

Real Estate

Published: August 27, 2006

In the Region | Connecticut

Saving Energy in High-End Houses



Douglas Healey for The New York Times

DESIGNED NOT TO GUZZLE Robert Gary at the house he is building in Weston. It has a geothermal heating and cooling system and, at far left, solar photovoltaic panels.

By **LISA PREVOST**

WESTON

As more people make the connection between fossil-fuel burning and [global warming](#), some home builders are testing the upper end of the market for environmentally conscious buyers who want high quality without the guilt of high emissions.

A 6,400-square-foot Craftsman-style house nearing completion here features a geothermal heating and cooling system, and solar photovoltaic panels that will provide about 30 percent of the home's energy needs. The savings in heating and electricity costs should keep total annual energy payments down to roughly \$2,500, compared with costs of at least \$10,000 a year for an oil-heated home of that size, according to the builder, Robert Gary, owner of the Little Mountains Building Company, based in Redding.

Listed at \$2.799 million, the house also uses Energy Star-rated windows, spray-in insulation that thwarts air infiltration, and an interlocking metal roof that reflects the sun.

Gail Zawacki, the listing agent in Coldwell Banker's Westport office, said the house has attracted considerable interest from builders. "I cannot tell you how many of them realize they have to go green," Ms. Zawacki said.

Nationwide, the number of builders using environmentally sensitive techniques and products increased 20 percent last year and is likely to grow another 30 percent this year, according to a survey by McGraw-Hill Construction and the National Association of Home Builders.

Mark Mazzola of First Choice Construction in Danielson has nearly finished a 6,400-square-foot colonial in Storrs also heated and cooled by a geothermal system, with an enhanced ventilation system to circulate and cleanse fresh air through the otherwise airtight house. Mr. Mazzola maintains that the house, listed at \$2 million, will save roughly 14,000 pounds of airborne pollutants annually compared with a heating system powered by fossil fuels. “I wouldn’t classify myself as a tree hugger,” he said, “but why muck up the environment if you can avoid it?”

Until recently, builders have been notoriously reluctant to experiment with green technologies like geothermal systems, which transfer the earth’s natural heat to the home through liquid-filled pipes looped horizontally about six feet under ground or hung vertically in one or more wells at least 200 feet deep. In summer, when the earth’s temperature is lower than the air, the same approach is used for cooling.

The process is still foreign to many builders, and “unfamiliarity is terrible in the construction trade,” noted Guy Wanegar, who has been installing geothermal systems for 12 years as part owner of the A&B Cooling and Heating Corporation in South Windsor.

Even when a builder suggests a geothermal system, most homeowners are wary because of the upfront premium that must be paid. Precise comparisons are difficult because geothermal systems both heat and cool, but in a new house, a geothermal system typically costs at least 30 percent more than installing high-quality oil-heat and central air-conditioning systems.

Michael Moran, a builder of custom homes in the \$400,000-to-\$500,000 range in the Mansfield and Storrs area, said that “geothermal is always on the table” in his initial interviews with clients. “We’ve come close many, many times,” he said, noting that the last system he installed was requested by, of all people, a Northeast Utilities employee. “But generally, its cost — people have shied away from it.”

Yet, the upper end of the market may be more receptive to these technologies as soaring energy prices enable homeowners to recoup their initial investment more quickly. Additionally, the technologies may ease the consciences of buyers seeking maximum square footage, enabling them to “maintain a certain standard of living but not to pollute,” said Mr. Gary, who estimates that the Weston house will use less energy than a house one-third its size.

Mr. Gary acted as his own general contractor in installing the geothermal system in Weston, to bring the cost down. He gleaned additional savings from the [Connecticut](#) Clean Energy Fund’s Solar Rebate Program, which subsidized \$25,000 of the \$40,000 solar photovoltaic system.

The solar photovoltaic panels sit on the perimeter of the two-acre property and are hooked into a metering program that feeds unused energy into the electrical grid so it can be used elsewhere. The panels are expected to generate an average of 18 kilowatt hours a day. (An average home uses about 700 kilowatt hours a month.) If the energy generated exceeds the amount used, the homeowners receive a credit on their electrical bill.

he house’s energy-saving features do not compromise its design. The five-bedroom home has a formal foyer with a main staircase, an Adirondack-style great room with a floor-to-ceiling stone fireplace and a dining room with an octagonally shaped coffered ceiling.

At the Storrs house, Mr. Mazzola sought additional energy saving by equipping the geothermal system with a “desuperheater,” which heats household water. Depending on the price of oil and other factors, the energy saving from a geothermal system typically covers the initial investment in about seven years, according to Mr. Wanegar.

After that, however, “it’s like putting money in your pocket every year,” Mr. Mazzola said. The annual cost of operating the system in Storrs is an estimated \$2,000, and servicing requirements are minimal.

Still, the learning curve for the systems is considerable. “The vast majority of people are grossly misinformed about what it is,” Mr. Mazzola said. “They think I’m building a geodesic dome or a house built into the ground. Or they think I’m drilling down to the mantle of the earth.”

So what does that lack of awareness do to resale value? It depends on the real estate agent, in Mr. Wanegar’s experience. An agent inexperienced with geothermal may price the property too low, or fail to explain it correctly. “It’s just in how you present it,” he said.

Mr. Gary is so sold on geothermal heating that he’s converting his own house in Redding and starting a company offering conversion services to homeowners. Though he does not yet have a buyer for the Weston property, another client has requested similar energy-saving features in a planned 8,500-square-foot home.

Other high-end home builders have yet to be convinced. “My experience still is that the people with money in Fairfield County want gas-guzzling cars and energy-guzzling houses,” said Peter Gaboriault, a partner in Bear Paw Builders, of Westport. When it comes to energy-saving technologies, he said, “they don’t want to pay for it.