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DIY HOME

19 Ways to Slash Your Utility Bill

SAVE ENERGY—AND DOLLARS—WITH EASY, DO-IT-NOW FIXES THAT QUICKLY PAY FOR THEMSELVES.

BY JIM GORMAN

Where George Scott sees red, his clients are bleeding green. Scanning the outside of a ranch home in Longmont, Colo., recently, the energy auditor's infrared camera registered blue and aqua in spots where heated air stayed put. That's what the homeowner expected. "He thought he'd done everything right," Scott says, because he had tackled obvious stuff like adding insulation. "But he was baffled by his high gas bills." When the camera scanned the attic, the viewfinder found orange and red blobs where air gushed by the chimney, 20 recessed lights and two uninsulated hatches. After the inspection, the homeowner plugged those leaks with about $50 in caulk, sheetmetal and spray foam insulation, Scott says. "I estimate his gas use will drop 300 therms, or about $300, this winter."

But you don't need an infrared camera to reveal utility-bill busters that are left after the obvious stuff is done. You need the right point of view. Big energy leaks are often hiding in plain sight, and many of them are easy to fix—you may not even need tools. Here's how to get started.

ELECTRONICS AND APPLIANCES

Unplug the beer fridge → That old clunker of a refrigerator in the basement could be costing the equivalent of 10 cases of Bud in wasted energy each year. A refrigerator built in 1993 gobbles twice as much energy as new models. Need more cold brew for a party? Plug in the fridge the night before. **COST:** $0 **MONTHLY SAVINGS:** $12.50 **PAYBACK:** IMMEDIATE

PHOTOGRAPH BY **KARL JUENGEL**

Plug the Power Drain

As much as 75 percent of electricity use by electronics occurs while the devices are off. Big-screen TVs, stereo systems and computer peripherals are some of the worst offenders. Curtail the loss with power strips that kill power when they sense inactivity.

COST: $115 FOR THREE SMART STRIPS
MONTHLY SAVINGS: $3 PAYBACK: 3 YEARS

Give the Sump Pump a Break

A 0.5-hp sump pump can use $30 a month in electricity during wet spring months, estimates Bill McAnally, an advisor to the Iowa Energy Center and an instructor in energy-efficient building. "You're better off extending downspouts another 5 ft. into the yard to move rainwater away from the basement," he says.

COST: $16 MONTHLY SAVINGS: $6.25
PAYBACK: 2.5 MONTHS

Maximize CFLs

We've all heard the advice to switch to CFLs. To get the maximum bang for your CFL buck, install the bulbs for their rated use, which will help them last longer. For example, use bulbs that are designed for down-facing, enclosed receptacles in ceiling lights. Other CFLs are rated for use in fixtures plugged into a timer. Also, for a more rapid return on investment, use CFLs in fixtures that are on for at least 3 hours a day.

COST: $3.22 PER 15-WATT CFL MONTHLY SAVINGS: $0.57 PAYBACK: 6 MONTHS

HVAC SYSTEMS

Program the Thermostat

Install an Energy Star–qualified programmable thermostat that automatically adjusts heating and cooling temperatures based on a daily heating or cooling schedule.

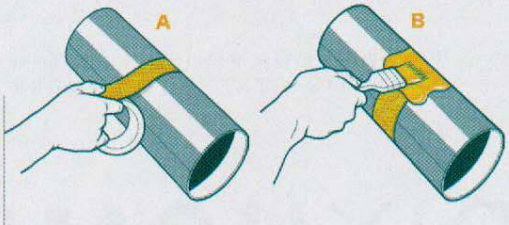
For every degree you push the thermostat beyond your usual set points, you save an additional 2 percent on utility charges. Some utilities, such as Austin Energy in Texas, provide free thermostats, so inquire before you buy.

COST: $42 MONTHLY SAVINGS: $15
PAYBACK: 3 MONTHS

Keep A/C Filters and Coils Clean

A dirty air filter reduces airflow, and a dirty condenser coil retains heat and is less efficient. The two can increase the system's power consumption by 10 percent or more. Clean the condenser coil every two years and change filters monthly during peak cooling and heating seasons.

COST: $50 MONTHLY SAVINGS: $8.33
PAYBACK: 6 MONTHS



For gaps in ducts over 1/8 in. wide, apply mesh duct-sealing tape across the gap (A). Next, brush a generous amount of duct mastic over the tape using a disposable paintbrush (B). For narrower gaps or seams, use the mastic alone.

Seal HVAC Ducts

Put away the duct tape. You need a better seal. Between 25 and 40 percent of the hot and cold air entering ducts escapes through joints, seams and gaps—many covered with poorly applied tape. That's hard-earned money disappearing. Cut your losses by sealing duct joints with mastic, a paint-on putty, and patch holes with aluminum tape. If supply ducts have insulation, peel it back to seal the collars. Pay particular attention to elbows, advises Iowa Energy's McAnally. "That's where pressure builds and the air wants out," he says. And don't neglect return ducts. Leaks in returns strain your HVAC system and can cause pressure differentials that result in hot summer air or cold winter air being sucked into the house.

COST: $40
MONTHLY SAVINGS: $9.33 PAYBACK: 4 MONTHS

Catch a Breeze

Ceiling fans minimize the need for air conditioning in summer, or at least allow you to nudge the thermostat up a few degrees, and they enhance winter comfort.

COST: $100 MONTHLY SAVINGS: $1.33
PAYBACK: 6.5 YEARS

Add Humidity

Dry air retains less heat and feels cooler against the skin. Increase ambient humidity with a humidifier this winter, and edge the thermostat down a degree or two.

COST: $72, FOR THREE HUMIDIFIERS
MONTHLY SAVINGS: $3.85
PAYBACK: 1.5 YEARS

CHIMNEYS, WINDOWS, ATTICS AND BASEMENTS

Stuff the Chimney

On average, 14 percent of the air leaking in and out of a house flows

Yearly No-Cost Energy Slashers

- Wash only full loads in dishwashers and washing machines. *Save **$51***
- Turn the water heater down to 120 degrees from 140. *Save **$22***
- Remove room air conditioners during winter. *Save **$40***
- Use Energy Saver features on dishwashers, dryers, fridges and freezers. *Save **$21***
- Wash clothes in cold water. *Save **$33***
- Air-dry clothes during the warmest six months. *Save **$57***

PHOTOGRAPH BY KARL JUENGEL/STUDIO D (SMART STRIP); ILLUSTRATION BY GABRIEL SILVEIRA

through the chimney. If you use your fireplace infrequently, seal it with an inflatable draft stopper or make your own with a garbage bag stuffed with fiberglass insulation.
COST: $50 **MONTHLY SAVINGS:** $2.33
PAYBACK: 21 MONTHS

Upgrade Windows

Replacing old, single-pane windows with high-performance, double-glazed, low-e windows seems like a good idea, but at a cost of several hundred dollars each you'll wait a while for the payoff. Inexpensive storm windows offer quick payback, especially for do-it-yourselfers. In testing performed by the Oak Ridge National Laboratory, exterior storm windows reduced winter heat loss in single-pane windows by 29 percent, whereas double-pane window replacements saved 47 percent.
COST: $65, FOR DIY INSTALLATION OF ONE LOW-E STORM WINDOW
MONTHLY SAVINGS: $2.15 PER WINDOW
PAYBACK: 2.5 YEARS

Blanket the Water Heater

Your hot-water heater is the second biggest energy user in the home after the HVAC. Cut standby energy waste by insulating an older heater. If the casing is warm to the touch, you can save between 4 and 9 percent on water-heating costs by installing an R-10 or greater insulating blanket. Wrapping a gas-fired water heater demands extra care to avoid blocking combustion vents or the flue.
COST: $30 **MONTHLY SAVINGS:** $1.20
PAYBACK: 25 MONTHS

Crack Down on Cracks

"Ten tubes of caulk will do more to reduce a home's energy waste than replacing every window," says Steve Luxton, a manager at CMC Energy Services, an energy audit firm in Fort Washington, Pa. Apply paintable silicone caulk around windows and doors. To check for other energy leaks, look where any pipe, vent or electrical cable comes through the siding—dryer vent outlets and hose bibs frequently present trouble spots.
COST: $70, FOR 10 TUBES **MONTHLY SAVINGS:** $8.42 **PAYBACK:** 8.5 MONTHS

Wrap Pipes

Insulate the first 10 ft. of the hot- and cold-water pipes (heated water can back-flow up the cold pipe) that lead into and out of the hot-water heater and you get double savings. Water arrives 2 to 4 F hotter, allowing you to lower the setting on the water heater, and there's less wait time and water waste. Insulate the full run of exposed hot-water pipes to increase the savings.
COST: $8 **MONTHLY SAVINGS:** $0.44
PAYBACK: 1.5 YEARS

Plug Big Gaps

Practice triage by stopping the big energy bleeders—large, obvious breaches in the basement and attic—before caulking cracks or insulating. Prime offenders are gaps at plumbing stacks, furnace flues and stud cavities inside soffits. Plug holes with expanding foam, foil-backed foam board or fiberglass insulation scraps stuffed in a plastic garbage bag to stop air movement. Use heat-resistant caulk and sheetmetal around chimney flues and combustion vents.
COST: $75 IN MATERIALS **MONTHLY SAVINGS:** $15 **PAYBACK:** 5 MONTHS

PLUMBING

Throttle Back Showers

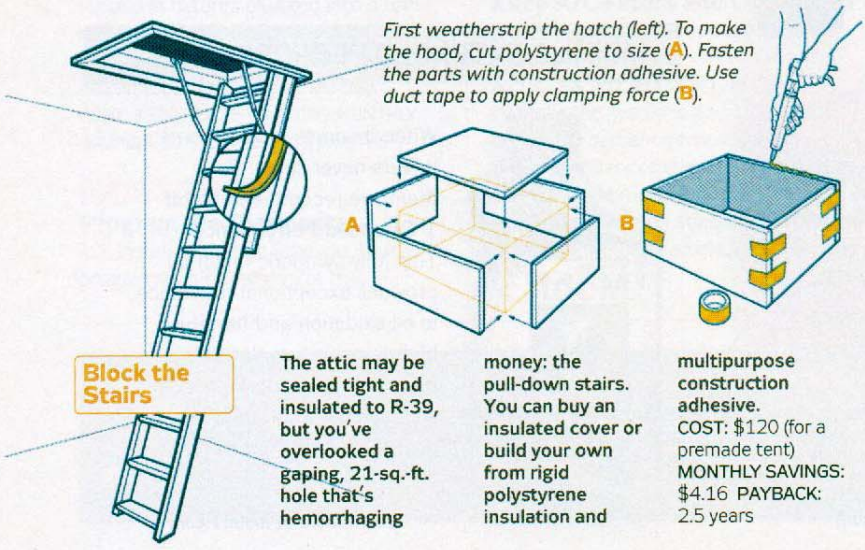
Showers account for 26 percent of a household's hot-water use. Installing a low-flow shower head can shrink that flood from 3.5 gal. per minute to 1.5 gal.
COST: $9, FOR TWO NO-FRILLS, 1.5-GAL./MINUTE HEADS **MONTHLY SAVINGS:** $15
PAYBACK: 3 WEEKS

Slow the Flow

A faucet aerator can save 400 gal. of hot water a year. Translation: less work for the water heater. If the rated flow on your current aerator is visible, and if it's above 2.75 gal./minute, then replace it with a more efficient model that emits 1.5 gal./minute or less. If the aerator's flow rate has been scuffed off or it's too hard to read, just replace it. The new aerator will likely have lower flow.
COST: $4.80 FOR THREE AERATORS
MONTHLY SAVINGS: $0.93
PAYBACK: 5 MONTHS

Stop Drips

A slow leak of 10 drips per minute from a hot-water faucet wastes 526 gal. a year, or about the equivalent of emptying and refilling a 40-gal. water heater 13 times. Swapping in a new washer or O-ring is an easy fix, even for a novice DIYer.
COST: $1 **MONTHLY SAVINGS:** $0.35
PAYBACK PERIOD: 3 MONTHS



First weatherstrip the hatch (left). To make the hood, cut polystyrene to size (A). Fasten the parts with construction adhesive. Use duct tape to apply clamping force (B).

Block the Stairs

The attic may be sealed tight and insulated to R-39, but you've overlooked a gaping, 21-sq.-ft. hole that's hemorrhaging money: the pull-down stairs. You can buy an insulated cover or build your own from rigid polystyrene insulation and multipurpose construction adhesive.
COST: $120 (for a premade tent)
MONTHLY SAVINGS: $4.16 **PAYBACK:** 2.5 years

PHOTOGRAPHS BY GETTY IMAGES (CAULK); KARL JUENGEL/STUDIO D (FAUCET AERATOR); ILLUSTRATION BY GABRIEL SILVEIRA