For more information call 800.762.7077 or visit focusonenergy.com

Solar water heating systems

**FACT SHEET**

Water heating is the second largest energy expense in your home—typically accounting for 14 percent of a residential utility bill. A solar water heating system can provide more than half of the hot water needs of a Wisconsin residence.

A solar water heating system consists of solar panels connected to a home’s existing gas or electric water heating system, providing a renewable source for hot water. These systems are efficient, reliable and well proven for use in Wisconsin. Of all the active solar energy options available today, solar water heating systems provide the fastest return on your investment.

**EFFICIENCY FIRST!**

Before investing in any solar energy system it is important to take steps to make the existing hot water system as efficient as possible. Simple conservation steps can reduce the amount of hot water required and make the conventional equipment operate more efficiently. Good first steps are:

1. Install low-flow showerheads or flow restrictors in showerheads and faucets.
2. Insulate your current water heater and any hot water pipes that pass through unheated areas.
3. If you don’t have a dishwasher, or your dishwasher is equipped with its own automatic water heater, lower the thermostat on your household water heater to 120°F.

**SOLAR ACCESS**

You will also want to make sure your site has enough available sunshine to meet your needs efficiently and economically. Solar water heating systems must have a southern exposure. For maximum daily power output, solar collectors should be exposed to the sun for as much of the day as possible, especially during the peak sun hours of 10 a.m. to 2 p.m. Consider both summer and winter paths of the sun, as well as the growth of trees and future construction that may cause shading. The southern exposure should be free of obstructions such as trees, hills and buildings. Also, check with your city and county zoning offices and your homeowners association to find out about any local zoning laws or covenants that may restrict where you can place solar collectors.

**SOLAR WATER HEATING BASICS**

The main components of a solar water heater include collectors, a storage tank and a circulation system. The best type of collector for residential water heating is a flat-
Focus on Energy is a public-private partnership offering energy information and services to energy utility customers throughout Wisconsin. The goals of this program are to encourage energy efficiency and use of renewable energy, enhance the environment, and ensure the future supply of energy for Wisconsin. For information about the Focus on Energy services and programs, call 800.762.7077 or visit focusonenergy.com.

For more information, contact Focus to learn more about smart energy choices.


Solar water heating systems have a good economic payoff, and are manageable systems to install or build as a DIY project. Some of the solar water heating designs are very simple and low cost. You can save as much as $7000 by building your own system. There are just over one hundred projects with full construction details listed below -- all free. The projects range from simple batch heaters for warm climates through closed loop and drain back systems that will work in any climate. One of the systems is our own $1,000 solar water heating system that has provided a solar fraction in excess of 90