

Total Green hopes to be future of home energy systems

Vision of White Sulphur Springs native

STORY AND PHOTOS BY DAN HUST

Talk about a vision statement. You'd think the owners of Total Green would be satisfied with reducing the area's dependence on fossil fuels. But company founder and managing director Paul Auerbach has goals far beyond that.

"I'm actually looking to make DX geothermal a household word," said Auerbach, a White Sulphur Springs native. "And I expect literally tens of thousands of people could be put to work installing geothermal systems."

DX geothermal is the term for a Direct Expansion heating and cooling system that uses the earth's natural retention of the sun's heat to comfortably ventilate homes and businesses.

"It's the next generation," Auerbach said of the system, which circulates an environmentally-friendly gaseous refrigerant (instead of water) in copper pipes buried 70 feet underground, where the temperature is a constant 52-53 degrees Fahrenheit.

Based in Monroe, Total Green has been installing this patented system – touted as being 30 percent more efficient than comparable technologies – all over the Hudson Valley recently, with 17 more installations planned in the coming months.

"We can't even keep up with the demand for this," Auerbach excitedly explained. "The phone constantly rings."

Calls are starting to pour in from Sullivan County as well, and if the federal or state governments start offer-

ing incentives for geothermal systems like they do for solar, Auerbach foresees a radical transformation in the way people heat and cool their living and working spaces.

"The key benefit is that people will no longer be purchasing fossil fuels," he said. "This could take us out of the current mess we're in. If the government would give us loan guarantees or better incentives, we could actually offset as much as 9 percent of our

total oil imports."

Claudia Barritt looks forward to that day. Though the accomplished, semi-retired musician will still need propane (for cooking) and electricity, she's installing a DX geothermal system to wean her Orange County home off expensive, inefficient and environmentally-unfriendly petroleum products.

"It's double what it was last year," she said of her fuel oil bill.

She chose Total Green, however, not just because it specializes in geothermal and photovoltaic systems, but because Auerbach and managing partner, Joe Dierna convinced her they could do the unusually complex job. "This is really a special house," Barritt remarked inside her Cuddebackville retreat.

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This fuel oil tank's days are numbered, thanks to a geothermal system being installed in Claudia Barritt's basement. Note the pink insulation being applied to the walls, which will make her home a "thermal envelope."

TOTAL GREEN: Setting a new standard

FROM PAGE 2P

Indeed – it's one of the oldest buildings in the entire region. Once called Fort Gumaer for the role it played in protecting the first white settlers of the Neversink Valley, the small stone cottage was built in 1753. The Delaware and Hudson Canal wouldn't pass nearby for another 75 years, and the home was well into its second century of existence before the now-extinct Port Jervis & Monticello Railroad cut a path through the valley.

In the 1930s, the former fort was renovated to include steam heat, but it lacks air conditioning to this day. The resulting humidity difficulties have plagued Barritt's sensitive musical instruments, though the three-foot-thick walls retain heat in the winter and cool air in the summer.

Auerbach and crew saw an opportunity not only to resolve Barritt's woes but set a new standard in geothermal technology. After all, if they could do it in a 255-year-old fort, they could do it anywhere.



The team that turned a 1753 fort into a 2008 marvel of energy efficiency takes a quick break on its front porch. Standing from the left are Total Green's Joe Dierna and Paul Auerbach. Sitting are Total Green's Diana Auerbach and homeowner Claudia Barritt, who's holding Cydney, her apricot poodle. Sauntering towards the camera on the left is one of Barritt's cats, a Norwegian Forest feline named Maxie.

Total Green: Setting a new standard

“We wanted to make something special happen here,” said Auerbach. By the time you read this, they will have achieved that goal, and Barritt will have happily bid farewell to her oil furnace and electric hot water heater.

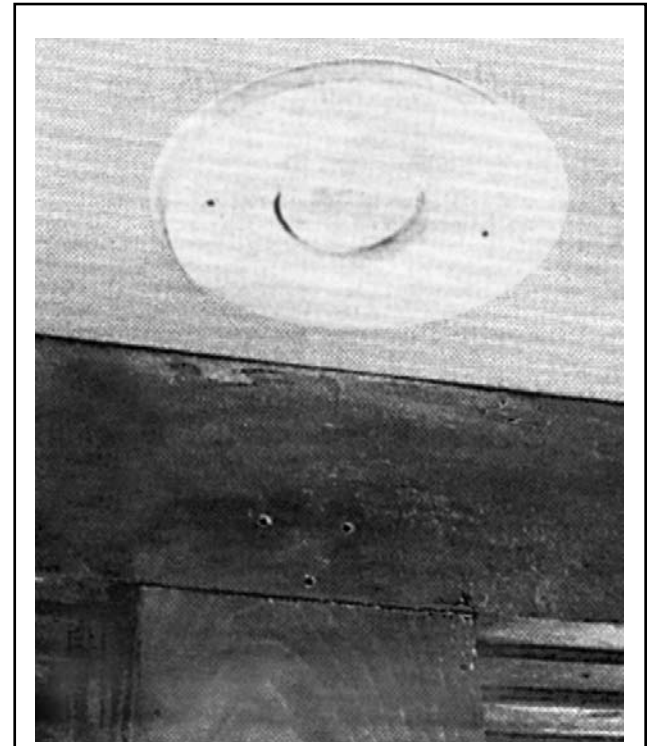
In just two weeks, Fort Gumaer has become what Dierna calls a complete thermal envelope, with air entering and exiting the stone structure at carefully controlled locations. Pink foam insulation covers even the nooks and crannies of the interior basement walls, while sprayable foam ensures seams and corners are airtight. Special whisper-quiet ducts designed to fit into small spaces direct a steady flow of air to each of the two main floors, while hot water is provided via a compact copper coil connected to the geothermal systems compressor.

The American-designed and built compressor is the only mechanical equipment inside the home, generating less noise than Barritt’s refrigerator - and avoiding the potential fire hazards offered by the furnace it replaced. Outside, a series of 10 3-inch-wide holes bored into Barritt’s lawn are no longer visible, with only a small patch of dirt evidencing the underground site where the copper pipes converge before heading into the basement. Flowers and shrubs will soon eliminate even that disturbance, and mowing and other lawn activities won’t damage the buried tubing, which is close to this particular house but can be located up to 100 feet away.

Barritt’s system can be expanded if she ever adds on to the house, and Dierna and Auerbach are proud to point out that they can customize the system to fit “99.9 percent of the homes and businesses in and around the Hudson Valley - even structures sitting on city lots offering no more than a 1Wx10’ drilling space. Barritt’s total outlay is around \$54,000, but she expects to recoup that in 7-8 years - even faster if energy prices continue to climb past record highs.

“I’m actually lowering my monthly costs,” she said, with Auerbach adding that every dollar saved will likely add \$20 in value to her home. She’s also played it smart, investing and saving money ahead of time to pay for the system (though Total Green offers financial assistance, as well). And, as Auerbach remarked, she’ll start saving as soon as the system is switched on. That’s thanks in no small measure to Dierna, who, with 25 years of experience in the construction business, made sure to introduce as many efficiencies into the process as he could - even going so far as to suggest the use of rainwater barrels to solve Barritt’s ongoing gutter issues.

Many locals know Dierna through his own company, Orange and Rockland Building Corporation, but he’s planning to make an even more noticeable mark through the year-old Total Green. That won’t be too hard, considering he’s the guy customers deal with to design their systems, and he’s also the one in



This tiny duct is designed to provide a high volume of air in a small space - necessitated by the unique construction of Claudia Barritt’s 255-year-old home.

charge of the 3- to 20-man crews that spend around two weeks installing the equipment. (He and Auerbach are also certified by the Building Performance Institute, or BPL)

Barritt, who is one step closer to her goal of self-sustainability, believes Total Green will indeed expand beyond its Monroe headquarters and Georgia office. “They put the whole plan in place here,” she said, gesturing to her home. “I think this company’s going to be very successful.”

Auerbach, its founder, is counting on it, pointing out that 40,000-50,000 people are switching to geothermal or solar energy every year. “The growth is exponential,” he related.

A marketing professional for most of his working life, Auerbach developed a relationship with the manufacturer of the DX geothermal system and realized technology had finally made it possible for people to cost efficiently live off the earth’s natural, endlessly renewable energy.

“I have such a passion for this,” he said. “This will change everything.”

To find out more, contact Total Green at 234-5002 or log on to www.TotalGreenUS.com



Fort Gumaer in Cuddlebackville is now the home of Claudia Barritt - and despite its age (255 years old), it features some of the latest geothermal technology in the area.