Green Living

Local woman harnesses the sun, says most homeowners can, too

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TROY — Sandra Vardine is a passionate woman, and she is especially passionate about property.

Four years ago Vardine bought three dilapidated brownstones in the city's Washington Park neighborhood and lovingly restored them. Back then the buildings called to her.

"It had to be done," said Vardine of the downtown restoration project that included the 3, 4 and 5 Washington Place houses. "The beauty of the buildings and the historic value had to be preserved. When they were built Troy was the fourth richest city in the country. I couldn't let those buildings go."

And though she's been happy living in one of the restored historic homes, more current events have aroused her passions once again and she's ready to move on. This time, however, her interest was peaked when she bought a contemporary 1960s dwelling in Brunswick that had been in foreclosure.

"I always new I wanted to explore the world of renewable energy. I've been really interested in wind and hydro turbines. This home just gave me the best opportunity."

"People really have to start looking at the world differently," says Vardine, who recently purchased the home and renovating it keeping the environment in mind. "I know the recent spike in oil prices woke people up but they really have to stay awake.

"You can spend $50,000 on a car and in three years that car won't be worth anywhere near what you paid. But you take that same $50,000 and put it into solar thermal amenities for your house and it will pay for itself."

The 8,000 square-foot, multi-level home has been retrofitted with a Viessmann solar thermal system that will keep the home toasty in winter using radiant floor heat. The solar panels, which are located in the back yard, will also heat an in-ground pool in the summer.

Terry Moag, owner of ***The Radiant Store Inc***., an RIT graduate who has been ahead of the curve in offering alternate and sustainable heating resources to area customers, says most people think of photovoltaic or PV when they think of solar energy.

"The difference between PV and solar thermal is that the PV contains silica which collects and stores energy and then coverts it to power; the thermal uses glycol, which is essentially antifreeze, to heat and store hot water. In terms of physics the energy stored in BTUs is the same if it is electric or hot water."

But in terms of actual usage and upfront costs, solar thermal is the most cost effective and easily accessible to most if not all northeast homeowners.

“Everyone pretty much has a hot water heater, and this would eliminate that heating bill immediately. After that you can do other things with the stored energy … in essence, energy stored can be put to use elsewhere. The computer tells the BTUs where to go.”

For example, excess BTUs in Vardine’s system may heat her floors in winter as well as heat her pool in the summer.

“It’s really a great way to heat a pool, especially considering the cost to do that with fossil fuel is just out of sight.”

In addition to the solar thermal heating, Vardine is also installing cedar siding, using sustainable flooring materials, bulking up on insulation, installing high-efficiency appliances and composting everything she can.

While the home is still “on the grid” because the Northeast has so many cloudy days, Vardine is confident the sun will do the lion’s share of the heating.

“The sun is free. And even in cloudy days like we’ve been having since we installed the system the water is still heating between 120 and 140 degrees.”

Moag says that while it’s important not to overstate the capabilities of harnessing the sun to produce home energy savings, the fact remains that domestic sales will be on the rise.

Spain and Germany already have laws mandating the use of these systems, says Moag, and as many as 85 percent of households in Spain and 95 percent in Germany already use thermal solar technology.

“The percentage who use this technology in the U.S. is small, but we are positioned to be the largest growth area in the market, especially now that the government is giving people incentives to use sustainable alternatives.”

According to Moag, the average solar thermal system costs about $7,000 to $9,000, however, federal and state tax credits reduces the number to about $3,000 to $5,000 for the average homeowner.

Vardine’s system, which is more involved than average, cost about $16,000 but will likely pay for itself in as little as three to seven years, he said.

Vardine also urges people to join her in making such changes when they embark on renovation projects of their own.

“Any house that uses baseboard heat can harness the power of the sun. And now is the perfect time to do it since NYSERDA and the federal government are offering 50 percent rebates to go green. … You can reduce your energy consumption by half and maybe more.”

Vardine expects her home to ultimately save her as much as 80 percent on her utilities costs.

“It’s time to look at reality. Cheap oil is a thing of the past and utilities never go down. We’ve really got no choice but to change.”

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