

## The phantom menace

***Idle devices waste electricity throughout your home, padding your monthly utility bill. But there are ways to help you cut down.***

By Bruce Mohl, Globe Staff | June 10, 2007

Turn off all the lights in your house at night and wander around. You'll be amazed at how many devices continue to glow.

Utility executives call it phantom load, the electricity that flows to devices that are turned off but still drawing power. A microwave with a clock that's on 24 hours a day. A TV that's not on but continuously consuming electricity so it's ready when you hit the remote's "on" button. Wireless phone chargers that keep drawing power even when no phone is plugged in.

Individually, none of these turned-off devices use much power. But together they represent an estimated 2 to 8 percent of a home's electricity usage. For someone in the Boston area with a 6 percent phantom load, that's more than \$5 a month, or \$60 a year.

Across Massachusetts, according to [NStar](#) Corp., a 6 percent phantom load would have cost residential customers \$200 million last year and wasted enough electricity to power every home in Cambridge, Somerville, Newton, and Waltham for a year.

The cost across New England would have been \$450 million, or enough electricity to serve Boston, Hartford, and Portland for a year.

"There is a waking up going on around this," said Tom May, chief executive of NStar, the utility serving the Boston area. "Once you become aware of it, you see it all over the place."

May said he was in a kitchen recently that had clocks on the stove, the microwave, the coffee maker, and the wall. "How many clocks do you need?" he asked.

May cautioned that phantom load is just a small piece of a much larger energy conservation puzzle. He said lawmakers need to crack down on energy waste by banning wasteful incandescent bulbs, tightening building codes, and requiring appliances to be designed to minimize phantom load.

He encouraged Massachusetts regulators to give utilities a greater incentive to promote energy savings by making their profit less contingent on how much electricity they sell.

Right now, utilities generally make less money if their customers use less power. Regulators are studying the idea of rewarding utilities for reducing energy consumption.

May said energy use has always been linked to economic growth, but conservation could make it possible to grow without using more energy or building anything but replacement power plants. "It's a lofty but impressive and achievable goal," he said.

To reach that goal, Massachusetts electric utilities are urging their customers to start small.

David W. Allen, a retiree living in West Barnstable on the Cape, says most people can't afford to install solar

panels, replace all their windows, or pump insulation into their walls and attics. But he says they can afford to install more efficient light bulbs and stop wasting energy.

"That phantom load is a killer," Allen said. "You don't need a light walking around my house at night. There's a green light showing in every room." Allen says stoves and microwaves should have switches for turning off the 24-hour timers and clocks when they're not in use.

Bill Stack, a residential energy efficiency manager for NStar, last week visited the Milton home of Greg and Mary Hebard to help them identify ways to curb their energy use.

Before touring the home, Stack attached a power cost monitor device to the outside electric meter. The battery-powered device, which NStar customers can buy for \$29.95 from Blue Line Innovations ([blueineinnovations.com](http://blueineinnovations.com)), transmits data to an in-house monitor that tells the Hebard family how much electricity they are currently using, both in terms of kilowatts and cents per hour.

At the Hebard home, the monitor fluctuated quite a bit as Stack made his way through the house turning on and off appliances and lights.

During the half-hour period, the price went as high as 45 cents an hour, when everything was turned on, and as low as 16 cents an hour.

Consumers can also see how much power their idle electronic devices are drawing by going to the website of the Federal Energy Management Program ([oahu.lbl.gov](http://oahu.lbl.gov)). They can learn about energy-saving lights and appliances at [energystar.gov](http://energystar.gov).

In the first room on the tour, Stack zeroed in on the plasma TV and DVD player in the corner. Both were drawing electricity even though they weren't in use. Stack said a plasma TV consumes five times as much power as a regular TV when turned off.

He recommended plugging the TV and the DVD player into a power strip that could be turned off easily when the devices are not in use.

As he continued on the tour, Stack spotted wireless phone chargers that were plugged in and still drawing power even though no phone was being charged.

He said anything with a square plug transformer, including videogame consoles and portable DVD players, contributes to phantom load. The same goes for any device with a remote control.

In the Hebard family's basement, no one was using the computer but the speaker light was on, indicating it was still drawing power.

The lights in the basement and the kitchen were all halogens. Stack said the Hebard family could get the same illumination at a quarter of the energy cost by shifting to compact fluorescent lights. Compact fluorescent lights cost more but last longer and operate far more efficiently.

Stack estimated the Hebard family could save \$20 to \$30 a month by replacing the halogen light bulbs and putting a handful of their always-on devices on power strips.

Interviewed several days later, Greg Hebard said he had purchased the power strips and planned to follow Stack's other tips. He said he finds himself drawn to the power cost monitor, particularly when someone leaves the refrigerator door open for awhile.

"I'm looking at that thing all the time," he said. "It almost becomes addictive."

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## Patrick tries to kick-start energy tech industry

By Peter J. Howe, Globe Staff | June 12, 2007

As Governor Deval L. Patrick looks at the small but growing cluster of innovative new energy technology companies in Massachusetts, right now looks like 1985 did for biotechnology or 1993 for the Internet and telecommunications.

Those were the years of the founding of the Massachusetts Biotechnology Council and the Massachusetts Telecommunications Council, the latter since renamed the Network Communications Council. And they heralded the onset of explosive growth for industries that spawned dozens of start-up companies, billions in investment, and tens of thousands of jobs in Massachusetts.

Concluding the time's now come for something like a state "clean energy council," Patrick yesterday brought to his State House office two dozen top executives at companies in solar and wind power, fuel cells, and gasoline-replacing ethanol. He urged them to move quickly to bring to fruition talk of a new trade association that would help give the industry a stronger voice and lobbying power and better connect academics, investors, entrepreneurs, and state policy makers.

Several executives left hoping that a "clean energy stakeholders roundtable" meeting this Friday at Boston law firm Foley Hoag LLP will launch an association that confirms and supports Massachusetts as a major national player in energy technology.

"The way things are going, it might be standing room only," said Howard Berke, chief executive of Konarka Technologies Inc., a Lowell solar energy company, who met with the governor yesterday and is agreeing to help lead Friday's session also. "I think the governor is very genuine in his interest" in promoting the sector, Berke said.

Others helping organize the Friday gathering include chief executives Bruce Anderson of Wilson TurboPower Inc. of Woburn, maker of a high-efficiency heat-transfer system, and F. William Capp of [Beacon Power Corp.](#) of Wilmington and James D. Worden of Solectria Renewables LLC of Lawrence, which both make electric-power technologies.

State Energy and Environmental Affairs Secretary Ian A. Bowles said, "The governor is saying, 'I want this sector to be a big deal.'" Bowles estimates that energy efficiency, renewable energy, and clean-energy consulting account for over 14,000 jobs at 550 businesses statewide. But, Bowles said, "Here in Massachusetts, you don't have a particularly visible public voice for clean energy firms."

Other companies participating in yesterday's meeting included: from the solar power sector RWE Schott Solar Inc. of Billerica, Seahorse Power Co. of Needham, and [Spire Corp.](#) of Bedford; in fuel-cell and hydrogen power Accumentrix Corp. of Westwood, Lilliputian Systems Inc. of Wilmington, Nuvera Fuel Cells Inc. of Billerica, Second Wind Inc. of Somerville, and UPC Wind of Newton; companies that make ethanol and other fuels from plants including Celunol Corp., GreenFuel Technologies Corp., and Mascoma Corp., all of Cambridge, and World Energy Alternatives LLC of Chelsea and Bioenergy International LLC of Norwell; and several other energy-technology companies including [American Superconductor Corp.](#) of Westborough and Color Kinetics Corp. of Boston.

Though solar, wind, ethanol, "clean coal" and other companies may appear to have little in common, Bowles said four examples of state policies that could help all include:

Better financial incentives for utilities like [NStar](#) and National Grid to support customers' use of "distributed generation" installations like fuel cells, solar panels, wind turbines, and hydroelectric generators.

Stronger state and national regulation of carbon-dioxide emissions, protecting the environment, and promoting alternatives to coal, oil, and gas for electric generation.

Toughened state energy-efficiency standards for buildings and appliances and more required use of ethanol as fuel.

Mandating state government buy more "green power" for its buildings, such as plans Patrick cited yesterday for 12 installations of solar panels at state colleges, prisons, sewage plants, and other facilities.

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