Take Control of Energy Consumption

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They say that the only two things that are certain: death and taxes. But I've been in the energy business long enough to know that there is a third certainty – when temperatures plunge or soar, energy bills go up.

In the VEC service area temperatures typically start dropping dramatically in December and January. This prompts many of our members to call and ask why their December bill is so much higher than their November bill.

If the customer heats their home using electricity, the answer is pretty straightforward – the lower the outdoor temperature goes the more electricity a home's heating system must use to raise the indoor temperature to a comfortable level.

For example, if the outdoor temperature is 55 degrees and a home's thermostat is set to 68 degrees, the heating system must use enough energy to raise the indoor temperature by 13 degrees.

But if the outdoor temperature drops to 30 degrees, the home's heating system will have to use enough energy to raise the indoor temperature 38 degrees to maintain the same 68 degrees indoor temperature - that's almost three times as much energy.

Even if the homeowner lowers the thermostat to 60 degrees (way too cool for most people) during the cold snap, the heating system still must use enough energy to raise the indoor temperature by 30 degrees. That's still a lot more energy used than was used on the 55 degree day.

So when an energy consumer compares their November bill to their December bill, many times they are not comparing apples to apples. A more instructive comparison is to compare a December energy bill to another December energy bill – or to a month in which outdoor temperatures are more similar.

The link between weather patterns and energy use patterns is something we are well accustomed to working with at VEC and we are eager to help our member-owners take advantage of this knowledge to use less energy and lower their energy costs.

On January 15 we launched an array of online and mobile tools that includes an easy way to track electricity use by the hour, day, week, month, or year, and to match that electricity use with actual temperature data.

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When an energy consumer can see the correlation between weather and energy use, that consumer is empowered to take control and better plan their energy use and their energy costs.

At VEC we are here to help. It's as easy as visiting www.vec.org and registering at VE-Bill.

VEC Offers College Scholarships

Volunteer Energy Cooperative (VEC) wants to reward students who have used their time and talents to benefit their local communities. VEC's Lillard-Shadow scholarship program rewards academic and community service achievements by awarding four $2,000 scholarships to students who will graduate from high schools in VEC's service area in the spring of 2015.

The scholarships honor J.W. Lillard and Willis A Shadow, two community leaders who spearheaded efforts to bring electric power to Decatur and Meigs County in the 1930s, forming the organization that would become Volunteer Energy Cooperative. Mr. Shadow and Mr. Lillard were instrumental in improving the lives and livelihoods of thousands of residents through electric power.

Four awards of $500 per semester each (renewable for up to four semesters) will be presented to spring 2015 high school graduates whose parents or guardians are VEC electric customers. Applications will be judged by an independent panel based on each student's community service activities and citizenship - 40%; written communication skills – 20%; financial need – 25%; and academic achievement – 15%.

Scholarship applications are available at any VEC Customer Service Center or from high school counselors in the VEC service area. Applications are also available online at www.vec.org.

All application materials must be completed and delivered to VEC's Corporate Office in Decatur no later than 5 p.m. Eastern Time on March 6, 2015.

Delano Couple Proving Energy Efficiency Doesn't Rule Out Comfort

by Robert McCarty, VEC Communications Coordinator

You may think the term energy efficiency means shivering a lot, huddling around a candle at night, and eating plenty of raw food. Michael and Phyllis Barter can show you just how wrong that notion is.

On a wet, cold January day I found the Barters toasty warm in their expansive 3,800-square-foot-home that features large rooms, cathedral ceilings, 19 sun-welcoming windows on the main floor alone, high-end electronics, as well as three refrigerators and two freezers. Their November electric bill was $9.23. Yes, the decimal is in the right place.

How do they do it?

Well, the Barters will be the first to tell you – there is no one magic bullet.

"You can't do just one thing and expect it to work," Phyllis said.

Mike is quick to agree, "If you're just putting in solar panels and think you are going to zero out (on your electric bill) – you're not."

The Barters do have a 5 kV solar panel system that has produced a credit on their electricity bills during five of the past 12 months. By participating in TVA's and VEC's Generation Partners program they earn a little less than 21 and one-half cents for every kWh they produce.

At the time the Barters installed their panels, they were able to take advantage of a high premium that TVA paid for solar generation. Today's rates are substantially less under the new Green Power Providers program.

The solar panels and participating in the Generation Partners program are just the start, however. The Barters have taken a whole-home approach to energy efficiency.

Michael, an engineer who has worked on nuclear power plants in 28 different states including Watts Bar Number 1, decided that when he retired, he would build a net zero home and stop paying electric bills.

After many years of research into renewable energy and insulating concrete forms (ICF), they bought their property in Delano near the McMinn County – Polk County line in 2010 and broke ground on their home in July of 2011.

The Barters had plenty of experience with ICF. They assisted Mississippi homeowners who, in the wake of hurricane Katrina, were very interested in

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Mike Barter built the 5 kV solar panel system and is planning to add an additional 5 kV of capacity in Mid-February.

VECustomers Share
Your Change Changes Things

The VECustomers Share program funded $31,000 in community service grants in December. Since the inception of the program in October 2001, more than $5.1 million in grants has been awarded. The deadline for grant applications is the last day of each month. For additional information, contact the office of Marketing and Economic Development, at 423-334-7051. Applications are also available online, at www.vec.org.

VECustomers Share Board Member Barry Narramore, right, presents a grant check to Pam Byers, left, and Jean West of the Midway High School Band Boosters.

Organizations receiving grants in December

Prevent Child Abuse Tennessee, Hamilton County	$2,350
Meigs County Health Council	$2,100
Pickett County Rescue Squad	$2,000
Christian Counseling Center of Cumberland County	$1,500
Allardt Elementary School Accelerated Reader Support Team	$1,400
Polk County High School Technology Student Association	$1,400
United Way of McMinn and Meigs Counties	$1,250
Midway High School Band Boosters	$1,250
Ooltewah High School Band Boosters	$1,200
Spring City Toys for Children	$1,200
Central Outreach Center, Spring City	$1,050
Maple Grove Community Seniors, Harrison	$1,000
Monterey High School Basketball Booster Club	$1,000
Pine Grove Volunteer Fire Department	$1,000
Cumberland County Cardiac/Pulmonary Rehab Alumni	$1,000
Mountain Fire and Rescue, Crawford	$1,000
Polk County High School FFA	$850
Midway Hall of Fame Committee	$750
Kids on the Rise, Crossville	$650
Cumberland County TAD Center	$600
Homestead Elementary School PTO	$540
Sonshine Soup Kitchen, Crossville	$500
Crossville Youth Baseball and Softball	$500
The Etowah Arts Commission	$500
Tennessee Flash Senior Olympics Basketball Teams, Cleveland	$500
Monterey High School Project Graduation	$500
McMinn Central High School Future Business Leaders of America	$500
Valley View PTO, Cleveland	$500
Bradley Healthcare and Rehabilitation Center	$400
Meigs County High School Future Business Leaders of America	$310
Midway High School Positive Behavior Team	$300
Decatur Civitan Club	$300
Fentress County Relay for Life	$300
Athens Optimist Club	$250
Earth Awareness Club, Cleveland	$250
Roane County Knights Club	$200
Michigan Avenue School PTO, Cleveland	$100

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The Delano home of Mike and Phyllis Barter is a unique combination of energy efficiency and comfort.

the strength and safety of concrete walls. In addition to the added safety, the Barters were interested in the energy efficiency of the concrete walls.

The Barters were so impressed with the IntegraSpec brand of ICF, they bought a distributorship. The ease of construction was also a factor for Mike and Phyllis because they did more than 90% of the construction of their new home themselves.

For the roof, the Barters opted for Structural Insulated Panels (SIPs) made of eight-inch insulated foam sandwiched between layers of oriented strand board (OSB).

Their home also features a carefully calculated southern orientation to make the best use of sunlight, low-E thermal windows, an air-to-air thermal heat exchanger, a two-cycle heat pump, and a solar water heating system that not only provides hot water for the home but also produces most of the home's heating needs.

Mike said the heat pump runs about two-hours a day - and always on the lower cycle -even on the coldest days.

The solar water-heating system is comprised of two closed-coiled circuits. The outer coil circulates water through outdoor solar collectors that heat the water. The heated water is circulated into three 55-gallon barrels in an insulated box, within an ICF-walled room in the Barter's basement. Coupled with the more traditional 80-gallon water heater, the system holds 245 gallons of heated water that is utilized for heating and household use.

Solar collectors heat water for household use and for home heating at the home of Mike and Phyllis Barter in Delano.

The 5 kV photovoltaic system is made up of 20 solar panels and Mike says the two-year average of electricity generation is 493 kWh per month. Through the Generation Partners program, the Barters sell what is generated to TVA for the current consumer cost of electricity plus an additional incentive. The Barters have also taken advantage of tax incentives to help offset the costs.

But Mike is still hungry for more.

The Barters have been approved to expand the system and Mike plans to begin building and installing an additional 20 panels in mid-February. Mike is confident that he will be net zero and beyond with the expanded system.

"This will put us well over the edge," he said. "I've enjoyed the Generation Partners program tremendously. And I think it is cheaper for TVA to pay incentives than to pay for new generation."

Phyllis said she is particularly happy with the comfort of her new home and the cost benefits.

"I'm so cheap I'll pinch a nickel until the buffalo hollers," she laughed. Mike says he's pretty close to being that thrifty himself.

But it appears that with research, careful planning, some elbow grease, and a whole-home approach to energy efficiency, the Barters are satisfying their frugal nature without compromising on a comfortable home and cozy lifestyle.

For more information about how VEC can help you with your energy efficiency needs, visit www.vec.org.

QUICK TIPS:
Save Energy in the Laundry Room

The average family washes about 300 loads of laundry a year, spending about 68 cents per load, for a yearly expense of about $204. Most laundry room expenses come from heating water for washing and heating air for drying. But these costs are not set in stone: Avoid getting taken to the cleaners - try these tips to save money and save energy.

1) Wash as many of your clothes in cold water as you can.
2) Wash and dry clothes only when you have a full load.
3) Dry your second load of clothes as quickly as possible after the first load to take advantage of the heat that is already in your dryer.
4) Front-loading machines typically use two-thirds less water than top-loaders, reducing water and water-heating costs.
5) If you have the option, choose the faster spin cycle on your washer. The faster your clothes spin in the washer, the less time they'll need in the dryer.
6) Remove lint from the filters after every load. Clothes will dry faster – using less energy.
7) Consider hanging clothes on a clothesline or stand-alone drying rack and let nature help save you money.
8) If possible, locate your dryer in a warm laundry room rather than in a cold basement. The warmer the air is coming into the dryer, the less energy your machine will use to heat it up.
9) If you are in the market for a new washer and/or dryer, make sure your new machines are Energy-Star certified.

Tennessee Valley Authority (TVA)

Residential & Outdoor Lighting Fuel Cost Adjustment
Effective February 1, 2015

2.181¢

For the most current FCA information, visit www.vec.org

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