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## Green house

**New home in Beverly has all the environmental bells and whistles**

**By Amanda McGregor**  
**STAFF WRITER**

From a rainwater collection system to automated energy-monitoring hardware, a new house in Beverly boasts a range of cutting-edge building technology.

The four-bedroom home, perched on a hill at 6 Beaver Pond Road, Beverly, is powered and heated by solar and geothermal technology. It has low-flow fixtures, an induction stove that uses magnetic energy to cook food and a refrigerator that consumes \$30 a year in electricity, to name a few "green" features.

"We tried to mingle all sorts of different concepts," said Michel Reichert, a venture capitalist who founded Cleantech Homes, the North Shore company that built it.

Company President Jim Farnham described the house as an "information and learning center" built to showcase various technologies and appliances, and test their efficiency.

"We wanted to build something people would want to visit and to learn from," Reichert said. "All of the schools in the region will be invited to come visit."

For at least six months, the house will be open to the public for guided tours for a fee. Beyond that, Reichert said plans for the home have not been determined.



Jim Farnham, left, and Michel Reichert talk about the house.

*Ken Yuszku*



A clear gas-fired fireplace contributes to the total heat output at the house at 6 Beaver Pond Road in Beverly. A local company called Cleantech Homes opened the newly constructed "ultra-sustainable home," which they are using as an information-and-learning center for sustainable building practices.

*Ken Yuszku*



A computer display screen used for monitoring and controlling various house functions is built into the hallway wall.

*Ken Yuszku*



The house is equipped with all LED lighting.

*Ken Yuszku*

"The information needs to be diffused to people," Farnham said.

Reichert said the project stemmed from a renewed interest in green technology, which had "fascinated" him in the 1960s and 1970s. He lives next door to the "green" house on Beaver Pond Road, a private, wooded street with large homes.

"There is no politics involved here," said Reichert, a native of France. "From the left and from the right, we all want to breathe clean air."

"The difference between today and the '70s is we have new environmental and geopolitical issues," Farnham said. "We know energy is limited."



The house at 6 Beaver Pond Road in Beverly.

*Ken Yuszkus*



The house has solar thermal retention tanks in the basement.

*Ken Yuszkus*

LED lights and galvanized roof

Farnham said Cleantech created the house, designed by architect David Jaquith, to be aesthetically pleasing, as well as efficient.

"It's not like living in a 1,000-square-foot, zero-energy glass box," Farnham said, "because we realized only 3 or 4 percent of the population might go for that."

A cast-iron shower is made from 89 percent recycled content, and the tile floors in the bathrooms and kitchen — which feature mosaic-like flecks of glass — contain 60 to 80 percent recycled material, according to Farnham.

The home's sustainable features include cherry floors harvested from northern Pennsylvania, and all-LED lighting, which uses less energy and has a longer life span than standard incandescent light sources.

"We have \$70,000 worth of LED fixtures," said Farnham, a builder who lives in Hamilton.

Those fixtures include colored lighting that dims and brightens in the family/media room, where electronic shades help capture solar gain in the winter and preserve air conditioning in the summer.

The house is insulated with closed-cell foam insulation that was sprayed in place, which provides "more than twice the performance and value than fiberglass" insulation, according to Farnham.

"It doesn't allow for air — it's a very, very tight building," Farnham said.

The roof shingles are made of stone-coated galvanized steel, which has a 100-year warranty, and there are solar panels atop it.

"Sixty to 70 percent of the electricity in the home is generated on the roof," Farnham said.

The deck is made of nontoxic, treated wood, and some lights are on motion sensors.

"You can hit a button on the way out and turn off all the lights in the house if you want," Farnham said. "Having these centralized items leads to energy efficiency."

And then there are some features that are just for fun — like an iPod dock in the wall and the bath in the master bathroom where water cascades from a chrome hole in the ceiling down into the bathtub.

The 4,600-square-foot house was furnished and outfitted, in part, with the help of sponsors. Wenham painter Joan van Roden White organized artists to display paintings throughout the home, Farnham said.

The systems are all automated, and there are small computer stations in the kitchen area where visitors can learn about the house.

A panel on the entryway wall provides up-to-date information on how much energy is generated and consumed.

"Everything the manufacturers told us, we are going to be able to verify," Farnham said. "That makes it very interesting for us."

Construction, which cost more than \$1 million, began in January 2009, according to Reichert. The house was designed to meet the qualifications for LEED Platinum certification, which is the highest marker of efficient and sustainable home construction recognized by the U.S. Green Building Council.

Newburyport resident Eric Thompson, who is also a partner in Cleantech, oversees the home's automation systems. Cleantech's vice president is Margaret Brady, who lives in Beverly.

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Want to visit?

If you're interested in learning more about the new Cleantech home in Beverly, visit [cleantechbuilt.net](http://cleantechbuilt.net). You can also sign up for tours on the website, which cost \$20 per person. There is a tour scheduled for Saturday.