Going Solar?

For heating water, which makes the most sense:

1. Use a solar water heater, or

2. Use photovoltaics (PV) to make electricity for an electric water heater?

You get more for your money if you let the sun heat the water directly.

- Less expensive way to put sunlight to work!
- Much smaller "footprint" on your roof!
- Reduces your electricity load so your photovoltaic system is more economical!
- Tax credits cover much more of the cost!

$2,000 versus $44,000… Solar water heaters cost less per unit of energy!

- A typical two-collector solar water heater might have an original cost between $5,000 and $7,000 (before tax credits and rebates). After tax credits and rebates, the cost would only be $1,400 - $2,100.
- A photovoltaic system which generates electricity to run an electric water heater, producing the same amount of heat as a typical solar water heater, might cost $51,000 (before tax credits). After tax credits, the system would cost $44,000.

Solar water heaters take less space!

- A typical two-collector solar water heater will require only 50-80 square feet of roof space.
- To do the same job, a photovoltaic array might require more than 30 modules, perhaps 450 square feet of roof space!

Water heating is your biggest energy use!

- In most homes (without air conditioning), heating water is one-third of your electricity bill
- The most economical way to heat water is with a solar water heater, not with electricity (or gas), even if the electricity is from a renewable source
- Using a solar heater lets your photovoltaic system do what it does best: provide electricity to things that truly need electricity, like washers, refrigerators, computers and televisions (Check the appliance labels to make sure you buy the most energy-efficient models, such as Energy Star.)

Solar water heating pays back first!

- Because solar water heating systems are less expensive than photovoltaics, the state and federal tax credits cover more of the cost.
- HECO, MECO and HELCO offer $1,000 rebates for solar water heaters, on top of the tax credits.
- At today's electricity prices, the simple after-tax return on investment for solar water heating ranges from 30-60%...compare that to your CD or 401(k)!
- It usually takes between 1½ and 4 years (depending on your island's electricity costs) to "break even" with solar water heating—saving as much as you invested in the system. Photovoltaics generally "break even" in 15-25 years at today's electricity prices.

Photovoltaics are a good investment and help the planet,

1. Conserve. Stop waste where you can. Use less; turn things off when they're not in use. Use daylighting, natural ventilation and insulation in your home to minimize your use of electricity.
2. Improve efficiency. Replace equipment and appliances with new models that do the same work with less energy. Check the yellow energy labels to ensure that you're buying efficient models, and consider those with Energy Star ratings which are the most efficient in their class.
3. Solar water heating. Putting in a solar water heater is, hands-down, the single most cost-effective alternative energy measure you can take.
4. Renewable electricity. Once you've reduced your electricity use as much as possible and installed solar water heating, photovoltaics can generate some or all of the rest of the electricity you need. Consider net energy metering, an agreement with the utility which allows you to be credited for electricity you generate when you aren't using it.

http://www.hawaii.gov/dbedt/info/energy