

# Co-ops could go far with better batteries

From an outside perspective, generating and distributing electricity may look a little like herding cats.

When power is needed, it must be instantly on hand. When it's created, it must be immediately moved to where it can be used. And because it can't be easily stored, supply and demand must be kept in perfect balance — a precise dance where a misstep could lead to an outage.

Unlike other utilities that manage tangible resources like water or natural gas, electric co-ops can't keep extra electricity on hand — power can't be stored in a warehouse or a large tank. It's safe to say that if we could — for example, if massive batteries were designed that allowed us to keep reserve megawatts at the ready — providing power reliably and safely would be significantly easier, and kilowatt-hours would be more affordable.

Stored electricity has several valuable uses. For one, renewable energy sources like wind and solar aren't always at the ready when electricity is needed. Wind often blows strongest at night when electricity demand is low. But if that unused energy could be stored and put to work the next day, a wind farm would be much more productive and cost-effective.

Stored energy could also give the electric grid a needed boost during periods of peak demand — the electric utility industry's equivalent of rush-hour

traffic, when people come home in the late afternoon and turn on lights, dishwashers and all the other comforts of

home. That spike in demand is currently met by switching on natural gas-fired generators, which are expensive to operate. A battery could do the same job for a lot less.

And a battery tucked beside the local substation serving your home could keep lights on should a power line leading into that substation fail. The whole process would likely happen without so much as a

lightbulb flickering, keeping you warm and comfortable while repairs are made.


Because of these potential benefits, electric co-ops are leading the way in searching for a better battery. The Cooperative Research Network, an arm of Arlington, Va.-based National Rural Electric Cooperative Association, is looking to put large-scale batteries to the test through three projects (in South Carolina, Alaska and Hawaii) that could win federal funding before the end of the year. Each would demonstrate how batteries could be used in different ways.

Success could lead to major breakthroughs. If the technology proves effective and affordable, electric co-ops could better stabilize the price of electricity and increase reliability. Herding those cats may one day be a little less complicated.



**Larry Elkins**  
General Manager  
Holston Electric  
Cooperative



Your Touchstone Energy® Cooperative 



Serving more than 30,000 customers in Hawkins and Hamblen counties.



1200 W. Main St.

P.O. Box 190

Rogersville, TN 37857

423-272-8821 423-235-6811

Web site: [www.holstonelectric.com](http://www.holstonelectric.com)

Church Hill office

Highway 11-W and South Central Avenue

Church Hill, TN 37642

423-357-6441

Russellville office

Highway 11-E

Russellville, TN 37860

423-581-2066

Office hours: 8 a.m.-5 p.m.

Monday-Friday

General Manager

Larry Elkins

Board of Directors

President: Otis Munsey

Vice President: William W. Bales

Secretary-Treasurer:

Danny Cockreham

Lynn Parker

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To report an outage or electrical

emergency, call

423-272-8821 or 423-235-6811

day or night.



## Happy Thanksgiving

All Holston Electric Cooperative offices will be closed on Thursday and Friday, Nov. 26 and 27, for the Thanksgiving holiday.

## HEC employees recognized for years of service

Employment anniversaries for 16 Holston Electric Cooperative employees were celebrated recently at the cooperative. The group had 197 combined years of experience ranging from first-year employees to a 30-year veteran.

Those receiving awards were Derrick Siclari and Michelle Simpson, one year; Bryan Allen, Misty Bland, Stacy Hayes, Deborah Ryans and Bryan Waters, five years; Rex Cole and Aundrea Johnson, 10 years; Pat Houck and Joe Trent, 15 years; Dennis Cupp and Iley Harris, 20 years; Don Morrell and Obie Seabolt, 25 years; and Larry Elkins, 30 years.



Employees who recently received service awards included, from left, Bryan Allen, Rex Cole, Derrick Siclari, Michelle Simpson, Deborah Ryans, Misty Bland, Aundrea Johnson, Stacy Hayes and Bryan Waters.

Maintaining a high quality of service and keeping rates low is due, in part, to the stability of employees who continue to do their jobs better and more efficiently as the years pass. The value of their experience cannot be underestimated. Their understanding of the business, their mentoring of younger employees and their ability to relate to existing and new customers are of tremendous value to the cooperative — customers and employees alike.

Congratulations to these employees, and thank you for jobs well done.



Also recognized for their years of service at the cooperative were, from left, Joe Trent, Pat Houck, Iley Harris, Obie Seabolt, Don Morrell, Dennis Cupp and Larry Elkins.

## Project Child Find



Local school systems provide services for special-needs children and young adults ages 3 years to 21 who reside within the system's district. If you have or know children who are currently not being served, please contact:

### **Rogersville City School**

Joy Rhea, Child Find coordinator, 423-272-7651

### **Hamblen County Schools**

Leann Mills, Child Find coordinator, 423-586-7700

### **Hawkins County Schools**

Melissa Reed, Child Find coordinator, 423-272-2168

# No Small effort toward going green

by Michelle Simpson, Holston Electric Cooperative communications specialist

**J**im Small of Church Hill is a true craftsman. As the owner of Small Wonders Lapidary, he carves and polishes precious gemstones, creating beautiful works of art. However, his love of the earth digs much deeper than just shiny minerals and spans into true environmental and ecological responsibility.

In 2002, Jim and his wife, Anne, moved from Trumansburg, N.Y., and Cape Cod, Md., to the hills of East Tennessee. Surrounded by the beauty of rolling farmlands, wild river gorges and rugged mountains, the Smalls basked in the natural wonders the local expanse had to offer. However, the property they purchased was once used for raising tobacco and timber-logging. The Smalls spent their first two years in their new Tennessee location trying to stop the degradation and repair the nutrient-stripped surface of the land. In 2005, their desire to do something more for the environment was put into action when the couple installed photovoltaic solar panels on the roof of their home to convert sunlight directly into electricity.

As participants in the Tennessee Valley Authority's Green Power Switch Generation Partners, a program that provides technical support and incentives for installation of renewable generation systems such as solar, wind, low-impact hydro and biomass, the Smalls initially



**Jim Small monitors the instruments that control the temperature of the water coming out of his solar water heater.**



**Jim and Anne Small not only help to reduce their carbon footprint by generating electricity with photo voltaic panels, they minimize their use of imported oil by driving electric vehicles like this low-speed electric truck whenever possible.**

installed 20 123-watt panels with two 3,700-watt inverters. When asked why they made the initial venture, Jim Small stated, "We used retirement savings to become more sustainable and self-sufficient in our lifestyle. We have all been very spoiled, and now it's time for a wake-up call."

He pointed to environmental markers such as the reduction in indigenous tree frogs, salamanders and spiders as prime examples of how the ecology of the area has deteriorated. And the Smalls believed that something needed to be done. For those folks who are interested in alternative energy sources, Small says, "Do it so you can breathe easier."

The couple's contributions to the environment did not end there. Small and his wife both purchased low-speed electric vehicles that run off battery power, and the original solar capital expenditure was quickly followed by an investment of 10 more panels with amplified production capability of up to 30 kilowatt-hours of electricity per day. Another progressive measure taken was investing in a solar water heater, which utilizes an additional four panels to warm the contents of a 120-gallon tank. Leaving no stone unturned, the Smalls took notice of a thermal energy possibility from brick on the southern portion

of their home. They built a room addition with a white, light-reflecting roof to combat the summer temperature issue. The room, with structural integrated panels and large glass windows, pulls in cool air on summer nights and collects sun-warmed air in the winter.

The Smalls' next effort to control their energy use included purchasing a kilowatt meter to identify which items within their home were consuming the most electricity. To their surprise, the home computer system and peripheral equipment such as a fax machine and printer were really devouring energy. Subsequently, they replaced the system with newer, lower-energy-use equipment. After examining the appliances in their own home, Small suggests to others, "Energy Star appliances are the only way to go."

As the Smalls have witnessed their own generation of electricity increase from around 200 kwh to almost 500 kwh and their consumption decrease through conservation, they plan to further enhance production with the addition of a vertical axis rotary windmill. Based on the latest technology, the new turbine should create usable power with 5-mph wind gusts coming in any direction. With one-third the set-up cost of a photovoltaic system, the Smalls believe the payback on wind generation will be more rapid than solar. Since the "green power" generated is purchased by TVA at a premium rate above retail price and any fuel cost adjustments, Small estimates that under the new Generation Partners contract a system like theirs will pay for itself in 14 or 15 years.



**This south-facing view of the Small home shows the photovoltaic panels on the roof and the room addition that helps to cool their home in the summer and maximize thermal storage in the winter.**

In September of this year, Small signed a renewal contract at Holston Electric Cooperative to remain a member of TVA's Green Power Switch Generation Partners. As participants in the program, the Smalls are doing their part to keep the environment clean and green.



## Lend a hand to a neighbor

**W**on't you help warm a neighbor's home by giving \$1 a month to Project Help? Many of your neighbors are suffering through layoffs and cutbacks in employment, are experiencing serious illnesses and high medical bills or have unexpected expenses that have drained their resources.

Project Help funds are distributed starting in December and continue through the winter season or until funds are depleted. Applicants are eligible for assistance from Project Help once a year, and the funds are applied directly to the recipient's electric account.

Please give a hand to a neighbor in need. Call or come by any Holston Electric Cooperative office to enroll in Project Help.

# Holston Electric Cooperative Inc.

## Balance Sheet/Income Statement for fiscal years ending June 30, 2009 and 2008

### Financial Position

	2009	2008
Electric Plant	\$83,296,389	\$80,773,868
Less: Depreciation Reserve	(31,030,465)	(29,039,151)
Total Electric Plant	52,265,924	51,734,717
Working Funds	4,249,941	7,028,388
Other Investments	1,185,538	1,123,995
Accounts Receivable	4,165,857	4,249,648
Materials and Supplies	620,887	662,459
Prepayments	3,672,011	25,305
Interest and Rent Receivable	390,190	366,030
Receivables — TVA Conservation Loans	1,888,582	1,772,053
Deferred Debits	2,466,866	3,120,173
<b>TOTAL ASSETS</b>	<b>\$70,905,796</b>	<b>\$70,082,768</b>
Membership Fees	\$143,760	\$144,085
Net Earnings to Date	49,209,516	47,825,191
<b>TOTAL EQUITIES</b>	<b>\$49,353,276</b>	<b>\$47,969,276</b>
Borrowed from RUS, CFC and Other	\$7,880,439	\$8,684,065
Advance from TVA — Conservation Loans	1,934,902	1,813,247
Accounts Payable	7,973,114	7,990,712
Current and Accrued Liabilities	2,812,544	2,585,396
Deferred Credits and Noncurrent Liabilities	951,521	1,040,072
<b>TOTAL LIABILITIES</b>	<b>\$21,552,520</b>	<b>\$22,113,492</b>
<b>TOTAL EQUITIES AND LIABILITIES</b>	<b>\$70,905,796</b>	<b>\$70,082,768</b>

### Operations

Operating Revenues	\$70,276,185	\$61,965,334
Less: TVA Purchased Power	57,398,386	49,001,086
Net Operating Revenue	\$12,877,799	\$12,964,248
Expenses:		
Operations, Maintenance, Etc.	\$6,975,383	\$6,877,715
Depreciation	2,816,504	2,665,558
Taxes	939,159	985,902
Interest	762,428	795,747
Total Deductions	\$11,493,474	\$11,324,922
Revenue Less Expenses	\$1,384,325	\$1,639,326
Extraordinary Items		201,439
<b>* NET MARGIN</b>	<b>\$1,384,325</b>	<b>\$1,840,765</b>

\* This \$1,384,325 was used during the year to build new lines, increase the capacity of the old lines and reduce long-term debt.

*Financial statements audited by Rodefer Moss & Co., Greeneville, Tenn.*