

Their heart's in solar

By GORDON BISHOP

The Rothschilds love their solar home. It not only keeps them warm in the winter and provides them with plenty of hot water, but it saves them at least \$1,200 a year in energy costs. The annual heating and hot water bill for their spacious, custom-made ranch-style house is only \$250. The house, with its steeply slanted front roof covered with shiny solar collectors, faces south. The living room overlooks lovely Farrington Lake in North Brunswick, a reservoir the Rothschilds enjoy for fishing and swimming.

Alan and Dianna Rothschild occupy one of the oldest solar homes in New Jersey, built in 1978 between the OPEC oil shipping and pricing actions that sent energy prices through the proverbial roof.

The latest Persian Gulf crisis has pushed energy prices to all-time highs—but it is also putting solar power back into the spotlight. There are more than 3,000 solar systems in use in New Jersey, most of them for providing domestic hot water.

The Rothschilds live in what is known as a "hybrid" solar structure, meaning that it is both "active and passive." The "active" component consists of 14 panels bolted flat to the roof, each 3 by 8 feet. The glassy solar array heats water stored in a 600-gallon thickly insulated tank in the basement. That heat is distributed to the rooms through floor registers. The system is completely automated. An 80-gallon tank supplies the hot water. When the sun is not shining, the backup energy supply is natural gas.

The "passive" element is the house itself, designed to take advantage of sunlight. A wide overhang allows light to enter the front windows during the cool months when the sun is at its lowest level. In the warmer months when the sun is at highest point in the sky, the overhang blocks light from entering the house.

Mrs. Rothschild, a personnel specialist with the Boy Scouts of America, says the system runs by itself. "I never know it's there. It's silent, and, for some reason, our house doesn't build up dust."

The Rothschilds' solar consultant, Rick Brooke of Toms River, attributes the "dust-free" condition to the fact that furnace and hot water heater do not have to run frequently to keep room temperature at 72 degrees and water for bathing and washing dishes and clothes at about 115 degrees.

The solar system furnishes two-thirds of the heat and 80 percent of the hot water, according to meticulous records kept by Rothschild since he moved into the solar house in 1983.

"The house (on an acre waterfront lot) was a bargain at \$150,000 because of the solar feature," said Rothschild, a real estate management investment consultant. "We bought it from the original owner, who had a hard time selling it. People were afraid to get involved with something they weren't familiar with."

The house was designed for David Miller, a research chemist, by Highland architect Roy Bertelsen. The house was also "super-insulated," with 12 inches of fiberglass in the attic.

Brooke, who maintains the Rothschilds' active solar unit, has installed hundreds of solar hot water systems since the mid-1970s for Jersey Central Power & Light Co. "The Rothschilds' solar home is an excellent example of a system that has been running for more than 12 years without problems because it was properly installed and maintained," Brooke said. "Unfortunately, too many fly-by-night contractors gave solar a bad name over the past 15 years by charging too much money for inferior systems."

Brooke is the leading licensed solar installer in central and southern New Jersey, while his counterpart in North Jersey is Richard Bonte of Budd Lake. Bonte and Brooke have much in common. They are both college graduates with backgrounds in engineering. Brooke is a product of the University of Pennsylvania, while Bonte is an alumnus of Newark College of Engineering, which since has become New Jersey Institute of Technology.

Brooke founded Jersey Shore Solar in the mid-1970s at about the same time Bonte started up Solar Living. Bonte has installed more than 600 solar systems in New Jersey and eastern Pennsylvania. And since many "fast buck" solar contractors went out of business when federal solar tax credits expired in 1985, Bonte and Brooke find themselves working overtime to repair and replace faulty systems.

State officials responsible for solar energy conservation programs single out Bonte and Brooke for keeping solar alive in the 1990s.

"New Jersey needs reputable solar installers," said Robert Chilton, director of the electric division of the state

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Photo by Richard Rosenberg

Alan and Dianna Rothschild outside their North Brunswick home with solar collectors on roof. The house is among Jersey's oldest solar-heated homes

Solar returns to the scene as price of oil takes off

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Board of Public Utility Commissioners (BPU). "The public's perception of solar energy was damaged by some disreputable contractors. We need tougher standards and greater accountability from the solar contractors."

Bonte enjoys a distinct advantage in the solar marketplace: He manufactures his own solar panels, he installs them and guarantees them—and his company has been in business since 1977.

"We have sold our hot water and swimming pool kits to customers in Maine, Massachusetts, Connecticut, New York, South Carolina, Florida and as far as Arizona," Bonte said.

"We have also sold solar systems to Bergen Community College, Mercer County College and the County of Passaic for use at Camp Hope in West Milford and the Nature Center at Garrett Mountain," added Bonte.

More than 50,000 square feet of solar panels have been assembled by Solar Living.

"We have never had a complaint made against our firm either directly to us or to any consumer or government agency in the 13 years of business," Bonte noted.

Kevin Connolly, marketing representative for JCP&L, served as the utility's solar program coordinator between 1988 and 1990.

"We have been responsible for installing 1,420 solar hot water units in a franchised territory," Connolly said.

"We provided interest-free loans up to \$5,000, plus a \$500 rebate."

The loan program ended last year, but JCP&L has kept the \$500 rebate as an incentive to homeowners who heat their water with electricity.

Connolly thinks the company's solar program was a success, but he doesn't feel the utility's customers would have gotten involved without the loans and rebates and the fact that a major utility stood behind the solar installations.

Connolly credited Brooke for staying with solar energy and giving it a second chance in the '90s as the price of home heating oil soars.

"It's a workable supplement to conventional fuels," Connolly said.

The only hurdle in the path of solar energy in New Jersey has been the municipal building inspectors who have been unlawfully charging homeowners a permit fee for solar installations, according to Bonte and Brooke.

"Some towns charge building fees, others don't," Bonte complained. "The state must enforce that law."

Jay Johnston, public information officer for the New Jersey Department of Community Affairs (DCA), said municipalities are violating the law if they are charging permit fees for solar installations.

The DCA has jurisdiction over regulations governing municipal building programs.

The state also exempts solar systems from the municipal property tax.