

Ask questions

Before buying expensive solar water heating system:

1) Do some reading:

[Read long list of do-it-yourself solar projects](#)

[See how to convert old water heater into solar water heater](#)

You can set 2 gallons water in the sun and have hot water at dinnertime.

2) Ask for the total price up front.

3) Do not read glossy promotion brochures that promise quick and easy payback.

If the system costs \$6000 and saves year-round average \$15-20 per month, then it will take 300-400 months to pay back, or 25-33 years.

Do not believe savings more than \$15-20 per month for *ordinary* home usage.

Actual savings will probably be less than \$15 per month, *depending on how hot water is consumed*.

4) If home is using only solar water heating, and does not use back-up fuel source, then solar system will save typical cost of operating water heater. But traditional hot water temperatures will not be available certain times of day, and unavailable some days. This strategy is about reducing consumption.

5) There are many ways to save with a water heater without buying expensive heater.

Reducing consumption is best way. Maintain water heater is another.

[Read 9-ways to save with water heater](#)

6) Ordinary water heating energy bill in summer months is much lower because incoming water temperatures are higher. This means water heater does not have to raise temperature as much to reach thermostat set point. Summer months are best time for solar water heat, but they are best months for conventional water heater too.

[See family charts](#)

7) Solar water heaters will not generate much heat in winter.

Ask if the system must keep running in cold weather to prevent freezing.

Ask if the system has automatic by-pass to keep cold water from entering tank.

If system is circulating to avoid freezing, and the cold water circulates inside tank, then tank must use conventional fuel to warm the cold water.

Ask how much power the anti-freeze heater uses.

If the solar heating pipes must be drained each winter, can you do the work?

8) Solar heat dissipates very quickly. Test it yourself with 1 gallon water left in sun. Once fully heated, put gallon inside insulated picnic cooler and check temperature 1 hour later, then 5 hours later. Is the water still warm? Is it hot enough to use for shower? Probably not. Pour it on hand to gauge temperature.

9) If you consume most hot water in late evening or early morning, the solar-heated water will be dissipated at those times, and water is being heated by conventional fuel. This means solar heating system is only saving standby cost during daytime hours. Standby cost is small, and does not warrant expensive solar heater.

When hot water is consumed during late evening or early morning shower, new cold water immediately enters tank and the new cold water must be warmed by conventional fuel.

10) Ask to see illustration of all component parts to estimate general complexity of system.

Maintenance and repairs are major factor in calculating costs. All costs are energy.

Can you maintain the system yourself? Can you find somebody locally who can maintain the system?

Do not buy complex systems if local area does not have affordable service people.

Do the solar collectors need to be cleaned?

11) Ask about expected lifespan of each component part.

Ask which parts you should have on-hand in case of breakdown.

12) Pumps, freeze switches, pressure valves, heat sensing systems can become expensive to buy and repair.

Ask for price sheet for each replacement part, and ask who will carry the part when you expect part will fail.

14) If you live in storm region, ask how rooftop solar panels can be protected.

Call insurance company and ask if homeowner insurance covers external solar panels.

15) How easy will it be to remove the rooftop panels and repair roof if next home buyer does not want the system.