



Forget 10-year paybacks on energy-saving home products. New tax incentives and rebates mean your home improvements could pay off right away.

DICK PIROZZOLO

**T**he 2009 stimulus package, signed into law last spring, extends generous federal tax credits for a number of eco-friendly home improvements: alternative energy systems; efficient hot water and heating and air conditioning systems; energy-efficient windows and doors; insulation; and reflective roofing. Installing any of these items by December 31, 2010, entitles you to a tax credit of up to \$1,500. Geothermal heat pumps, photovoltaic electric and water-heating systems, and wind-power installations qualify for a 30 percent tax credit with no dollar limit. Fuel cells, which convert hydrogen into electricity without combustion, get a 30 percent discount, too, with limits based on the amount of electricity produced. The new law covers these products through 2016.

Tax credits—not to be confused with tax deductions that lower your taxable income—come right off your federal income tax liability as long as the products are installed during the

time period required. In short, a \$1,500 tax credit puts \$1,500 in your pocket!

Here's how the tax credits work. Let's say you would owe \$10,000 in federal income taxes for 2009. But in August, you replace old drafty doors with new, energy-efficient ones that cost \$5,000. You can then take 30 percent of \$5,000, or \$1,500, off your taxes when you file your income tax return for 2009. Instead of paying \$10,000 in income taxes that year, you will pay \$8,500. The paperwork is simple. Save receipts and fill out IRS Form 5695. The \$1,500 limit is cumulative—you cannot install a new roof and new windows and get \$3,000 off your taxes for a single year.

Homebuilders are also eligible for tax credits of up to \$2,000 for constructing highly energy-efficient homes, and manufacturers of modular and other types of "system-built" homes qualify for a \$1,000 tax credit when they substantially reduce energy requirements.



Metro Roof's Roman tile Energy Star, UV-protected roofs qualify for tax credits.

PHOTO COURTESY METRO ROOF PRODUCTS

## GET MONEY BACK NOW!

You can get a 30 percent tax credit of up to \$1,500 or more for making these fixes.

### REPLACE YOUR ROOF.

Look for Energy Star roofing materials such as specially treated asphalt or reflective metal. Highly reflective roof surfaces reduce air-conditioning costs. Over time, a reflective roof can reduce peak cooling demand by 15 percent, so you can buy a smaller, cheaper-to-run cooling system.

### INSTALL SKYLIGHTS.

Conventional and tubular skylights qualify. Low-emissivity (low-E) glass is particularly valuable on skylights fully exposed to the sun.

### BEEF UP INSULATION.

Adding an additional layer of R-19 to R-30 insulation in the attic could save 20 percent or more on heating and cooling bills—in addition to the tax credit you'll get. "Considering that the U.S. Department of Energy estimates 80 million homes in America to be underinsulated, many homeowners have the opportunity to insulate and save," says Gary Nieman, vice president of government policy initiatives for building materials systems corporation Owens Corning.

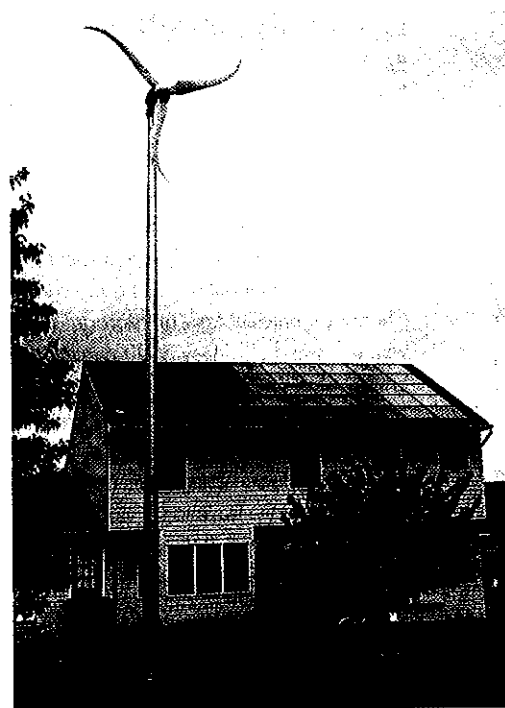
### IMPROVE YOUR AC.

Energy-efficient central air conditioning, which Energy Star calls a package system, gets a tax credit. Split systems and mini split systems, which have a compressor outside and condenser coil and fan indoors, also qualify. Split systems are quiet, remote controlled and don't require ductwork. They've been popular in Asia and Europe for decades. The Consortium for Energy Efficiency (CEE) ranks air-conditioner efficiency; the rating "Residential Advanced Tier 3" is required for split systems; and "Residential Tier 2" for package systems.

### UPDATE WINDOWS AND DOORS.

Replacement windows, storm windows and new energy-efficient doors get a tax credit. Energy-efficient windows feature low-E glass that traps infrared heat inside the home in winter and keeps it out in summer. Look for inert gas between double panes and spacers to keep panes separate.

Frames made of vinyl, vinyl-clad wood, wood and fiberglass qualify for the credit. (*Natural Home* doesn't recommend vinyl because of its environmental impact and potential toxicity in house fires. Ideally, look for wood frames that have been certified by the Forest Stewardship Council.) Energy-efficient doors have insulating core materials and better weather-stripping. Installing storm doors counts toward a tax credit, too.



You can take 30 percent of the entire cost of installing residential wind turbines and solar panels off your tax bill.

PHOTO COURTESY SOUTHWEST WINDPOWER



## SAVE LOCALLY!

Many states and local utility companies offer generous incentives for going green.

Unlike other home improvements, solar systems and geothermal heat pumps (as well as other systems) are exempt from property taxes in some states. In Montana, the value—up to \$20,000—of such green home improvements are exempt from property taxes for 10 years.

For a guide to state and federal tax credits, go to [WWW.DSIREUSA.ORG](http://WWW.DSIREUSA.ORG).

### BEFORE YOU SHOP...

Energy Star lists qualifying products at [www.energystar.gov/index.cfm?c=products.pr\\_tax\\_credits](http://www.energystar.gov/index.cfm?c=products.pr_tax_credits).

# Tax credits—not to be confused with deductions that lower your taxable income—come right off your federal income tax liability.

## HEAT YOUR HOME DIFFERENTLY.

Highly efficient natural gas, propane or oil furnaces and boilers get a tax credit. They must have an Annual Fuel Utilization Efficiency (AFUE) rating greater than 90 for gas furnaces and greater than 85 for oil furnaces, boilers and water-heating systems. An advanced circulation fan that uses no more than 2 percent of the unit's total energy also qualifies. These fans, powered by energy-sipping DC motors (sometimes referred to as ECM fans, for Electronically Commutated Motor), are offered as an option with new furnaces.

Geothermal pumps, which draw heat and cooling from beneath the ground, are entitled to a 30 percent credit with no cap.

Biomass stoves, which burn wood, wood waste, plants and other biomass wastes, also get a credit. Stoves must have a thermal rating of at least 75 percent, meaning roughly three-fourths of the fuel's energy is turned into heat and the remaining quarter into vapor.

## HEAT WATER DIFFERENTLY.

Hot water accounts for about 20 percent of home-energy consumption. Replacing an outdated water heater with an efficient gas, propane or oil model garners a tax credit. Choose an efficient tank or "storage" model—with a thermal efficiency of 90 percent—or any Energy Star, on-demand "tankless" system.

Tankless systems eliminate the need for keeping 40 to 80 gallons of water warm around the clock. Natural gas and propane on-demand units have to be vented through a flue or outside wall. (Where freezing is not an issue, a gas tankless heater can be mounted

outside on an exterior wall.) Electric systems can be installed just about anywhere, but they don't qualify for the federal tax credit. Electric heat pump water heaters do.

A solar hot-water system runs between \$6,000 and \$7,500 to provide for a family of four. In warmer climates, the sun can heat water directly, making for a much simpler setup.

## POWER WITH A FUEL CELL.

Residential fuel cells, which generate electricity from hydrogen or from the hydrogen in natural gas or propane, are entitled to a credit with no limit. Manufacturer Matsushita claims its fuel cell can reduce energy consumption by 22 percent and CO<sub>2</sub> emissions by 12 percent as compared with all other power sources. The unit is guaranteed to last about 10 years, roughly the time it would take to recoup the \$10,000 cost. Outdoor supply company Coleman also has a unit designed for emergency power.

## INSTALL A WIND TURBINE.

Have more grandiose dreams? You could spend up to \$22,000 for a residential wind turbine and mast—and get \$6,600 back from the federal government. There's no cap on wind energy credits. Most small turbines have very few moving parts and require little maintenance.

## GO SOLAR.

Solar-powered photovoltaic systems are entitled to a 30 percent tax credit with no limit. (That's a lot of dough.)

Massachusetts-based writer DICK PIROZZOLO reports on homes, home building and family finances, and has co-authored books on timber-frame home design and construction.