its energy efficiency and extended life span bring significant savings over time.
Glow: Today, CFL manufacturers have warmed up the color and eliminated the visible flicker factor of fluorescent light, but it may still appear a bit powdery. Tillett says to use CFLs as filler lights to illuminate smooth, matte surfaces, like flat-painted walls and stainless-steel countertops, and soften them with screens and shades. Japanese restaurants, she says, are a great example of how to make them work. Cheap hotel rooms and the DMV are not.
Where to buy: Ecosmart bright white compact fluorescent, $9 for two, Home Depot, 585 Dekalb Ave., nr. Nostrand Ave., Brooklyn; 718-230-0833.

(Photo: Danny Kim)

LED
The latest in home lighting, light-emitting diodes (LEDs) can also be found in television indicators, digital watches, and iPhones.
How it works: LEDs are tiny semi-conductive chemical chips that release light when an electrical current passes through. Because they're so small, one bulb may contain several LEDs.
Life span: Can last 25 times longer than an incandescent, which means one could go twenty years without changing a bulb. However, LEDs are new, testing is nascent, and they may fade over time.
Energy efficiency: Highly efficient. They can cut power bills by nearly 80 percent.
Price: High, starting around $20 for a bulb for typical home use.
Glow: These bright, steady-glowing bulbs, Tillett says, are best reserved for hard-to-reach fixtures that give directional light—like undercabinet strips over kitchen counters.
Where to buy: GE Energy Smart LED bulb, $30 at Lowe's, 118 Second Ave., nr. 11th St., Gowanus; 718-249-1151.

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