

## Energy Services

# Trout Lake Couple Lives *With* the Grid

Jan Loomis and Geoff Wickes of Trout Lake recently installed a 3-kilowatt solar array.

Rather than live “off the grid,” Geoff and Jan chose to participate in Klickitat PUD’s net metering system.

“Essentially, we are using the PUD as our battery,” Geoff says. “Any excess power we generate goes back onto the grid.”

Geoff and Jan bought their property in 1995, and built their home in 1997. They say they would have liked to install the solar panels on their roof, but since their roof does not face south, they had to come up with another solution.

They mounted panels away from their house, fenced the area and incorporated a garden.

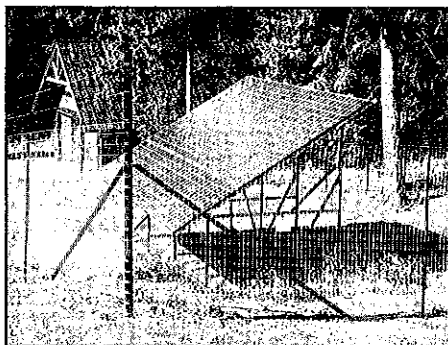
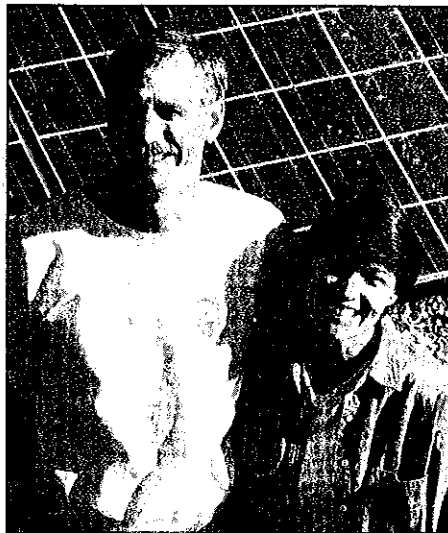
“Ideally, we would have liked to incorporate panels into our roof when we built the house, but at the time we weren’t thinking of solar power,” Geoff says.

Both Jan and Geoff hope the new array will meet all of their energy needs, which includes modern conveniences such a dishwasher, a washer and dryer, a furnace and a microwave.

Before installing the system, the couple reduced its overall energy demand by replacing all incandescent bulbs with compact fluorescent bulbs, installing high efficiency Energy Star® appliances, making sure the house was adequately insulated and placing all phantom loads—anything that works with a remote-control—on plug strips.

They keep the thermostat turned down, and use the woodstove when they can.

Geoff works in the energy con-



Top, Geoff Wickes and Jan Loomis. Above, the solar array the couple installed.

servation field. Jan says his latest motto is, “one light per person.”

Before installing the system, their average PUD bills were \$35 to \$48 a month. They are hoping now all they have to pay is the meter fee of \$14 a month.

**Q:** Why are the modules three feet off the ground?

**A:** Snow accumulation can be a problem. It is not unusual to have three feet of snow on the ground in the winter.

**Q:** What angle did you choose, and why didn’t you put your array on solar trackers?

**A:** The angle we chose factors in our latitude and atmospheric conditions. It is 32 degrees. We elected not to use solar trackers because we do not have clear access to both east and west horizons.

**Q:** What’s up with the seven-foot high fence?

**A:** We have a significant deer and elk population here, and elk especially like to use solar arrays as scratching posts. Besides, it gave us a good excuse to put in a garden area.

**Q:** Aren’t most solar arrays on the roof?

**A:** When we designed and built our house we weren’t thinking about solar power. In retrospect, we probably would have designed a home with passive solar heating (south-facing roof with windows), solar hot water and solar modules (panels) on the roof.

**Q:** Why is the array so far from the house?

**A:** We had to choose a site that had as much unobstructed sun as possible. Ideally, solar arrays should be very close to the source they are feeding—like on the roof or adjacent to the house. By placing our panels so far away, we were able to find a good sunny site, and incorporate a large garden space. To decrease on the amount of line loss with our array so far away, we had to use larger gauge wire (6 gauge), about the diameter of a pencil. ■