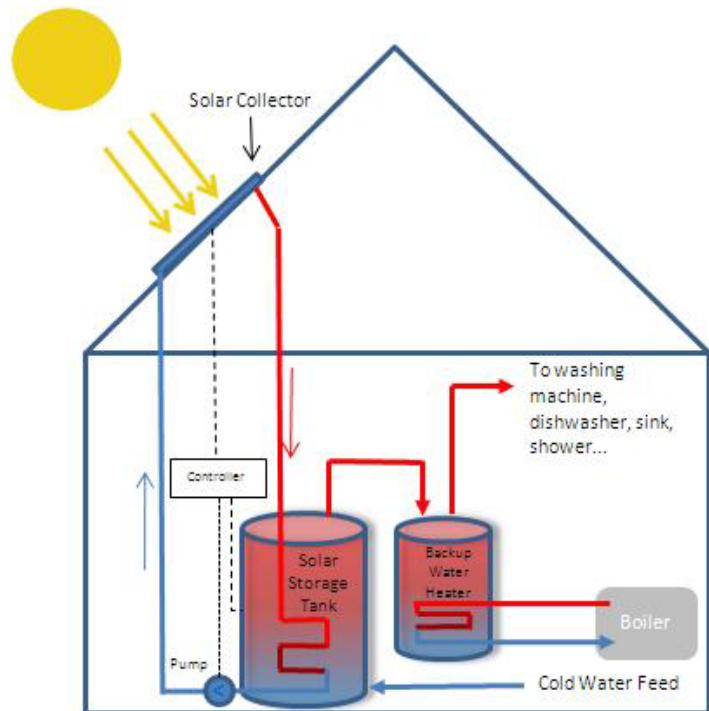


Commonwealth Solar Hot Water Program Residential Factsheet

What is a solar hot water system and does it make sense for my home?

A solar thermal system generates heat from sunlight. Solar collectors, or panels, are typically mounted on the roof. The rest of the system usually includes a pump and piping to circulate a heating liquid from the collectors to a heat exchanger in an insulated storage tank, and a controller to automatically operate the pump. Solar hot water systems can heat water for laundry, bathing and washing dishes, and can often provide 50 percent to 75 percent of a household's total hot water needs. Depending on a household's heating system, there are also solar hot water systems that can provide space heating.



What size system do I need?

A qualified installer can estimate the best system for your needs. In general, two collectors and an 80 gallon storage tank are about right for a household of four to five people.

What happens when it isn't sunny?

Water is heated in the solar collectors and stored in an insulated solar storage tank. Buildings with solar water heating always have a backup option. The backup may be a home's existing water heating system, or, if you install a one-tank solar system, the solar storage tank will have a back up electric heating element. The figure above shows how a solar hot water system might work when tied in to your existing water heater.

How much does it cost to install a solar hot water system, and how much can I save?

The cost varies based on the size of a system, and how it fits into your existing plumbing. A qualified installer can estimate the overall cost, and will also inform customers about rebates and incentives for which you may qualify. Currently, a two collector system (for households with four to five people) costs approximately \$8,000 to \$10,000. The various incentives available could cut that cost roughly in half.

Total savings depend on the type of fuel a household uses to heat hot water – savings are the greatest for electricity users, and less for natural gas users.

Resources for Further Information:

- [A Consumer's Guide – Heat Your Water With The Sun](#), U.S. Department of Energy, December 2003
- [Solar Water Heating Basics for Homeowners](#), California Center for Sustainable Energy, October 2010

Steps for Success

1. **Make Energy Efficiency Improvements:** Call [MassSAVE](#) to schedule an energy audit if you haven't had one within the past five years. Energy conservation measures will reduce your home energy expenses, and will improve the economic performance of your solar hot water system. Doing an energy audit before you install your solar system is in your best interest, because it may change your hot water consumption. It is also a requirement of the Commonwealth Solar Hot Water Program, and must be completed before we will issue a rebate.
2. **Choose An Installer:** You are responsible for selecting an installer, and performing your own due diligence with regard to the experience and qualifications of your installer. Make sure that they are properly insured, able to meet all Commonwealth Solar Hot Water Program requirements and are prepared to obtain all necessary permits. MassCEC recommends soliciting bids from multiple installers, and checking references from their previous customers.
3. **Apply for Incentives:** Incentives can save you more than 50 percent of the cost of your solar hot water system. In addition to applying for the Commonwealth Solar Hot Water rebate, your local utility company or other local organization may also provide additional incentives. State and federal tax credits may also apply. Visit www.mass.gov/dor or www.irs.gov for more information about available tax credits. Your installer can also give you more information about incentives and guide you through the application process. For more information visit www.MassCEC.com/solarhotwater.
4. **WAIT FOR YOUR COMMONWEALTH SOLAR HOT WATER PROGRAM REBATE AWARD LETTER BEFORE PROCEEDING WITH THE INSTALLATION. REBATES WILL NOT BE MADE TO SYSTEMS INSTALLED BEFORE THE DATE OF THE AWARD.**
5. **Have Your System Installed:** At a minimum, you will need to have your local plumbing and building inspectors (and, depending on the system, possibly an electrical inspector) inspect your system before it can be put in service. The Commonwealth Solar Hot Water Program may also send an auditor to make sure your system meets program requirements.
6. **Get Your Rebate:** Have your installer submit the project completion information through the Commonwealth Solar Hot Water website (www.MassCEC.com/solarhotwater). All documentation must be complete before we can mail the rebate. Once we have verified that the system meets the program requirements, MassCEC expects to mail rebate checks within 45 days.

For further information about the Commonwealth Solar Hot Water Program and links to other solar hot water incentive programs, please visit www.masscec.com/solarhotwater.