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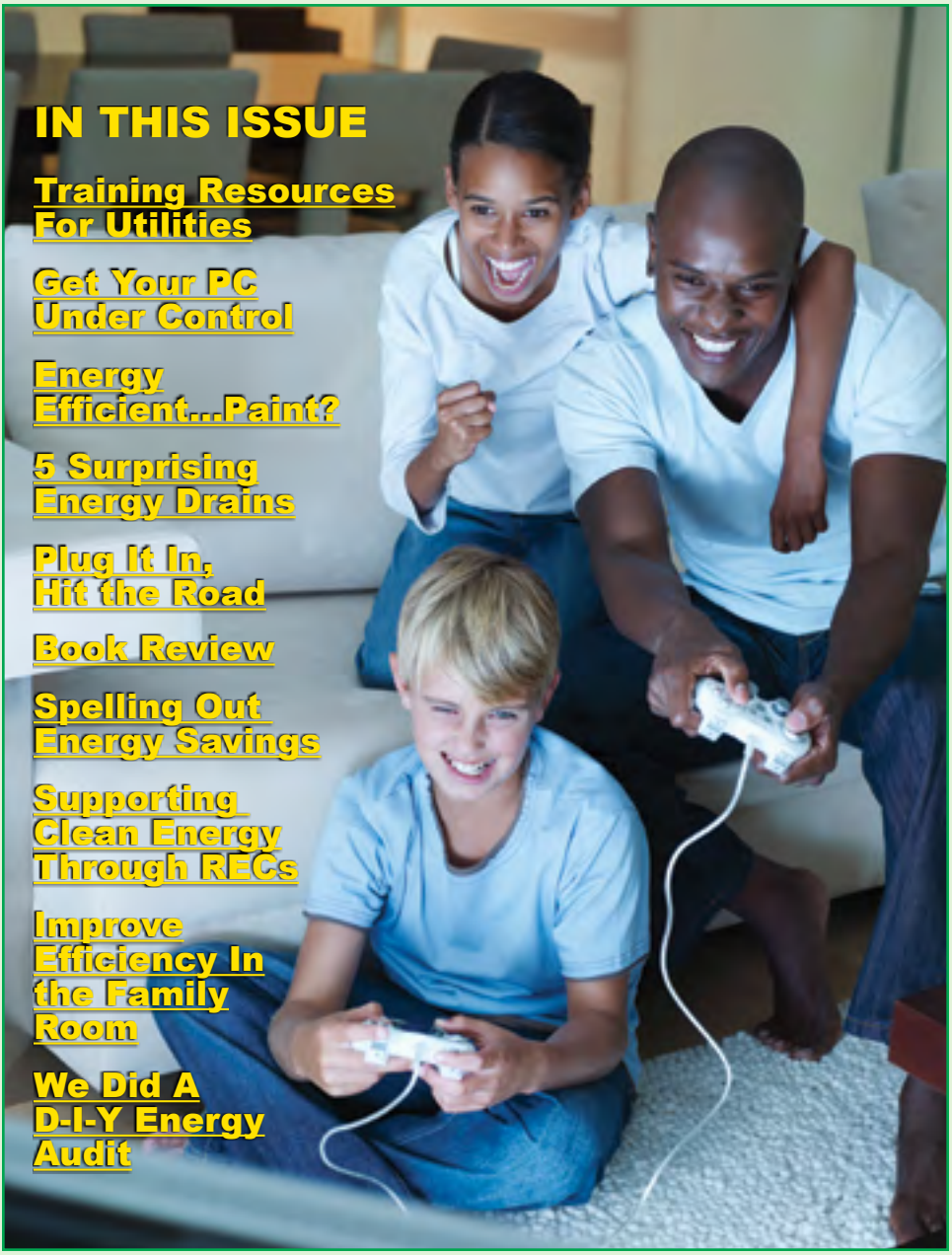
Saving Energy, Saving Money



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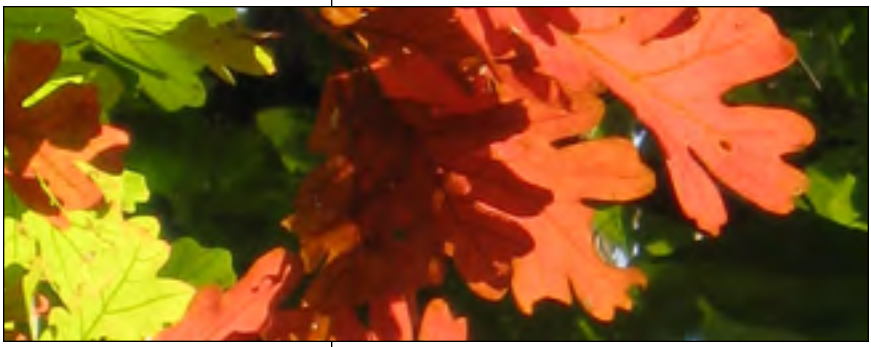

We want to hear from you

The editors of ***eco@home*** want to see how you conserve energy and water and reduce your environmental footprint. **"Like"** ***eco@home*** on **Facebook** and share your photos and ideas, or e-mail us at **ecoeditor@iamu.org** with "My Projects" in the subject line. You might see your photo in an upcoming issue of the magazine.

did you know…

ENERGY STAR-qualified LED bulbs use 20 to 25 percent of the energy and last up to 25 times longer than incandescents.

Here's to fall!

In many parts of the country, the return of fall heralds comfortable mild days and cool evenings. The beautiful weather provides a great opportunity to tackle some important projects that can improve your home's efficiency. Look through this issue for ideas to get you started.

If painting is on your to-do list, read our article about improving efficiency through paint color and special additives. Discover a few of the surprising places where your home may be wasting energy. And learn how to make one of your home's most-used rooms—the family room—one of your most efficient.

We'll introduce you to renewable energy certificates—commodities that you can purchase to support the generation and expansion of renewable energy, and offer up a glossary of eco terms to keep you in the know.

There's a lot more in this issue to inspire your projects and promote your efficiency. And, visit **facebook.com/ecoathomemagazine** to find new tips every day—through the fall, and throughout the year.

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Training Resources For Utilities

Smart grids, alternate energy sources, new technologies—how does public power stay current in this rapidly changing industry?

Ongoing training is the key, says Ursula Schryver, Vice President, Education and Customer Programs for the American Public Power Association (APPA). "We keep up with the challenges our members are facing," she says. "All our courses are focused on needs of public power."

The APPA Academy offers educational resources for all members of a utility's staff. Depending on the program, participants also may earn continuing education credits or certifications.

Throughout the year, members of the utility can access webinars, attend conferences, take courses online, or even have trainers come to the utility for specific sessions. According to Schryver, each type of course offers benefits.

"The webinars are very popular," she says. "They're 90 minutes and take place at employees' desks. For smaller utilities, webinars provide cost-effective training." Conferences also are valuable. Utilities suggest the issues they're interested in and APPA structures the workshops and programs around their recommendations. Conferences allow participants to network with other utilities, too. "Utilities can take ideas and solutions back and implement them at home," adds Schryver.

In addition to the APPA programs, regional, state, and local utilities conduct extensive training sessions for utilities—an educational network that keeps your local public power utility at the forefront of service to its customers.

Learn more at www.publicpower.org.

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Get Your PC Under Control

Stop Wasteful Energy Use In Its Tracks

When left to their own devices, computers are energy guzzlers. ENERGY STAR® estimates putting computers to sleep when not in use could save U.S. users $700 million each year. Prevent your PC from gobbling up extra energy by following these tips.

Lose the screensaver. Despite their name, screensavers don't save much; in fact, they can cause your computer to use more energy than it would if you didn't have those vacation photos scrolling across your screen.

Switch out the battery. Laptop batteries wear out over time and gradually hold a shorter charge despite consuming the same amount of energy when plugged in. Swap your old battery for a fresh one to make sure your computer is running efficiently.

Opt for a laptop. If you're on the hunt for a new computer, select a laptop, which can consume up to 50 percent less energy than a desktop computer. Choose a computer bearing an ENERGY STAR symbol to ensure you're selecting an energy efficient model.

Scale down the brightness. Turning down the brightness of your screen will save energy and extend battery life if you're using a laptop.

Click the 'X' button. Close out of computer programs when you are done using them rather than letting them run in the background and consume energy.

Select low-power mode. Most people know that monitors can be switched into sleep mode, but did you know that there is a similar option for computers? Learn how to reduce the power your computer uses when it is awake yet not in use at **www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_users.**

Energy Efficient...Paint?

There's more to eco-friendly painting than choosing no- or low-VOC paints and properly disposing of the product when you're done.

What's applied to your walls and the exterior of your house can actually impact their energy efficiency—and make your home more comfortable.

The paint hue you choose deserves important consideration. Dark paint colors—brick reds, saturated grays, tans and browns, black—absorb heat, making them a viable option for homes in colder climates. White or light hues are often used on homes in warm climates because they reflect heat and create a cooling effect.

Paint finishes also could make a difference. Glossy and satin finishes reflect sunlight, while eggshell and matte finishes absorb light.

No matter what color or finish you choose, you can transform a standard can of paint with ceramic additives. These additives can be mixed with a variety of paints, including interior and exterior paints, and they may block heat transfer and provide insulation to help reduce your heating and cooling bills.

So the next time you're ready to tackle a home painting project, think energy efficiency. It's a win-win situation: You'll enhance your home's appearance and save money on energy.

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5 Surprising Energy Drains

Energy loss can come from many sources in your home—sometimes from the least obvious places. Here are five sneaky things in your home that may be wasting energy.

1. Recording the Show

According to research by the Natural Resources Defense Council (**www.nrdc.org**), digital video recorders (DVRs) and other set-top boxes cost American consumers more than $3 billion per year—and only $1 billion of that is when the box is in actual operation. That's because these are "always on" devices, using energy nonstop. Some estimates put this waste at 446 kWh per year—more than the energy consumed by a 21 cubic foot energy efficient refrigerator.

2. Underfilling the Fridge

If your refrigerator and freezer are too empty, the units work overtime to keep the space cool. Adding items to fill up the space will help these units operate more efficiently. You don't have to buy extra food to fill up the space, however; cartons of water can fill the gaps. Just don't pack in the items so tightly that you restrict air circulation—then the units will work overtime for a different reason.

3. Prerinsing Dishes

Prerinsing dishes before putting them into the dishwasher wastes up to 6,000 gallons of water per household each year, according to *Consumer Reports* magazine. Scrape off food bits and, if necessary, use just a little water to loosen residue.

did you know…

You could save up to $200 every year by unplugging home appliances and electronics that draw energy even when not in use.

4. Leaving Outlets Alone

Electric outlets can be surprisingly leaky conduits for outside air. Make sure all outlets have inexpensive foam insulation sheets behind the cover, and use safety plugs in the outlets you don't use to stop additional air transfer.

5. Ignoring Your Ducts

Whether you're heating or cooling your home, you probably rely on a system of ducts to distribute the air. The U.S. Department of Energy estimates that duct systems typically lose 25 to 40 percent of the energy used to heat or cool your home, and even a small leak means you're wasting energy. Periodically check ductwork for holes, gaps, and tape that's loosened over time. Fix holes yourself or get them repaired professionally.

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Plug It In, Hit the Road

More electric vehicles (EVs) are showing up on roadways across the nation. Could an EV be a good fit for you? Read on to learn the facts.

• **Comparable performance.** There's hardly any difference between driving an EV and a conventional vehicle; speed and performance are similar; EVs often have stronger acceleration.

• **An environment booster.** According to the U.S. Department of Energy, EVs are the most eco-friendly type of transportation, releasing no emissions.

• **Energy efficient.** An EV is powered by an electric motor, which gets energy from a rechargeable battery pack. EVs convert about 60 percent of the electrical energy to powering the wheels. About 19 percent of a conventional car's energy is used for wheel power.

• **You get what you pay for.** EVs currently cost an average of $5,000 to $6,000 more than fossil fuel vehicles over the lifetime of the vehicle. But, money saved at the gas pump, tax credits, and state incentives can help offset the cost. EVs also require less periodic maintenance.

• **Charging can be convenient.** While most EVs can only travel a maximum distance of 100 to 200 miles before recharging, more than 90 percent of household vehicle trips are at or below 100 miles. Most drivers rely on home recharging stations, but there are approximately 8,000 public charging stations across the country that offer drivers the opportunity to recharge on longer trips.

You likely will want to invest in a home charging station. Plugging into a standard 120-volt system can lead to tripped breakers and extremely slow charge times. Opt instead for a 240-volt charging system. The larger system may require a separate circuit and could cost between $1,500 and $4,500.

Learn more about EVs at www.afdc.energy.gov.

Book Review

The Big Thirst:
The Secret Life and Turbulent Future of Water
Pages: 416
Publisher: Free Press, February 14, 2012
Author: Charles Fishman
Price: $16

With water shortages becoming news in recent years, many wonder if the Earth's water supply is enough to sustain our growing population. In his book *The Big Thirst*, Charles Fishman asserts that there is more than enough water; the key is in its management. The book explores the ways in which the world uses water and how we take it for granted. Fishman also gives a detailed look into cases of cities becoming dangerously close to running out of water and how using it more responsibly can eliminate such issues. He predicts that consumers will soon have a different attitude toward water. This is an informative must-read!

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Spelling Out Energy Savings

BTU. LEED. MERV. You might know what the letters stand for, but what do the acronyms mean? Use this guide to decipher common energy-related terms and abbreviations.

BTU ***(British Thermal Unit):*** Often seen when measuring heating and cooling capacity, Btu refers to the amount of heat required to raise one pound of water one degree Fahrenheit.

CFL ***(Compact Fluorescent Light Bulb):*** CFLs generate light when an electric current excites atoms as it travels through a tube. CFLs are cooler, more energy-efficient, and longer lasting than incandescent lighting.

EF ***(Energy Factor):*** EF is a measure of an appliance's energy efficiency. Standards for determining EF vary by appliance.

kWh ***(Kilowatt-Hour):*** A kWh is a measure of electricity use equal to 1,000 watts used in one hour. Your utility uses this to determine your energy bill.

LED ***(Light-Emitting Diode):*** LEDs, which produce light when electrons move through a semiconductor, provide direct lighting that uses less energy, produces less heat, and lasts longer than incandescent bulbs.

LEED ***(Leadership in Energy and Environmental Design):*** A building certification system that verifies a structure has been designed, built, and operated to achieve energy savings and other sustainable efforts.

Low-E ***(Low-Emissivity):*** Typically used when discussing windows and window coatings, Low-E refers to a material's ability to reduce heat transfer.

MERV ***(Minimum Efficiency Reporting Value):*** An air filter's MERV rating indicates its effectiveness at filtering airborne particles. Ratings range from one (low) to 20 (high).

R-Value ***(Resistance-Value):*** R-value measures a material's ability to resist heat transfer. Higher R-values indicate greater insulation.

did you know …

Always match the air filter's MERV rating to the type of furnace you have. If the rating is too high for your unit, it may cause your furnace to work harder—and potentially burn out the motor.

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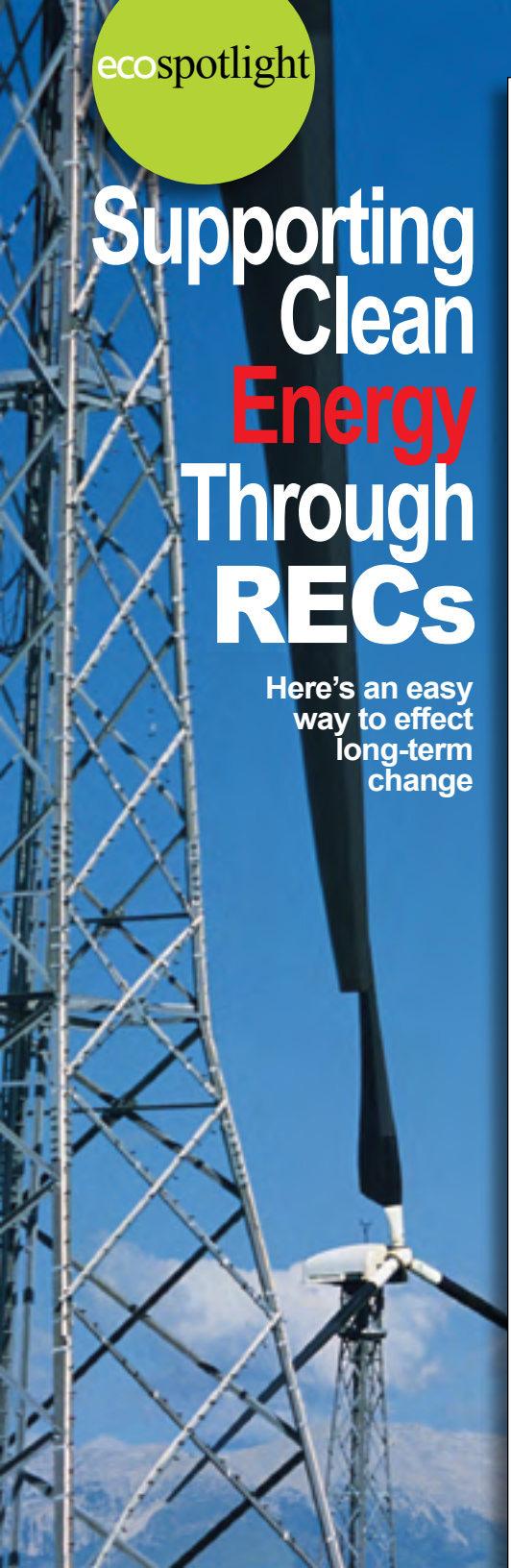

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Supporting Clean Energy Through RECs

Here's an easy way to effect long-term change

Many homeowners and organizations today are backing the development of clean, renewable power.

One option for any consumer: purchase renewable energy certificates (RECs). Here's what to know about RECs—and why they may be of interest to you.

What are RECs?

Electricity traditionally has been generated by burning fossil or nuclear fuels, but non-polluting options—such as wind and solar—are becoming more widely used as fuel for power generation.

RECs can be considered a reward for that clean environmental performance. Here's how they work:

The power that's generated by renewable and nonrenewable fuels is combined into one electrical grid and can't be separated. However, the benefits of producing green power are treated separately; they're sold in units as RECs. For each megawatt-hour of power generated by a renewable fuel source, one REC is created.

When you buy RECs, you aren't buying the power itself—you're supporting the generation and expansion of clean energy.

"RECs are financial instruments," says Blaine Collison, director of the Environmental Protection Agency (EPA)'s Green Power Partnership. "They give consumers the means and the choice to participate in a national voluntary green energy market."

Why buy RECs?

Consumers buy RECs for two main reasons. Purchasing RECs gives you a way to offset your personal energy use. For example, if your home is powered by electricity that's generated by fossil fuels, you can buy a comparable amount of RECs each month and feel good that you've matched your carbon footprint

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with an equal amount of environmentally friendly production.

RECs also give you a way to support the development of even more green power options. Purchasing RECs gives the utility or provider the ability to expand green power construction—which will ultimately help negate the cost fluctuations common in fossil fuels and keep energy affordable for consumers.

How to buy RECs

RECs are a flexible instrument. You can buy them for a specific geographic area or for a specific type of power generation, such as wind or biomass. Your utility may sell them, and you might also purchase certified RECs from REC marketers or brokers. The cost can be surprisingly affordable, depending on the amount of electricity you choose to offset—as low as $10 to $20 per month.

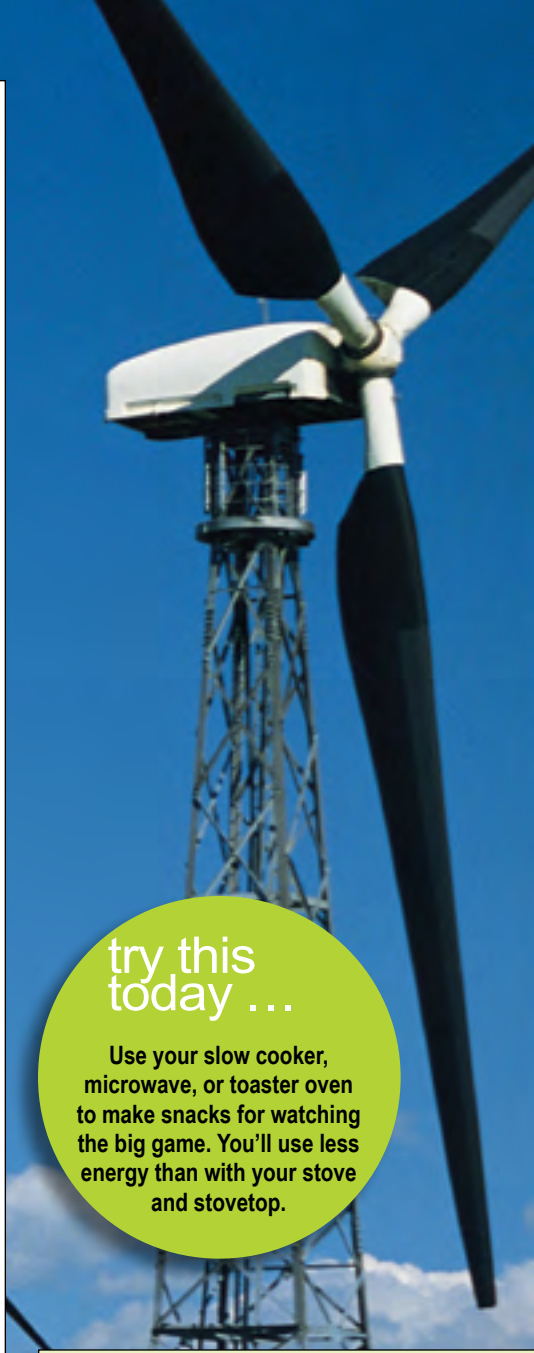
"Prices for RECs do vary," adds Collison. "Geography and the scale of technology can impact the cost."

For example, wind turbines in a prairie state may provide more efficient generation and be priced differently than green power that's produced by solar panels located in New England.

The bottom line: When you buy RECs, you get to decide where and how your dollars will be used to support renewable energy.

Are RECs for you?

If you have an interest in supporting the development and expansion of clean energy, they just might be. But don't rely solely on RECs to lessen your carbon footprint. Practicing efficiency at home is your first step in reducing your individual energy demand. After that, RECs are a great way to get your green game on.



try this today …

Use your slow cooker, microwave, or toaster oven to make snacks for watching the big game. You'll use less energy than with your stove and stovetop.

Learn more at the EPA Green Power Partnership at **www.epa.gov/greenpower**. See what programs are available in your state at **www.dsireusa.org**.

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ecoroom

Improve Efficiency In the Family Room

Whether to watch TV, play video games, or chat, we flock to our favorite gathering spot—the family room— to relax.

It's also where we use a lot of energy. Up to 15 percent of all electricity used in the home goes toward electronics, according to ENERGY STAR®. Factor in the lights, and heating and cooling, and energy use really adds up in the family room. Luckily, opportunities for boosting energy efficiency abound.

Update electronics.
When you're ready to update electronics, shop for models bearing the ENERGY STAR label. They draw less power when not in use, compared to their conventional counterparts. And you'll save money on electricity: ENERGY STAR-qualified TVs are over 40 percent more efficient than standard models. Set-top boxes are 30 percent more efficient. If every TV, DVD, and home theater system purchased this year had the ENERGY STAR label, Americans could prevent more than three billion pounds of greenhouse gas emissions, according to ENERGY STAR.

Consolidate cords.
Eliminate standby electricity use by plugging the cords of computers, video game systems, and other components into a single power strip with an on/off switch. Simply switch off the power strip when not in use so your electronics do not continue to draw power. Additionally, unplug any power adapters or battery chargers when not in use.

Illuminate wisely.
Replace spent incandescent bulbs with ENERGY STAR-qualified light bulbs. Compact fluorescent bulbs (CFLs) and light-emitting diode lamps (LEDs) are designed to last longer and run cooler than incandescent bulbs. They provide the greatest savings in fixtures that are on at least two hours per day, making them a perfect fit for the family room.

Enhance comfort.
Keep your living room comfortable by keeping the temperature in check. In the winter, open drapes to admit warm sunlight. Close them at dusk to trap heat. In the summer, close drapes during the day to keep out heat.

Ensure your warm or cool air doesn't escape by plugging air leaks.

This is the third in a series of articles focusing on ways to improve the efficiency of a specific room in your home.

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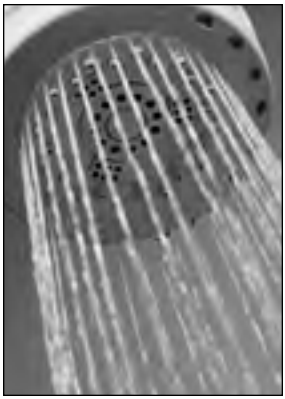
We Did A D-I-Y Energy Audit

When I told my husband, Tom, that I wanted to conduct a do-it-yourself energy audit around our home, he asked what would be the point. After all, we're careful about energy use—we keep the temperatures moderate, we unplug appliances when they're not in use, and we've switched out most of our lights with CFLs.

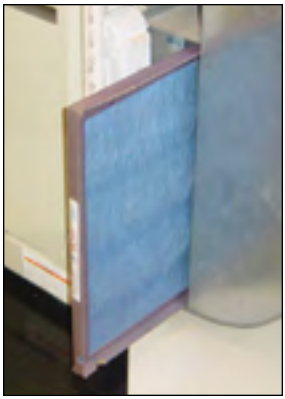
But I wondered if we could do more. While our utility bills aren't bad, I don't want to pay more if we don't have to. **Here's some of what my audit revealed:**

• **I had read that air leaks were big energy wasters** so I went room to room with a lit incense stick and held it in front of our windows. Sure enough, I found three where the drifting smoke revealed big drafts. I also discovered the weather stripping around our back door was shot. For under $25 we got enough caulk and weather stripping to seal these and a few other leaks.



• **I looked at plumbing next.** I put a bucket under the showerhead and turned the water on. In about 15 seconds, I collected a gallon of water. The Department of Energy says if it takes less than 20 seconds to capture a gallon, we're probably wasting water, so we got a low-flow showerhead for $20 and installed it ourselves.

• **There were other easy improvements.** We replaced our dirty furnace filter and an o-ring in a leaky faucet—each for about a dollar. We upgraded our hard-to-reach back hall light with a LED lamp. It was about $20, but since it uses far less energy and will last 25 times longer than an incandescent bulb, we're money ahead.



We may schedule a full-fledged energy audit with our local utility before winter arrives. But for now, I'm on the hunt for even more energy wasters in our home—and watching those utility bills to see how we're doing.

— Regina and Tom Hinkey make their home in Spring Valley, Illinois.

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