

YOUR 2009 ENERGY MAKEOVER

Trim your electric bill,
beef up your bottom line

BY STEVE BROOKS

WHEN IT COMES TO CUTTING ENERGY bills in your restaurant, how low can you go? You've already done the quick and easy stuff, like plugging leaks and screwing in those curlicued compact fluorescent light bulbs. Now, you're enjoying the drop in your utility bills and wondering what to do next.

There's still plenty of room for savings. Of the \$10 billion that restaurants spend annually on energy, a massive 80 percent is wasted by inefficient equipment, according to the Food Service Technology Center, which tests restaurant gear.



But you don't have to be stuck with energy-hogging appliances. The technology of energy efficiency is exploding the way the technology of computers did 20 years ago.

"The whole green movement is about the technology," says Chris Moyer, director of the National Restaurant Association's Conserve initiative. "What's exciting is that people are constantly pushing the envelope."

As with any investment, you have to spend money to save money. But many pieces of equipment will pay themselves off in lower energy bills in less than a year. Here are 12 cutting-edge ways to cut your bills.

Deliver with hybrids

25%/year
SAVINGS



Five years
COST RECOVERY

INVESTMENT AND
EFFORT



A pizza delivery car makes a traveling billboard for Pizza Fusion of Fort Lauderdale, Florida. The chain touts its sustainable image with two hybrid delivery vehicles for each of its 18 stores. The cars cut gas and maintenance expenses 25 percent, estimates co-founder Mike Gordon. He predicts they'll pay themselves back in five years, though he adds, "It was better when gas was four dollars a gallon."



Blow less hot air

\$19,500
SAVINGS



< a year
COST RECOVERY

INVESTMENT AND
EFFORT

Imagine sending \$19,500 up the stack. That's how much a California hotel kitchen saved the year it installed a demand ventilation system in its exhaust hoods. An infrared beam and a temperature sensor detect when you're cooking, and crank up a variable-speed fan. The fan slows down once you quit.

The hotel kitchen cut electrical demand 62 percent. It doubled its savings by needing less outside air to replace what the fans sucked out of the room. At a cost of \$15,000 to install, the system paid itself off in less than a year.

Another tip is to replace a standard hood with a proximity hood, which partially wraps appliances. Says Vernon Smith, engineer with the design firm Architectural Energy Corp. of Boulder, Colorado, "You can group lower-profile appliances such as griddles under a single hood. You can get 50 percent reductions [in exhaust air] if you design and place hoods properly."

DEMAND VENTILATION HOOD COURTESY OF MELINK

KEY



Plug into the wind ...

\$300/month
SAVINGS



12 years
COST RECOVERY

INVESTMENT AND
EFFORT

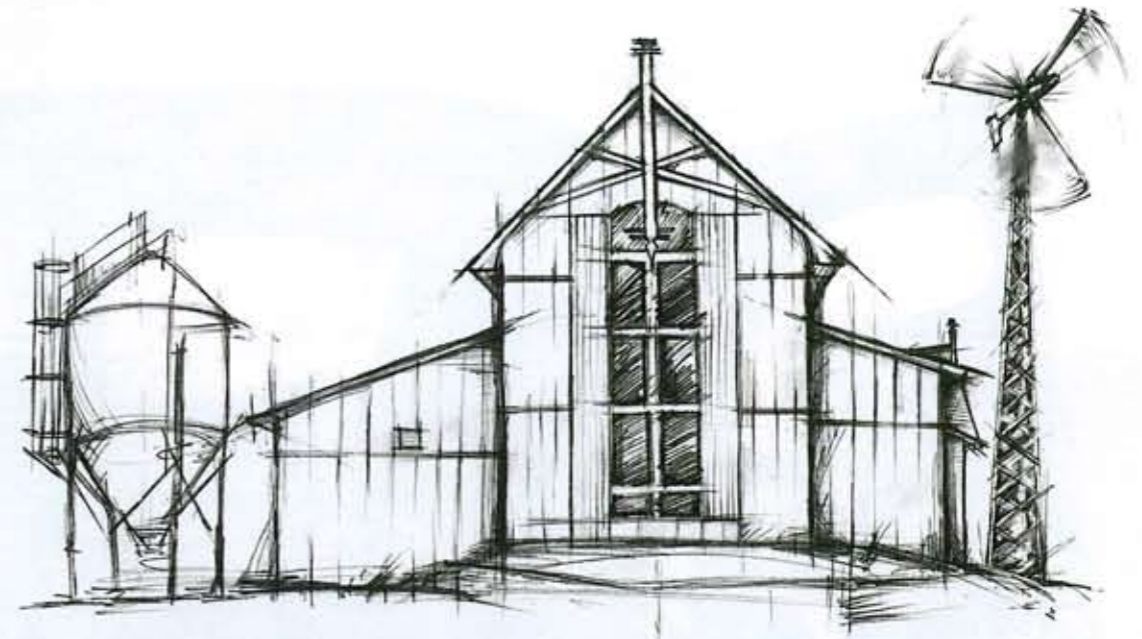
... and sun

5%/year
SAVINGS



Three years
COST RECOVERY

INVESTMENT AND
EFFORT



On the blustery shores of Kill Devil Hills, North Carolina—less than a mile from where the Wright Brothers first took flight—the Outer Banks Brewing Station put up a 93-foot tower, topped by a 10-kilowatt wind turbine. The gizmo provides 10 percent of the brewpub's power, saving \$300 a month on its electric bill. At \$50,000 to build, it will take at least 12 years to pay itself off, but co-owner Eric Reese says it saves other kinds of money. "In terms of advertising dollars, there's no comparison."

Solar electric panels will have a faster payback for the steakhouse chain Ted's Montana Grill. It expects to make back its money in three years from 66 panels, which cover the roof of its store in Tallahassee, Florida. The array cost \$114,000, but state and federal programs picked up \$80,000 of the tab. Says co-owner George McKerrow, "We're looking for more places where we own the property, and we can afford to put up the panels."

Seek out rebates

Variable
SAVINGS



Instant
COST RECOVERY

INVESTMENT AND
EFFORT

It's the closest thing to a free lunch: Governments and private utilities will pay you to save energy. For them, it's cheaper than building new power plants. And there are new rebates all the time. You can search programs by state on the Energy Star Web site,

or at the Database of State Incentives for Renewables & Efficiency, www.dsireusa.org.

Or, you can just ask an equipment salesman. When Scoma's, a San Francisco seafood restaurant, retrofitted its freezers and coolers, its contractor arranged the rebates. For a \$17,666 job, the restaurant paid only \$3,560—less than it will save in the first year.

Get steamed

\$2,191/year
SAVINGS



< three years
COST RECOVERY

MEDIUM INVESTMENT
AND EFFORT

A traditional steamer is a double fuel hog. It takes energy to make steam in a separate boiler, and it takes more when it cools the used water enough to discharge it into a sewer line.

You can save 73 percent on energy, or \$2,191 a year, by switching to a connectionless steamer. It works by recycling water. First, an employee fills a reservoir, then a heating element at the bottom of the cavity creates steam. As the steam condenses back to water, it's reheated over and over. "It's a closed system," says Richard Young of the Food Service Technology Center. "You just wipe it down at the end of the day, and you've saved tremendous amounts of energy and water."



CONNECTIONLESS STEAMER COURTESY OF HOBART



It's the simplest kind of solar energy. Light tubes, also called tubular skylights or light pipes, collect sunshine through a skylight on your roof. They channel the rays along a tube of highly reflective material that runs through your attic and down to your ceiling.

The tubes work best when they're combined with daylight dimming, explains Smith. "One or two sensors measure the ambient light in the room, and the light coming through the skylight, and adjust the lighting pattern for the entire area."

Costs run from \$300 to \$800 for installing each tube, he says. Adding in the price of the sensors, and assuming you reduce your electric lighting load by half, a system should recover its costs in less than three years.

Burn daylight

| | |
|--------------------------------|----------------------------|
| 50%/year SAVINGS | ⚡ INVESTMENT AND EFFORT |
| < three years COST RECOVERY | |

Spritz your dishes

| | |
|---------------------------|----------------------------|
| \$1,050/year SAVINGS | ⚡ INVESTMENT AND EFFORT |
| < a year COST RECOVERY | |

Ever used a low-flow showerhead at home? The same principle works for pre-rinse spray valves, which hose down dishes before you put them in a dishwasher. A standard valve pumps out 3 gallons a minute, while an efficient valve sprays 1.6.

You economize three ways, explains Young of the Food Service Technology Center: on natural gas, on hot water and on wastewater. For a \$60 investment, you can save up to \$1,050 a year. Says Young, "Anytime you can save both water and energy, you're multiplying your savings."

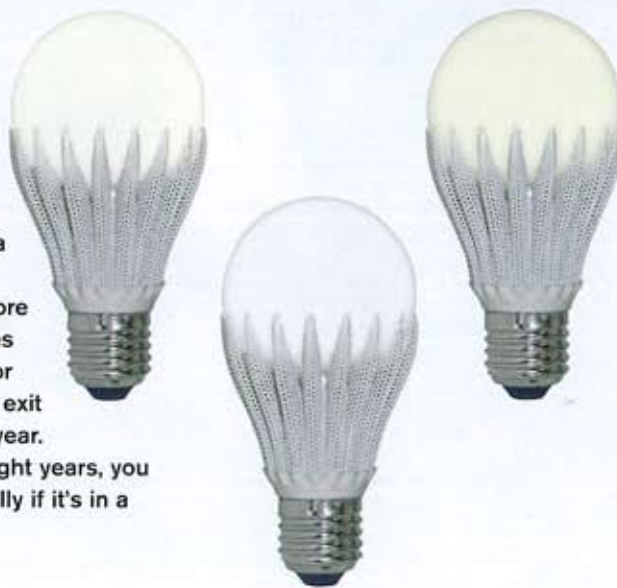
Light with LEDs

| | |
|---------------------------|----------------------------|
| \$35/year SAVINGS | ⚡ INVESTMENT AND EFFORT |
| < a year COST RECOVERY | |

Compact fluorescents or CFLs last six times as long as traditional bulbs and use 77 percent less energy. But light-emitting diode bulbs, the sort that brighten up a watch dial, save even more. They use 57 percent less energy than CFLs and last six times longer. They show colors more vividly, and unlike most fluorescents, they'll work with a dimmer switch.

For now, LEDs are too expensive for most indoor uses, at more than 10 times the cost of the equivalent fluorescents. But prices are dropping rapidly, and the bulbs are already cost-effective for exit signs, outdoor neon signs and parking lot lighting. An LED exit sign that costs \$30 can use only 5 watts and save you \$35 a year.

Plus, you're conserving more than electricity. For the next eight years, you won't have to spend time or labor to replace the bulb, especially if it's in a hard-to-reach location.



Fryer-fueled car...

\$150/month
SAVINGS

< two years
COST RECOVERY



INVESTMENT AND EFFORT

...and hot water heater

\$68/week
SAVINGS

Three years
COST RECOVERY



INVESTMENT AND EFFORT

There's gold in used vegetable oil. Scoma's president Tom Creedon commutes from Marin County in a 1984 Chevy Blazer, dubbed the Veggie Mobile. It gets 450 miles from a tank and saves \$150 a month on diesel fuel. A conversion kit for the engine cost \$3,000. Says vice president Mariann Costello, "Some people spend more than that on shoes."

In Pleasant Prairie, Wisconsin, franchisee Ed Rich of the Culver's custard chain uses his old oil to heat water. The \$11,000 heater was made by INOV8 International of nearby La Crosse. Says Culver's marketing vice president Chris Contino, "Based on saving \$68 a week on natural gas, it will have a payback of about three years." After that, it should go on working for 20 years, three times the expectancy of a conventional water heater.



Demand instant hot H2O

\$900/year
SAVINGS

3-5 years
COST RECOVERY



INVESTMENT AND EFFORT

If you use steady amounts of hot water all day long, you can do fine with a traditional heater. But if your usage ebbs and flows, you're warming a lot of water that just sits in a tank and cools down.

At Osteria Nonna Maria in Sheboygan, Wisconsin, owner Mary Jo Beniger installed a tankless water heater. It's also called an on-demand heater, because it turns on only when she demands hot water. A gas burner superheats the liquid, moments before it goes to her faucet or dishwasher. "The rest of the time, nothing is happening," she says. "No pilot light, no gas burning, no emissions."

The savings kept her gas bill level while she doubled the size of her dining room and cut her quarterly water bill from \$350 to \$125.

HOT WATER HEATER COURTESY OF RHEEM

Cool your roof

15%/year
SAVINGS

< five years
COST RECOVERY



INVESTMENT AND EFFORT

On a summer's day, your roof can get 40 degrees hotter than the pavement below. Spoons Coffee House in Baltimore chilled its air-conditioning costs by getting rid of its black tar roof.

The new roof, made of aluminum-coated rubber, reflects 80 percent of solar radiation, lowering temperatures inside.

The average reflective roof cuts cooling bills up to 15 percent, reports the Cool Roof Rating Council, which evaluates roofing products. Because they don't overheat, they last longer than conventional roofs. And these days, they come in many colors, not just white.

Energy Star ovens

Variable
SAVINGS

Variable
COST RECOVERY



INVESTMENT AND EFFORT



Two refrigerators are the same size, but one uses three times the electricity of the other. How do you know which one's which? When it's time for new equipment, check the Energy Star labels. Energy Star, a joint project of the U.S. Environmental Protection Agency and the U.S. Department of Energy, lists energy usage for dishwashers, fryers, hot holding cabinets, ice machines, refrigerators and freezers. Coming soon: ovens and griddles. Compare models at a glance, and find out which suppliers sell them, at www.energystar.gov/cfs.

CHECK OUT WEB EXCLUSIVES FOR THIS STORY IN THE REPORTER'S NOTEBOOK AT WWW.MONKEYDISH.COM/GO/FEB09

Tried and true

The first steps in any energy conservation program

Before you start spending on LED bulbs or solar panels, make sure you've done all these:

ENERGY AUDIT

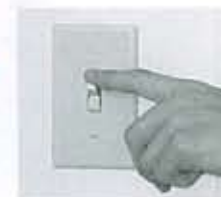
Hire a professional to pinpoint where you're wasting the most energy and where you can save the most. Should cover heating, cooling, lighting, appliances, building insulation, leaks and procedures.



COMPACT FLUORESCENT LIGHTBULBS No expert needed. Pull out an incandescent bulb, put in a CFL and save \$30 in lifetime electricity costs for one minute's work. Multiply by the number of fixtures in your restaurant.

TURN 'EM OFF

Train your employees to turn off appliances when they're not in use and lights when they leave the room. Leave your broiler off one extra hour a day and save \$450 a year.



MAINTAIN Dirty heaters, coolers, ducts and appliances take more energy to run. Set a regular schedule to dust coils, vents and light fixtures. Replace filters, lubricate motors and inspect belts and gaskets.

KEEP THE HEAT (OR COLD) IN. Caulk and weatherstrip, to keep air from leaking out your doors and windows. Consider insulating to levels of at least R-19 for your attic and R-11 for your ceilings and walls.

