

2013

Green Living Guide

Shop Green, Eat Clean

Reduce waste and eat better with these eco-shopping guidelines



Zero Dark Energy

Learn the not-so-secret operations behind net-zero homes

Earth-friendly Family Trips

Destinations, transportation and diversions for the eco-conscious traveler

Hollywood & Green:

'Burn Notice' star Gabrielle Anwar

1/4 PAGE AD

1/4 PAGE AD



Hemera

How Do You Measure Up?

Monitoring energy use can show how green habits are making an impact – or if there is more work to be done

by Bettina Chang
CTW FEATURES

When it comes to home energy use, the popular business axiom, “You can’t manage what you don’t measure,” applies.

Even after people learn that they can save energy and money by turning off the lights and unplugging their phone chargers, there are no measurements or concrete dollar figures. And often, it’s not enough to get someone to make a lifestyle change.

That’s why energy monitoring is a growing trend for those who are eco-conscious and pinching pennies. A widely cited 2006 University of Oxford study showed that “direct feedback”

about energy use, via a meter and display monitor, resulted in 5 to 15 percent energy savings.

“There are many [energy monitoring] solutions out there today, some that have been out for years,” says Courtney Baker of the U.S. Green Building Council, an industry organization promoting sustainable buildings. “The cost has come down quite a bit now, so people are more aware of them.”

Baker, USGBC’s residential operations manager, says that when energy use is quantified, people are more likely to take action to improve energy efficiency. “Sometimes people need to know how much they’re wasting

“ Sometimes people need to know how much they’re wasting before they change behavior. – Courtney Baker, U.S. Green Building Council

before they change behavior,” he says. “It’s much more motivating than someone saying, ‘You need to turn that off.’”

Whether you’re a data junkie or you simply hate paying the utility bills, there’s an energy monitoring solution that could work for you.

PLUG-LEVEL DEVICES (<\$100)

Plug-level monitoring requires the smallest up-front investment, is the easiest to understand and can work for renters as well as homeowners, Baker says.

Simply plug the device into a wall outlet, and plug in the appliance you want to monitor (phone charger, space heater, stereo system, etc.) and the display panel will show you the amount of energy consumed.

Some models are programmable with the cost of energy per kilowatt-hour, so you can see how much the device will cost on your utility bill.

“Everyone hears about vampire devices that draw off energy even when not in use,” Baker says, and plug-level monitoring can tell you exactly how much that costs.

The downside is that you’d need multiple devices in order to monitor several appliances and there’s no interface to compare them. Plus, most of these products cannot track your energy use over time.

WHOLE-HOUSE MONITORING (\$100-\$500)

Those who want a complete picture of their home’s energy use should invest in a whole-house monitoring system. These monitors attach to either the circuit breaker panel or the energy meter used by the power utility.

Most systems include a wireless display panel, which can be placed elsewhere in the home to show real-time energy use.

Turn various appliances on and off while watching the wireless display to calculate how much each appliance costs to run.

Without energy monitoring, “You have no earthly idea of what your electricity is costing you until you get a bill, and it’s too late at that point to make a decision that will save you money,” says Dolph Rodenberg, president and CEO of Energy, Inc., the maker of popular device The Energy Detective (TED).

TED also includes free software that can track and graph historical usage. Plus, you can set a budget or parameters for energy use, and the software will text or email you an alert if you go above budget or there is a spike in electricity usage.

APPLIANCE-LEVEL MONITORING (\$500 AND UP)

For those who value having a lot of

For data lovers: Appliance-level monitoring allows people to see how much energy each major home appliance uses.



iStockphoto

1/2 PAGE AD

1/4 PAGE AD

data about and control over their homes, appliance-level monitoring is the way to go.

Much like whole-house monitoring, the devices attach to circuit breaker panels, but they have separate clamps that measure each breaker separately.

“Most people may not realize, but the biggest energy costs in the home tend to be those that have dedicated circuits,” says Jay Fiske, vice president of business development at Boston-based Powerhouse Dynamics, which sells the eMonitor.

These systems also include software packages, sometimes at a monthly subscription fee, that can be customized to your location via zip code. The software can show where your energy comes from (coal, nuclear, etc.) and factor in weather changes and other relevant information.

Appliance-level systems are more likely to include extra bells and whis-

les, such as water meters that will track your water usage and automated thermostats, so you can turn the HVAC system on and off remotely from a computer or smartphone.

GETTING THE BEST ROI

Regardless of the solution you choose, industry experts agree that it's what you do with the information that counts.

“The more people are aware about energy consumption, the more effective they are at cutting back,” Fiske says. With specific information, “they can cut the waste out without a significant lifestyle change or being uncomfortable.”

But awareness is “only half of the equation,” Baker adds. “The other half is taking that information and making the necessary changes to use less energy.”

© CTW Features

Should I Monitor My Energy Use?

According to a University of Oxford study, people who monitored their energy use saved 5 to 15 percent more energy. Still not convinced? Here are just a few reasons to try energy monitoring.

- Understand energy costs of ‘vampire’ devices, long showers, leaving the lights on, keeping the HVAC system on, etc.
- Detect if appliances need maintenance or repair
- Track power generated by home solar panels or micro wind turbines
- Learn how energy use affects your carbon footprint
- Ensure your home's energy-efficient features are performing well
- Gather baseline data and energy-use trends to monitor any spikes in usage
- Have solid data to encourage your household members to save energy



© CTW Features

1/4 PAGE AD

FULL PAGE AD