



# Tax Credits for Solar Water Heaters

Article From HouseLogic.com

By: Donna Fuscaldo

Published: October 22, 2009

A federal tax credit makes energy-efficient solar water heaters a more affordable and sustainable option for many homeowners.

A solar water heater uses the renewable thermal energy produced by the sun to warm water for your shower, washing machine, and dishwasher. Better yet, it does it at a fraction of the price of a conventional storage tank water heater. If you take the plunge and purchase a solar water heater, expect to see your home's water-heating bill cut in half.

The financial attraction doesn't end there. A federal energy tax credit that's available through the end of 2016 allows homeowners to shave 30% off the cost of a solar water heater. Even new homes and second homes qualify.

## How solar water heaters work

Solar water heaters operate

([http://www.energystar.gov/index.cfm?c=solar\\_wheat.pr\\_how\\_it\\_works](http://www.energystar.gov/index.cfm?c=solar_wheat.pr_how_it_works)) in one of two ways: either as a direct system or as an indirect system. A direct system warms water by circulating it via pipes through rooftop solar collectors. An indirect system, also known as a closed-loop system, relies on a non-freezing heat transfer liquid.

The liquid is heated in the solar collectors and returns through pipes to a storage tank, where a heat exchanger inside the tank transfers the heat to

the water. Most systems rely on electric pumps to move water (or a transfer liquid) between the storage tank and the rooftop solar collectors.

In general, solar water heaters can be used anywhere as long as your roof gets direct sunlight for most of the day. The rooftop collectors should face south. A direct system makes sense in warm climates where temperatures don't fall below freezing. The non-freezing liquid used in an indirect system makes it better suited for cold climates.

You'll need to retain your conventional water heater as a back-up at night, on cloudy days, or anytime a solar water heater's capacity is exceeded. An average person uses about 15 to 20 gallons of water per day, so a family of four would likely need an 80-gallon water heater tank.

### **The cost of a solar water heater**

A solar water heater starts at around \$4,000 including installation, though the price tag could double depending on the size, quality, and complexity of the system. Figure it'll take two to four days to install.

There's no cap on the 30% federal tax credit, which applies to systems placed in service between Jan. 1, 2009, and Dec. 31, 2016. Solar water heaters must be certified by the Solar Rating & Certification Corp. (<http://www.solar-rating.org/>) to qualify. States may offer additional incentives. Check the DSIRE database (<http://www.dsireusa.org/>).

To earn the federal tax credit, at least half of your household's energy for water heating must come from the sun. You can only count money spent on the solar water heater, not the entire heating system. You can't claim the credit if the solar water heater is for a pool or hot tub.

Take the credit on IRS Form 5695 for the year you install the solar water heater. Remember to save receipts and manufacturer certification statements. The credit can't exceed the total amount you owed in federal taxes for the year.

### **The savings can add up**

According to Energy Star, a federal program that promotes energy

efficiency, a solar water heater can lower the average household's water-heating costs

([http://www.energystar.gov/index.cfm?c=solar\\_wheat.pr\\_savings\\_benefits](http://www.energystar.gov/index.cfm?c=solar_wheat.pr_savings_benefits)) by 50%. If you use a gas water heater, that translates to savings of \$190 a year. You'll save \$265 annually if you have an electric water heater.

Savings are greater for large families that use a lot of hot water. How quickly you recoup your total investment depends on how much water you use, the amount of sun you get, the performance of your solar water heater, and how much it costs to heat up your water using your existing system.

If you're building a new home or refinancing your mortgage, consider lumping in the cost of a solar water heater with the loan. By spreading the cost

([http://www.energysavers.gov/your\\_home/water\\_heating/index.cfm/mytopic=12860](http://www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=12860)) of the system over the life of your mortgage, you can take advantage of the tax deduction

(<http://www.houselogic.com/articles/deduct-mortgage-interest-home-equity-loans/>) for mortgage interest.

According to the U.S. Department of Energy, you'll pay an extra \$13 to \$20 per month to include the cost of a solar water heater in a 30-year mortgage. With the mortgage interest deduction that cost gets reduced by \$3 to \$5. The difference is about what you should save on your monthly energy bills.

### **Long life, little TLC**

Solar water heaters have a life expectancy of 20 years or more, double that of conventional storage tank water heaters. They typically don't require replacement parts for the first 10 years. It's prudent to hire a qualified contractor to conduct annual inspections, as you might do with a furnace.

You can do your part by making sure the collector is clean, sealings aren't cracked, and fasteners connecting the collector to the roof are tight. Whether for installation or maintenance, look for contractors certified by the North American Board of Certified Energy Practitioners (<http://www.nabcep.org>).

Solar water heaters not only save money-they save the environment. The

DOE says a solar water heater can cut the electric load of your water heater by 2,500 kilowatt hours annually, which prevents 4,000 pounds of carbon dioxide from entering the atmosphere. That's equal to not driving your car for four months a year.

*This article provides general information about tax laws and consequences, but is not intended to be relied upon by readers as tax or legal advice applicable to particular transactions or circumstances. Readers should consult a tax professional for such advice, and are reminded that tax laws may vary by jurisdiction.*

Donna Fuscaldo has written about alternative energy for Dow Jones, the Wall Street Journal, and Fox Business News for more than a decade. She's currently renovating her house with an eye toward energy efficiency and green technologies.