

ENERGY WISE

Solar and heat pump water heating systems can save you money in Hawaii's climate.

In Hawaii, water heating can account for more than half of the total energy used by households.

This is especially true if you have a large family and use lots of hot water for baths, dishwashing and laundry. If big energy savings are what you're after, it may be very worthwhile to consider a couple of cost effective methods for reducing water heating energy use.

Solar water heaters and heat pump water heaters can put Hawaii's sunshine and

warm climate to good use heating water efficiently. How do these water heating systems work, and how much energy savings do they produce?

Solar Water Heating

Although there are variations to the basic design, most solar water heaters have roof-mounted panels which have water filled tubing fastened to a heat-conducting plate. Solar-heated water from the panel is piped to an insulated storage tank. Depending on the type of system, there may be a thermostat control device and a small circulation pump. Most systems have backup heating (usually electric) for periods when hot water used exceeds the system's ability to produce hot water.

Solar water heating system costs vary widely, depending on the type and size of the system. Therefore, it is very important to speak to several solar contractors about their systems, prices, product and installation warranty, and repair and maintenance arrangements. Talk to friends or neighbors who have solar water heaters and ask them about their systems and contractors. Call the State Department of Taxation for any applicable energy tax credits for solar water heater installations.



**CATCH
SOME RAYS
AND CASH
IN ON
KAUAI'S
CLIMATE.**


In Sunny parts of Kauai, a solar system that is properly sized and installed can

save more than 90% of the family's water heating energy use. Under less optimal conditions a solar system may meet less than 70% of the family's hot water needs.

Turning off the backup heater can reduce or eliminate utility energy used for heating, but it may mean doing without hot water at times.



**Kaua'i Island
Utility Cooperative**

Your Touchstone Energy® Cooperative 

ENERGY WISE

Heat Pump Water Heating

A heat pump is a mechanical device that draws in our warm Hawaiian air, transfers heat from the air to water used in your home, and blows out cool air. In doing so, the heat pump consumes about one third the electric energy it would take to heat water with a conventional electric water heater. The heat pump is usually mounted directly on top of the hot water tank, or it can be installed next to the tank.

Unlike solar water heaters, a heat pump can operate day or night regardless of sunshine—it simply makes hot water whenever hot water is needed.

Heat pumps are less expensive than solar water heaters, usually less than half the cost of a solar system. As you would with any major appliance, shop around for a heat pump, and talk to people about their heater's performance and their contractor.

Check into warranties and maintenance/repair arrangements. As with solar water heating, check if there are State of Hawaii energy tax credits available for heat pumps.

It is reasonable to expect a heat pump to save between 60% and 65% of the energy used by the family for water heating. In a small pilot program on Kauai, average savings after heat pumps were installed were 250 kWh per month.

WHICH ONE TO CHOOSE?

Which system is best for you depends on a number of considerations. If you have a large family, use lots of hot water, live in a sunny location and own your single-family home, a solar water heater may be a good choice for you. If you use a lot of hot water but prefer not to install equipment on your roof, or live in an area that is frequently cloudy, or rent (and would like to take your unit with you if and when you move) or live in an apartment, you may be happier with a heat pump.

Heat pumps and solar water heaters offer significant energy savings for Kauai's families. In either case, it would be energy wise to shop around ask question and compare before making your decision.

Want more information?

For a more detailed description of energy saving measures, call KIUC's energy specialists at 246-8284 or 246-8282.



Kaua'i Island
Utility Cooperative

Your Touchstone Energy® Cooperative

