



# The Green Door

The Green Door is a monthly newsletter of sustainable living geared to present and future homeowners.

September 2006

**“The sun, with all those planets revolving around it and dependent on it, can still ripen a bunch of grapes as if it had nothing else in the universe to do.” ~ Galileo**

## The Scoop on Solar Subsidies

**Federal** - "For anybody who has ever considered installing a solar system, Washington is telling you to do it now," says Rhone Resch, president of the Solar Energy Industries Association in Washington, D.C. That's good news for solar equipment manufacturers like General Electric and Evergreen Solar.

Homeowners can now put in a photovoltaic system (roof panels that take in energy from the sun and turn it into electricity) and/or a solar-powered hot water system (for hot water heaters, radiant floors or radiators), and get a federal tax credit worth 30% of the systems' cost, up to a credit of \$2,000 per system. There are a couple of catches: The heating system can't be for a pool or hot tub, and the federal credit applies to the net system cost after any state incentives.

The good part is that this new federal break is a credit—not a deduction—meaning it reduces your tax bill directly, dollar for dollar. So, if you install both eligible solar systems in your house, you can knock \$4,000 off your federal tax bill. And if you have more credit than you owe in tax, you can carry it over and use it to defray next year's federal tax bill.

A two-kilowatt system that meets most of the needs of a highly energy-efficient home should cost \$16,000 to \$20,000 installed, according to the National Renewable Energy Laboratory (<http://www.nrel.gov>). A five-kilowatt system for a more typical home should cost twice that but would eliminate the home's electricity bills. The lab offers a consumers' guide to solar power (see <http://www.nrel.gov/docs/fy04osti/35297.pdf> for more information).

Interested in claiming a credit? Act fast. To hold down the projected cost, Congress authorized the solar credits for only two years—from Jan. 1, 2006 through Dec. 31, 2007.

In the meantime, the solar industry is preparing to lobby to extend the federal breaks beyond the two-year window. "We're not trying to be a subsidized industry forever," says Resch, "but without longer-term incentives that provide market stability, we won't see manufacturing grow substantially in the U.S."

**State Incentives Recap** by Chris Herman of Winter Sun Design

**Net Metering** requires the utilities to allow you to hook up to their grid, with your solar or wind system, and turn your meter backwards up to the amount of electricity you use on an annual basis. Summer credit can be used in the dark winter months. Every time rates go up, so does the value of your PV system and its electricity.

**Sales Tax Exemption** for the PV equipment and its installation, until 2011. Solar Hot Water Systems are also exempt from sales tax starting July 1<sup>st</sup> 2006.

### **Production Incentive Payments**

Your Utility will pay you \$.15/kWh for every kWh your system produces from 7/1/05-7/1/14. This is voluntary for the utilities and the big ones are all on board. The money comes off of their state utility tax, so for them it's a matter of pay their customers or pay the state. If you buy a voltage inverter manufactured in state the \$.15 is boosted to \$.18/kWh. If you buy panels made in WA you can add \$.36/kWh to the .15 or \$.18/kWh.

The hitch here is that there are currently no panels made in WA. But we think there will be within 2-3 years based on SB5111, which gives B&O tax breaks to a company that builds a PV mfg. plant in WA. Half a dozen companies, that I know of, are looking at WA seriously, as a place to site a new PV panel manufacturing plant. Stay tuned.



**“People are usually more convinced by reasons they discovered themselves than by those found by others.” ~ Blaise Pascal**

## Energy Efficient Investments

A capital improvement is any structure or component erected as a permanent improvement to real property that adds to its value and useful life. Items such as a new roof, new furnace, solar panels or a solar hot water system would all be considered capital improvements.

Generally speaking, energy-efficiency projects are different than other capital improvement projects because of their cash stream component, and should be evaluated on both operational and financial merits, apart from typical capital improvements. A good rule is to place energy-efficiency projects on a separate list than other capital improvements, and do them first. Here are some financial tips for the energy-minded:

- Don't underestimate the real value of energy efficiency. Find out for yourself, because the results might surprise you.
- Consider old inefficient equipment to be unrealized cash streams, waiting to be tapped.
- Place energy efficiency projects on a different “to do” list than typical capital improvement projects. They might be sources of cash.
- Match your cash inflows and outflows. When possible, use equipment financing to let energy savings pay for projects over time.
- If you think you can't afford an energy project, think again. There is definitely a “cost of delay” for energy inefficiency.

In order to receive maximum value for anything you may add to your home, it must be something that the market might expect to find in your area or, as with solar, a feature that homebuyers are increasingly demanding.

## Jumping Into Hot Water

For the average Washington homeowner, a solar water-heating system has the fastest payback of any solar technology. Solar hot water systems use the sun's energy to heat water and are almost always used along with conventional water heaters. How much money you save depends on the following: **The amount of hot water you use - Your system's performance - Your geographic location and solar resource - Available financing and incentives - The cost of conventional fuels (natural gas, oil, and electricity) - The cost of the fuel you use for your backup water heating system, if you have one.**

On average, if you install a solar water heater, your water heating bills should drop 50%–80%. Also, because the sun is free, you're protected from future fuel shortages and price hikes. With an up front cost of anywhere from \$4,000 to \$8,000 the payback can be as little as 8 years. Taxpayers can also receive the new federal tax credits for residential solar equipment placed in service in 2006 and 2007. The allowable credit is 30% of expenditure up to \$2000. Solar Hot water systems are also exempt from WA state sales tax.

Homeowners can choose from active solar hot-water systems, with pumps or valves, or passive systems, with no moving parts. Some are “open loop,” in which the home's water is directly heated, while others are “closed loop,” in which another fluid is heated and an exchanger passes the heat to the house's water supply. Sometimes the plumbing from a solar heater connects to a house's existing water heater, which stays inactive as long as the water coming in is hot or hotter than the temperature setting on the indoor water heater. When it falls below this temperature, the home's water heater can kick in to make up the difference. Many solar advocates favor the “evacuated tube” type of solar collectors for water-heating. These systems use parallel glass tubes to heat water to high temperatures. These work well in areas with cloudy winters and are usually installed on the roof.

The Green Door is brought to you by Cally Fulton and Danielle Johnson, both Real Estate Associates with GreenWorks Realty, Seattle and by JR Fulton, Architect and LEED Accredited Professional.

To save trees and expand the opportunity to share information, please provide us with your e-mail address and the addresses of others interested in sustainable living.

Please email ideas and submissions to [danielle@greenworksrealty.com](mailto:danielle@greenworksrealty.com).

If you or someone you know would appreciate our real estate services please call-

**Cally Fulton(206)786-5061 or Danielle Johnson(206)679-0185**

## September Websites

### Database for State Incentives

[www.dsireusa.org/index.cfm](http://www.dsireusa.org/index.cfm)

### The NW Solar Center

[www.northwestsolarcenter.org](http://www.northwestsolarcenter.org)

### Winter Sun Design

[www.wintersundesign.com](http://www.wintersundesign.com)

### Seattle City Light Customer Generation

[www.cityofseattle.net/light/Conserve/cgen/](http://www.cityofseattle.net/light/Conserve/cgen/)

### Puget Sound Solar

[www.pugetsoundsolar.com](http://www.pugetsoundsolar.com)

### Find Installers

[www.findsolar.com](http://www.findsolar.com)

### Solar Hot Water Facts

[www.eere.energy.gov/de/solar\\_hotwater.html](http://www.eere.energy.gov/de/solar_hotwater.html)

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