

Mass High Tech: The Journal of New England Technology - May 12, 2008
<http://masshightech.bizjournals.com/masshightech/stories/2008/05/12/focus2.html>



Friday, May 9, 2008

Small efforts add up to pay off in cost -- and planet -- savings

Mass High Tech: The Journal of New England Technology - by [Lucy Caldwell-Stair](#) Mass High Tech

To fix that leaky faucet, you need to take several measures. First, notice the problem, then replace the washer and remember to turn the handle tightly. Such a multi-step approach is taken by energy-saving organizations that attack pesky and repetitive energy wasters in buildings, computers and everyday behavior.

But, despite the potentially daunting nature of the many steps involved -- something that has kept many a faucet unfixed -- the good news is that each little step in energy saving is valuable, and together they add up to a greater whole.

"How you use electricity and energy is usually more important than the type of equipment you have in your building," said Ted Fisher, marketing director of **Kilawatt Technologies**, a startup firm based in Shelburne, Vt.

Kilawatt's Internet-accessed diagnostic software plugs into a facility's Building Automation System (BAS) to measure cost, energy use and demand, tariffs and greenhouse gases for HVAC systems, pumps, motors, fans and other components.

"A lot of this equipment is hidden in buildings and always assumed to be running properly," Fisher said. "The service produces multicolored charts that make visible what is costly and harmful."

The cost for the service is \$1,000 to \$2,000, much lower than \$10,000 to \$20,000 for competing services that take readings in person, said Fisher. Clients can also subscribe to a monthly monitoring service that compares actual performance against estimates.

"Common problems are heating and cooling systems that run at the same time," Fisher said. Building automation systems are complex systems that are not designed to track energy use and optimize it with utility rate structures. Stuck levers, broken sensors and facility operators who inadvertently change settings are often culprits.



Sandie Allen

Susan Labandibar, president of Tech Networks of Boston, says that the company's power-miserly laptops and PCs can save green.

[View Larger](#)

"Fans and motors that run 20 hours a day when they are only needed three hours can use a lot of energy. Getting this right can save \$21,000 and 200 pounds of CO₂ for three fans over their lifetime," he said.

Self-funded Kilowatt employs 10 employees and had less than \$500,000 in revenue in its first year of selling services to owners of buildings that are more than 75,000 square feet in size.

At **Tech Networks** of Boston, president Susan Labandibar's mission is to educate PC users and network administrators on green computing.

One easy step for tackling PC waste is to put all computers in sleep mode after hours, a feature that's included in Tech Networks' remote monitoring and maintenance service for small businesses and nonprofits with networks of 15 to 100 computers.

"Automatic power management saves over \$75 per year per computer, and employees can still connect to their office computers remotely," she said.

Labandibar says using a thin computer can further cut costs, since almost all processing occurs on the server.

"My thin computer saves huge amounts of power, it's physically smaller and it starts up fast," she said.

Another idea is to abandon desktop computers altogether and use laptops. People tend to leave the power management enabled in their laptops to conserve batteries, she said.

For those who need desktop PCs, Tech Networks sells the EarthPC that uses only about 60 watts due to its highly efficient power supply. By comparison, the average modern PC has a power supply that can draw up to 450 watts, and often does.

"When buyers learn that the extra \$70 they pay will be made up in the first year in energy savings, they want it," she said.

Using virtualization software that allows multiple server functions to be on a single server is another energy-saving move. By the end of its four- to five-year life span, a server's electricity costs are greater than its purchase price, yet the average server uses only ten percent of its brain capacity.

"It's like having three or four people share an apartment instead of each living alone," said Labandibar.

Changing habits through education is the thrust of **Harvard University's** Green Campus Living program. More than 3,650 students have signed the sustainability pledge this year, more than half of all undergraduates, according to Philip Kreycik, coordinator of undergraduate resource efficiency programs.

Students promise to use compact fluorescent light bulbs, wash clothes in cold water, drink tap water instead of bottled, take shorter showers, unplug idle appliances, and a host of other

energy-saving actions.

While students' energy savings contribute to Harvard's extensive goals for a smaller carbon footprint, the purpose of Green Campus Living is to change mindsets.

"The goal is to instill a sense of the value of sustainability," said Kreycik, one of 17 staff members of the Green Campus Initiative office. About 20 students are paid as peer-to-peer counselors in the dorms to help students with any questions they might have about sustainable living.

In the dining halls, many students shun paper cups and use their own mugs instead, once they learn that Harvard trash travels all the way to a facility in South Carolina. Clean plates are the new normal, with a 35 percent decrease in food garbage recently.

"It's now a social taboo to waste food," said Kreycik.

Each spring, dorms compete for the Green Cup, given to the residence scoring the most points for sustainability pledgers and innovative eco-projects.

"It's good to get a little competitiveness going," Kreycik said. "Green living depends on social norms and seeing that it's not only the right thing to do, but that we can have fun doing it."

Lucy Caldwell-Stair is a freelance writer in Newton.

All contents of this site © American City Business Journals Inc. All rights reserved.