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Green Power Switch is a renewable energy initiative that offers consumers in the Tennessee Valley a choice in the type of power they buy. TVA and local public power companies, working in cooperation with the environmental community, developed Green Power Switch as a way to bring green power—electricity that's generated by cleaner, renewable resources like solar, wind, and methane gas—to Valley consumers.

Green Power Switch is sold to residential consumers in 150-kilowatt-hour blocks (about 12 percent of a typical household's monthly energy use). Each block adds \$4 to the customer's monthly power bill.

For more information, visit www.greenpowerswitch.com.

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Green Power Switch®

Construction nears completion on new wind turbines

Wind energy will become a major source of power supply for Green Power Switch when construction is completed on 15 wind turbines at Buffalo Mountain near Oak Ridge in east Tennessee. The 27-megawatt wind facility is being built by Invenergy Wind LLC. TVA will purchase the turbines' output and make the power available to meet the growing demand for Green Power Switch renewable energy.

"With the addition of this new wind generation, TVA and participating distributors will be able to quickly catch up with demand for green power in the Tennessee Valley," says Jim Keiffer, Senior Vice President of Marketing at TVA. "In fact, after we meet our current green power obligations, we will have surplus available for new and current subscribers who wish to join or increase the amount of green power they buy for homes or businesses."

When the wind turbines are all operational, TVA will have a total green power generating capacity of approximately 88 million kilowatt-hours.



Blowin' in the wind

Cliff Elder, a member of Mountain Electric Cooperative (MEC), is the first person in the Tennessee Valley to produce wind power for the Green Power Switch Generation Partners program.

Elder's 20-kilowatt Jacobs wind turbine is located on Beech Mountain, North Carolina, which has average annual wind speeds of 16 to 18 miles per hour. The turbine's performance will be monitored as part of a research project called the North Carolina Small Wind Initiative, a collaboration between the State and Appalachian State University. The Initiative will test a variety

of residential-scale wind turbines on their reliability and cost-effectiveness.

"I can't say enough about Mountain Electric and TVA's help with the project," says Elder. "All I had to do was ask, and I received immediate assistance."

MEC began offering GPS Generation Partners in August 2004. "Since Mountain Electric's service area in Tennessee and North Carolina has one of the best areas for wind generation in the eastern U.S., I think we have a wonderful opportunity to take advantage of it," says John Hartley,

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Suggestions?
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—Gary Harris

Program Manager

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TVA environmental report

As a public power provider and steward of the Tennessee Valley's natural resources, TVA has broad environmental responsibilities. The agency's environmental report for 2002-2003 outlines TVA's successes and challenges in improving air and water quality, providing renewable energy sources, and protecting shoreline and wildlife resources. There's also a Q&A with the TVA Board of Directors. Read it at

www.tva.com/environment/reports.

Upcoming Events

GPS Generation Partners, Sevier County Electric System, and the Southern Alliance for Clean Energy are sponsoring a free seminar on the installation of wind energy systems on Thursday, November 11, from 9:30 a.m. until 1:00 p.m. EST at the Civic Center, 120 Gary Wade Blvd., Sevierville, Tennessee. To register, contact Carmen Copeland by November 10 at cacopeland@tva.gov, or 615-232-6724. Lunch will be provided, so please include the number attending.

The Second Annual Southeast Student Renewable Energy Conference will be held at the University of Tennessee, Knoxville, at the Campus Information Center, February 18 - 20, 2005. For more information, go to <http://energyconference.utk.edu>.

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MEC's Director of Customer Service and Economic Development. "It allows us to have a positive impact on our environment, and we are proud to offer GPS Generation Partners as a way to help advance small-scale wind energy in our region."

The Generation Partners demonstration project is open to new participants through December 31, 2005. Participants receive a credit on their power bill of 15 cents per kilowatt-hour for green power produced from qualifying solar or wind energy generation systems.

Residential consumers may also be eligible for a one-time incentive payment of \$500 from TVA for participating. For more information see www.gpsgenpartners.com.

Building bridges to solar generation

Memphis is home to the first grid-connected solar photovoltaic system in west Tennessee. TVA has partnered with Memphis Light Gas and Water (MLGW) and Bridges, an Uptown Memphis organization, to set up the system.

The solar power array is located on the roof of the new Bridges facility in the Uptown redevelopment area north of downtown Memphis. Bridges, a nonprofit youth leadership training organization, empowers young people through a variety of training programs.

The state-of-the-art Bridges facility, which replaces several smaller sites throughout the city, was designed with a focus on kids, education, and environmental awareness. Inside the

building is a 40-foot climbing wall and a team-building ropes course as well as classrooms, workshops, and office areas. The environmentally friendly design features solar water heating, in-duct ultraviolet germicidal irradiation, daylighting, natural ventilation, and a variety of recycled building materials.

The solar array has 176 photovoltaic modules and can produce about 46,000 kilowatt-hours of electricity a year, or more than 300 blocks of electricity for Green Power Switch customers. The energy generated at the site goes into the distribution network of MLGW, then to the TVA power grid.

MLGW plans to offer Green Power Switch to customers in spring 2005.

Mississippi welcomes green power project

TVA and Prentiss County Electric Power Association celebrated the start-up of the first consumer-owned generation system in Mississippi to supply green power to the TVA system at a recognition event on October 18.

The hybrid solar and wind system, installed at Willie Hatfield's residence in the Thrasher community, will supply 100 kilowatts-hours of power a month to the TVA system through the GPS Generation Partners project.

"We welcome the Hatfields as the first GPS Generation Partner in Mississippi," said TVA Chairman Glenn McCullough Jr., who praised Prentiss County EPA for being one of the first distributors to join the demonstration project. "Not only does Prentiss County EPA provide the vital link between the technology, the TVA power grid, and the consumer, but it also provides the technical expertise to ensure that the green power is delivered effectively."

Home-made electricity

Three more Tennessee homes are producing power and selling it to TVA. They're part of Green Power Switch Generation Partners, a demonstration project that pays consumers to produce electricity from renewable sources and supply it to TVA.

The new participants are customers of Lenoir City Utilities Board (LCUB). LCUB's first GPS Generation Partners home was built by Habitat for Humanity under the direction of the Department of Energy's Rebuild America program. These Zero Energy Buildings return as much energy to the power grid as they consume. They combine advanced energy-efficiency construction

techniques and renewable technologies to minimize energy usage. The green power produced from the two-kilowatt solar systems on the houses is purchased by TVA and supplies power for TVA's Green Power Switch program, which is offered through LCUB.

The first Zero Energy Building shows a 65 percent energy savings after one year compared with a similar-size home in the same neighborhood. The house used over 9,000 kilowatt-hours (kWh), but it generated 2,000 kWh from its solar panels, yielding a net purchase of only 7,000 kWh. This represents a total energy cost of only 82 cents per day,

or less than \$300 a year.

The use of more advanced technology will ensure that the three new GPS Generation Partners homes are even more energy-efficient than the first. One of the homes has a geothermal heat pump, which uses heat from the earth to warm the indoors. Preliminary data indicate that it resulted in a 15 percent reduction in energy costs. In addition, a newer generation of solar panels produced 10 percent more energy than the panels on the first house during one recent month.

Generation update

Solar power sites

Generation July 1, 2004 - September 30, 2004

Adventure Science Center	10,763 kWh
Dollywood Tram C	3,249 kWh
Dollywood Tram D/E	3,260 kWh
Gibson County High School	7,833 kWh
Ijams Nature Center	5,166 kWh
Cocke County High School	3,738 kWh
Duffield-Pattonville Elementary School	3,537 kWh
Sci Quest/North Alabama Science Center	11,861 kWh
American Museum of Science & Energy	5,959 kWh
Lovers Lane Soccer Complex	10,728 kWh
Finley Stadium	28,820 kWh
Oak Ridge National Laboratories	0 kWh
Florence Water Treatment Facility	13,373 kWh
University of Mississippi	13,980 kWh
Mississippi State University	6,734 kWh
Bridges, Memphis	2,595 kWh
Generation partners	2,129 kWh
Total solar generation	132,221 kWh

Wind power site

Generation July 1, 2004 - September 30, 2004

Buffalo Mountain Wind Park	477,569 kWh
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Methane gas site

Generation July 1, 2004 - September 30, 2004

City of Memphis Wastewater Treatment Facility	11,527,130 kWh
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Participation update

Total number of green power blocks subscribed:	22,372
Number of residential customers subscribing:	7,198
Average number of green power blocks per residential customer:	1.7
Number of business customers subscribing*:	334

*For a list of participating business customers, please visit www.greenpowerswitch.com.

Business in the spotlight: Sir's Fabrics goes green

Sir's Fabrics of Fayetteville, Tennessee, will purchase nine blocks of clean, renewable energy from Fayetteville Public Utilities, a distributor of TVA power, becoming FPU's first Green Power Switch commercial account.

Sir's GPS purchase equals 1,350 kilowatt-hours of renewable energy produced each month. That's equivalent to recycling 2,160 pounds of aluminum or nearly 8,000 pounds of newspaper a year.

Founded in 1948, Sir's has become a Fayetteville landmark, drawing shoppers from the region as well as surrounding states.

The business is currently operated by Ken Mackay, son-in-law of store founder Joe Sir. "I learned a lot from Mr. Sir and the way he ran this business," says Mackay.

Not only did Joe Sir take a small dry-goods store and turn it into one of the largest fabric outlet stores in America, according to Mackay, but he also played a vital role in negotiations with the Tennessee Valley Authority to bring flood control to Fayetteville in the early 1970s.

"People who grew up in this community still come by to thank Mr. Sir for what he did years ago," says Mackay. "Without his concern

and help, they say, many of our streets would continue to flood."

Joe Sir's care for the community and the environment is being carried on by the second generation of owners through their participation in Green Power Switch.

"You've got to start somewhere," Mackay explains. "We have to take a chance on finding alternatives for fossil fuels. In a generation or two, those fuels may be depleted. Finding alternative energy generation is part of the solution, and that's why Sir's Fabrics is teaming up with TVA and FPU to support the Green Power Switch program."

www.greenpowerswitch.com

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