

Self-reliant couple create a solar homestead

By Larry Elliott

If you took a map of the state of Oregon and looked for an area with very few roads and where towns are small in size and many miles of lonely twisting roads stand between them, odds are you would be looking somewhere near the middle of the state. This is a very sparsely populated area with little more than logging and ranching to support the economy. It's an area where only those who have learned to be self sufficient and who can live simply and frugally will survive and prosper in good times as well as bad. It is for these very reasons that my friends Lance and Jennifer Barker call this area home.

Like most people who live in an isolated and sparsely populated rural area, Lance and Jennifer had a choice: They could extend power lines and pay a lot of money for electric power, or they could buy a fuel generator to supply electric power, with propane filling their needs for hot water cooking and refrigeration. They rejected both options in favor of a third: for the past 17 years they have had most of the comforts and conveniences of electricity supplied only by solar power. It has been a long, slow road to get to where they are now, but it all seems to have been worthwhile.

After many false starts, Lance finally ended his search for isolated rural property when he located 40 acres of logged-over, fairly level land located almost a mile above sea level and only a few feet from thousands of acres of national forest land. There were no power lines, telephone, or ready source of water. The soil was poor, and with frost coming sometimes as late as the fourth of July, farming and gardening didn't seem to be a sure bet.

The local extension agent laughed when Lance told him of his wish to

garden. He said that radishes would most likely be the only crop. Being descended from a long line of Kansas farmers and having determination and a "green thumb," he persisted and ignored the nay sayers.

The first year on the property, Lance had a wife, but things didn't work out. Before the year was up, Lance was pursuing his dreams alone. Like most people who are successful at living a self sufficient rural life, Lance had set his priorities and spent his limited income on essentials. A small, rough-hewn cabin was built with a privy for a toilet and no running water. The realities of life pressured him into

is not deep, and when he had the well drilled, artesian pressure brought the water to within 50 feet of the surface. In true pioneer fashion, Lance installed a pitcher pump and soon knew how many strokes of the handle it would take to fill a bucket with water for his garden and for drinking.

Pretty soon, it became clear that hand-pumping was too time-consuming, so he started looking for a better way. Because he rejected a generator as a power source, a standard AC submersible pump was useless, and without any other source of power, a jack pump wouldn't work either.



Lance and Jennifer Barker in front of their solar home

working in a local saw mill on the night shift and spending all he earned to expand his house, and to sink a well.

Even though his 40 acres is forested and located on the border of a national forest, the annual rainfall is not great, and in fact the area is semi-arid a lot of the year. The need for a reliable and economical source of water for drinking—and especially for gardening—was high on his priority list. Fortunately, the water table in his area

It was about this time (1980) that he first started seeing ads for solar electric panels. At that time, a small, low-power panel could run as high as \$600. With an output of only 32 watts (barely enough to power a small light bulb) and a cost of over two weeks' pay, the choice was a bit discouraging. Undaunted, he decided that even with all the disadvantages, the solar option would in the long run prove to be his wisest choice.

The first panel

Scraping together what little money he had, he sent in an order and waited to see what he had purchased. He had never really seen a solar panel, let alone used one. When it arrived, he gathered up some used car batteries and “hooked ’er up.” At that time, Lance knew less about electricity and how it worked than he knew about quantum mechanics. In other words, he knew essentially nothing.

Once again in true pioneer fashion, he was able through trial and error to properly connect an amp meter and volt meter as well as an old car tail-light. Soon after dark, he decided to turn on the light and see if he could get by without the use of the kerosene lamp. I’m sure he yelled “Eureka” as the light came on and filled his small cabin with a soft, warm light.

He was impressed, but he still kept the kerosene lamp ready just in case. Even though his amp meter was showing current flowing into the batteries (and held him fascinated as the needle swung back and forth with each passing cloud) he still had a healthy skepticism as to whether or not his hard-earned money was well spent. Finally, after several weeks of heavy use of the light and the batteries staying charged, he was convinced and ready for the next step.

He located some old used telephone batteries and added a few more lights. Soon he was installing an old discarded jack pump and running it with a DC motor. Finally he could give his arms a rest and let the sun do the hard work. His one little panel wasn’t going to run a lot of heavy loads, but it convinced him that even for someone living in a less-than-ideal area for sun, the solar path was truly his door to independence. Soon he began buying a few more panels as his finances permitted. It was about this time that the state of Oregon saw the value of solar power and set up an income tax credit for the purchase of solar energy



Jennifer works on her solar-powered computer

devices. Lance became the first person in Oregon to receive the credit.

Need for more power

For several years, his straight-DC system served his needs, but soon his garden had grown quite large. He had proven the skeptics wrong and was growing a wide variety of cold weather crops, as well as others he grew by using row covers and other innovative methods. He needed more power.

As solar panel design improved—with greater efficiency and better cost-per-watt performance—manufacturers began producing items such as inverters (to supply AC power), DC refrigerators, and even deep well pumps powered directly from the panels or batteries. Lance purchased one of these pumps and soon discovered that he could let it run all day without depleting his batteries. Trouble was, this new high-tech pump would be coupled to an antiquated and inefficient sprinkler watering system. Drip irrigation was just coming into its own and proved to be just the thing he needed to create a steady and highly efficient watering system. Soon he was able to double the size of his garden without the need for additional water or power.

Refrigeration

Several years went by and Lance continued to add panels and appliances to run off of them. When the Sun Frost company came out with their efficient refrigerator/freezers, the high cost made him weigh this choice against the use of a propane powered unit. Once again the solar unit won out, due to the freedom from outside fuel sources and the fact that the propane unit was only a little less expensive in up-front cost. And the propane unit would continue to cost for years with the purchase of propane.

A few problems were cropping up in his pump system, and the pump had to be replaced. As his garden area kept growing and water demands kept increasing, he soon had to look for an even bigger pump to supply his needs. Until this time, his need for standard 110 volt AC had been limited, so an inverter, which converts DC electricity to standard household AC electricity, was not necessary. But because a standard AC submersible pump was the only thing available at the time that could supply enough water, an inverter now became a necessity. With the addition of the inverter, he not only gained extra water, but he also

found it convenient to have power for saws and drills, a stereo, and radio.

For more than 17 years, Lance has not only been homesteading and building a solar electric system, but he has also been maintaining and improving his timber stands. His efforts have been directed towards maintaining a healthy forest that can supply wood to fuel his cook stove and heat his home and hot water for as long as he needs.

Five years ago, he made an addition to his life that has proven to be of even greater value than all the solar panels he could ever buy. Lance was getting along fairly well as a single pioneer, but realized that a good woman would add benefits no calculator could measure. He placed person-

al ads in magazines (now becoming the only good choice for many isolated people) and eventually met his wife, Jennifer— the same Jennifer Barker who writes *BHM's* vegetarian recipes each issue.

Jennifer also has written a cookbook filled with her recipes (available through *BHM*). It was written and edited on a computer powered by the same panels everyone thought were so expensive years ago. D

