

# SHAKER LIFE

City of Shaker Heights, Ohio



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features



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Regular readers will notice there is a new look for Shaker Life beginning with this issue, the first in the City's Centennial year.





# here comes the Sun

As alternative energy systems become more practical and affordable, Shaker Life takes a look at how one local couple became dyed-in-the-wool converts to the solar option. *By Diana Simeon*  
*Photos by Alejandro Rivera*



**Brett and Annette Himes** at home with one of their energy-saving devices in the background. PHOTO BY JANET CENTURY

On sunny days, Annette and Brett Himes take great pleasure in watching their electric meter.

That's because chances are the meter is spinning backwards.

Last April, the couple installed 18 photovoltaic solar panels, which convert sunlight into electricity, on the roof of their Mercer-area home. When the panels are generating more electricity than the Himes are using, the system sends power back to the grid and, voila, the meter travels in reverse.

"I take people to show them it's going backwards. It's really fun," says Annette.

Solar? In Northeast Ohio? You bet, say the Himes and local advocates for solar, like Rob Martens, a Shaker resident and owner of Bold Alternatives, which set up the Himes' system.

"We know how much sunshine lands on Cleveland over an average year and it's enough to produce a significant amount of power," explains Martens.

The Himes installed their system in April, and within five months had generated almost two megawatts of electricity, enough to power an average home for 65 days.

And that's clean energy, unlike the electricity produced by coal-fired power plants; in fact, two megawatts of solar power is the equivalent of planting 35 trees.

By this April, the Himes anticipate that upwards of 20 percent or more of their electricity for the year will have been provided by the system. "On a really good

day, we are at 18,000 to 20,000 watts," notes Brett. "But even on a rainy day, we are still generating some power."

Flipping through a summer's worth of the couple's electric bills is certainly an envy-inducing exercise. During one of the hottest seasons on record – even with an air-conditioned home – the Himes' electricity costs never got higher than the low-to-mid double digits.

"Isn't it just cool to take free energy from the sun and power your house?" says Martens.

The Himes had been interested in solar energy for years, but it wasn't until they won a site review from Bold Alternatives at a summer benefit at the Nature Center at Shaker Lakes that the couple

discovered it was feasible for their home.

"Anytime I even broached the subject with somebody there was a 'but.' You have slate roof. You have lots of trees," says Annette.

Martens, who moved back to Shaker in 2001 – he also grew up here – and launched Bold Alternatives in 2007, saw things differently.

"Talking to Rob, it was, 'Well, that makes it more difficult, but we can do that,'" she explains.

Indeed, Martens had already installed solar panels on his own home, just around the corner from the Himes, and knew that it made economic sense, even in Northeast Ohio.

"It's straight math. From the site re-



view, we know how much power we can generate. Then it's a matter of saying this is what it's going to cost and this is how it's going to pay for itself," says Martens.

The review, which typically runs about \$300, shows how much electricity can be produced by solar panels at a residential site.

"You want to know where the shade is going to come from because we know where the sun is going to be everyday. The Greeks taught us that," jokes Martens. "So we measure the amount of shade to determine how that is going to reduce the power output. And then I take that and multiply by say 80 percent in order to get a conservative number because sometimes there is going to be dirt, pollen, or leaves on the panels."

The Himes did not want to cut down trees on their property, so Bold Alternatives determined that the couple's roof could accommodate at most a 4.1 kilowatt system. This means that at maximum output, the Himes' panels can gen-

erate just over 4,000 watts, or enough to power, say, more than 65 60-watt bulbs or run the refrigerator and several other appliances.

The couple decided to proceed and early last spring, Bold Alternatives installed the panels on the rear of the house, which faces south, over a couple of weeks. Ideally, solar panels should have a southern exposure, explains Martens.

Working with a company that specializes in slate, Bold Alternatives first attached footers to the roof. Next, the company placed rails across the footers. These hold the panels and inverters in place; the inverters take the direct-current power produced by the panels and convert it to alternating-current power, which is the type of electricity used in the vast majority of homes. Finally, Martens ran connectors down into the Himes' existing electrical system.

A panel in the garage shows how much electricity the panels are currently generating, as well as how much they've



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## Geothermal Gains Steam

These days, solar systems aren't the only way the City's residents are using alternative energy to help lower their utility bills.

Geothermal is also growing in popularity. In fact, this fall seven Shaker residences had geothermal systems installed, including the historic Van Sweringen mansion on South Park Boulevard.

Geothermal literally means heat from the earth and here's how it works: Solar energy from the sun is absorbed by the earth's crust. Geothermal systems for heating and cooling pump liquid through pipes to several hundred feet underground to absorb the stored heat and bring it back above ground to a heat pump that can be used to heat homes and water tanks. The system can also be used in reverse to keep a building cool. The same liquid and heat pump that captured the heat underground can absorb heat from within a building and cool it.

The system then pumps the absorbed heat back underground. The system works in a cycle and the ground acts like a battery. Heat is removed from the ground in the winter to heat the building, leaving a cool ground (empty battery) to accept heat removed from the building through the summer. At the end of summer, the warm ground (full battery) is ready to heat the building.

According to an alternative energy study commissioned by Shaker Heights last summer, geothermal can offer thousands of dollars in energy savings over the long term. Installation costs vary depending on the size of the building. The study estimates that for a typical single-family home, costs range between \$12,000 and \$30,000 after rebates and incentives.

While the study looked specifically at the alternative energy options for properties on Sutton Road and an apartment building on South Woodland Road, the information was designed to be generally applicable to a range of Shaker houses. The options explored are geothermal, solar photovoltaic, and solar thermal. The study is available at [www.shakeronline.com](http://www.shakeronline.com).

captured since the system was installed. A website allows the couple to track the system in even greater detail.

"It tells us all the basic data, every hour of the day. You can see it ramp up, then down if a cloud comes over or if it rains," explains Brett.

While the upfront cost of installing solar is certainly not cheap, it's decidedly in line with other major energy-saving improvements, such as replacement windows. "We would not have done this if it was just a luxury item," says Annette. "It makes a lot of sense."

A residential system with 3,000 watts capacity, or three kilowatts, costs about \$20,000. A federal tax credit covers 30 percent of that cost, which brings the price tag down to \$14,000. Over a typical year, a three-kilowatt system will save a homeowner several hundred dollars in electricity. In addition, the homeowner can send excess electricity back to a utility for a credit, which shows up on the bill.

And as an added incentive, for each megawatt produced, the homeowner can sell a Solar Renewable Energy Credit (SREC), which currently go for about \$300 each. Over their first year of having the panels, Brett and Annette will earn about \$1,000 by selling the SRECs from their system.

(SRECs, like stocks, are brokered commodities. Utilities and even speculators buy them through an exchange called the Generation Attribute Trading System. Utilities buy them to meet their state's Renewable Portfolio Standard requirements. In short, solar users get paid for letting utilities take credit for the clean energy produced. As a convenience, most solar retailers such as Bold Alternatives will aggregate SRECs for their customers and post them for sale.)

"We will reach break-even in seven or eight years," says Brett.

The Himeses also point out that the panels help them reduce energy consumption by simply making them more conscious of how much electricity they are using.

*continued on page 54*



WINTER  
SHOULD NOT  
BE THE SEASON  
OF YOUR  
DISCONTENT.



Most people shy away from putting their homes up for sale during the winter months. But Cathy LeSueur has many ways to encourage buyers to act and you can take advantage of her proven system. She'll present you with a detailed marketing plan that outlines what it will take to sell your home. She'll aggressively seek buyers through advertising, feature your home on the weekly TV Open House and post your property on the Howard Hanna website to ensure maximum exposure. Give Cathy a call today at 216-999-8408 and find out how easy selling your home can be.



"I applied for my first grant to help purchase materials for the newly formed Science Olympiad team that Gene Zajac and I had started a year earlier," he says.

In addition to participation in the robotics competition, Marencik has used Foundation monies to enhance the science and engineering curriculum for all his students.

"The grants have afforded these students the opportunities to compete at the highest level in various science and engineering competitions and to experience science, technology, engineering, and mathematics well beyond the normal scope of high school education."

He speaks for teachers across the district in believing that "enrichment activities made possible by the Foundation give our students a distinct advantage in the areas of knowledge and experience, and set Shaker apart from other school districts."

*Learn more about the Foundation and view a video about its work at [www.shaker.org/foundation](http://www.shaker.org/foundation).*

### School News Update *continued from page 15*

of its financial reporting and for its purchasing practices. The audit for the fiscal year ending June 30, 2010, is the latest in a long line of "clean" audits. The District recently garnered the Auditor of State Award with Distinction for its excellence in financial recordkeeping.

The Shaker schools have received similar awards of excellence in financial reporting for 12 consecutive years from the Government Finance Officers Association of the United States and Canada and the Association of School Business Officials.

In addition, the Ohio Schools Council recently recognized Shaker as an "exemplary saver" for its aggressive use of cooperative purchasing to get the best prices for products and services. Through participation in the Council, the School District receives discounts on electricity, natural gas, school buses, insurance, and other goods and services.

### Here Comes the Sun *continued from page 34*

"One of the most interesting things is that you very quickly modify your behavior because you are paying attention to it," says Brett. "It's kind of fortunate for us that our meter is in a very visible spot. You really notice a huge difference between the times it's zipping around, the times it's barely moving, and when it's going backwards. It really makes you think about the electricity you are using."

"For instance, when you walk out of the room and you leave the light on, it makes you think, 'Oh I should really turn that off,'" says Annette.

But during the height of the summer, the couple doesn't hesitate to turn on the air conditioning.

Nor should they, says Martens. "In the summertime you get much more production, so basically Annette and Brett get to use their air conditioning guilt-free."

### Laurel Richie Q&A *continued from page 37*

toward women. I promote leadership opportunities for girls, through both athletics and groups like the Girl Scouts. Working for the Girl Scouts reminded me of what I learned as one – discover, connect, and take action. That's leadership. The WNBA's mission of giving back to the community also is very attractive to me. We are all role models.

### *What have you been doing since you started with the WNBA in May?*

My first task was to hit the road, and I visited all twelve franchises in under two months. Our season runs May through October, including play-offs, and I am attending as many games as possible. I also have continued my speaking engagements.

### *What do you do for fun?*

I read a lot, and I travel the world in search of the most beautiful beaches. In case anyone wants to know, my current favorite is Shoal Bay on Anguilla.