

Bright Future

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— Solar power may reduce a carbon footprint, but it's the dent in the wallet that's often a setback. That is, until all the incentives kick in, taking the cost of an installed system down to the ballpark of an economy car.

"People who think that solar (power) is out of reach, maybe should take another look at it," said Peter Brinkley of Jay.

Brinkley and his wife, Barbara, just had a residential photovoltaic system installed on their property this spring.

Saranac resident John Tedford has been off the electrical grid since 1978, providing himself energy with solar power for the past six years.

"I think it's a feasible thing for the average Joe to think about," he said.

For those using an approved installer, it may be time to give it that second look.

The average household in New York uses around 7,000 kilowatt hours of electricity annually, or about 600 kWh a month, according to the Energy Information Administration (EIA), a division of the U.S. Department of Energy.

Triangle Electrical Services Inc. of Plattsburgh, an approved installer, prices a system that could meet those needs at around \$50,000.

However, right at the point of purchase, the New York State Energy Research and Development Authority offers an incentive of 40 to 45-percent of the installed cost.

NYSERDA's incentive is \$3 a watt to 4,000-watts and \$2 a watt to 8,000 watts.

Just from that incentive, a homeowner sees the price tag fall to approximately \$35,000.

"It's that amount that the customer has to come up with initially," said Tom Hollingsworth, sales manager of the Solar Division at Triangle Electric.

Customers who purchase a system on their own, without an approved dealer, waive the NYSERYDA incentive. But at year's end, government tax credits drive the price down even more.

New York State offers a 25-percent income-tax credit capped at \$5,000 and Federal income tax credits 30 percent.

In the end, a homeowner could look at an amount around \$15,000 with no tax on materials from Clinton or Essex counties or New York. Franklin County has a 4-percent sales tax on solar materials.

"It's about a 15-year payback, but solar lasts 40-years," Hollingsworth said. But even before deciding to purchase a system, there are a number of things that should be considered.

"Shade is the primary issue," said Hollingsworth. "We don't do it when it doesn't look like there will be enough sunlight." Triangle Electric will take a picture of your property and by simulating the removal of certain trees, see if more sunlight is possible.

Ideally, they would like 100-percent sunlight, but will go as low as 80-percent, Hollingsworth said.

"Until you do this, you can't move into the economics," Brinkley added.

This sort of work is exactly why he went with Triangle Electric. "You've got local experience and a local business," he said. "I don't think anybody can, just by research, know if it's feasible for them or not."

Another thing that a customer should look at is conservation. "How old is that refrigerator?" asked Hollingsworth.

According the EIA, a refrigerator can use up to 14 percent of a home's electricity. "Those things tend to drive your light bill," Hollingsworth said, adding dryers and freezers to the list.

Then comes the question of what a customer wants. "Do you want to go completely off the grid, or do you want to pay less?" Brinkley asked.

Depending on the needs of a residence, the cost can increase or decrease. Net-metering customers who want to remain connected to the electricity grid must have the system approved by a utility. New York State Electric and Gas, a major energy supplier in the region, will check the system before they tie in. Then, the customer will be eligible for net metering.

"Net metering enables customers who own and operator solar, wind and other small generation projects to sell electricity they generate but do not need back to their utility," said Clayton Ellis, manager of corporate communications at NYSEG.

This is monitored by a meter that separately records electricity used by the customer that comes from the utility company.

While power from the utility company is flowing into the house, it isn't used unless it needs to be. Excess energy becomes credit on the electric bill of the customer.

Tedford doesn't use a public utility. He generates enough electricity to support all his needs. All the energy is stored in 12 L16 six-volt deep-cycle batteries, which he has to replace every decade. It's only cost him \$10,000 altogether, he said.

Tedford has most everything everyone else on the grid might have — stereo system, television, computers, a refrigerator and so on. The refrigerator is specially made for alternative living off the grid. "I had to make an

investment of \$2,500," he said of the cost.

Which was still more than he had when he first moved to Saranac in 1978. He had his trailer towed to the powerless property. "I gave him my refrigerator for towing me up here," he said, smiling. "I wouldn't need it."

After a tiny windmill was erected, he had enough power to run one light and a small black-and-white television, or two lights and no TV.

Now, you couldn't tell from walking into his home that it wasn't hooked to a grid.

Of course, he has to be conscious of his energy use. "It's not for everybody. It's a conscience thing," he said. "How big is your carbon-footprint, how big does it have to be and what do you want, what do you need?"

To keep the sun on his panels, which are erected a few feet from his house, he just moves them.

"I adjust them about three or four times a year," he said. "It's just a wrench job."

Triangle Electric has designed their own method for getting the optimum power from the sun. They've created NOVAR Solar, a system that moves the panels throughout the day at regular intervals.

"The sun is always hitting it at 90 degrees," Hollingsworth said. The company has five solar systems set up with the tracking system.

Unlike homeowners, businesses can't net meter. This means that the solar energy generated by James Langley Jr. of Langley Insurance Company in Peru goes into the grid anyway.

The building that he has is energy efficient with lightbulbs, insulation and casement windows. However, what his system creates and what he uses are two different things.

"My system is a 6.3 kilowatt system," he said. He only uses 2.3 kilowatts per hour.

"My system will feed up to two times that," he explained. "I'm providing electricity for another house and I'm not seeing a penny." Current legislation doesn't require utilities to net meter businesses.

"Since the most recent net-metering laws were passed, owners of systems sized as prescribed in the law receive a credit for excess energy produced," said NYSEG's Ellis. "Any customer who interconnected a system prior to the newest net-metering law should contact NYSEG to request an evaluation of their system."

"Our expertise is in the safe and technically sound interconnection of customer-owned generation systems to our electricity-delivery system. It is up to individuals with contractors and other experts to determine the economic viability of installing a system."

Langley says he not upset. "I'm not even saying it's NYSEG's fault. It just seems ridiculous."

He does receive depreciation on the equipment, though, when filing taxes for his business.

Going solar, like going green, may not be feasible for everyone. But no one contacted by the Press-Republican was upset with their decision.

"I love the way I'm living," said Tedford. "It's the subtlety. I love the face of people that come here. A lot of people get inspired by it."

"I'm taking care of my own," Langley said. "Your carbon footprint, you erase it."

For Brinkley and his wife, going solar was only another step in being more efficient, and Peter is looking forward to the future.

"In 2010, the hybrid cars coming out are rumored to be plug-ins," he said, or vehicles you can charge through a common outlet in the house. "Just think. You can run your car on power you get from the sun. How nice would that be?"

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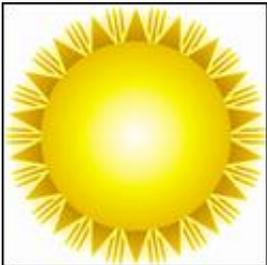
Photos



This tracker system, owned by Don Hanson, allows sunlight to be hitting the surface of the solar panel at the optimum position.



John Tedford lives off the grid at his home in Saranac. "The rule of thumb is to have a good generator but to never have to use it," Tedford said. He's lived off the grid for 31 years using wind and solar-generated energy. Staff Photo



This barn provides a practical application for solar panels. Triangle Electric Services of Plattsburgh says the panels could work efficiently for up to 40 years.