

energizing

May 2012
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Arkansas

Focusing on sustainable, cutting-edge & renewable energy alternatives

Quality
PROclean™ Gasolines

Compressed Natural Gas

coming soon to
Little Rock and Conway

Power company adds

wind energy

Solar energy industry
still needs incentives

Cover: Wendell Jones, Little Rock's director of fleet services, is in negotiations on behalf of the city to buy a gas station to convert into a compressed natural gas station open to the public.

Compressed Natural Gas comes full circle as alternative fuel choice

Wendell Jones has seen the demand for compressed natural gas come full circle as an alternative fuel choice for vehicles. Jones, Little Rock's fleet services director, is in negotiations on behalf of the city to buy a downtown gas station that sold compressed natural gas during the 1980s, a time when the country looked for an alternative fuel because of rising gas prices.

"That was a little before its time," Jones said, as the CNG pump eventually disappeared due to a lack of interest. But because the infrastructure is still in place, Jones said Little Rock wants to purchase the station off I-30 and once again sell CNG to the public. Little Rock would be one of five stations across the state to publicly sell CNG.

The plan is part of a larger effort to establish more CNG stations, as the fuel is once again rising in popularity.

In January, Arkansas awarded two grants to encourage CNG stations – \$235,000 to Little Rock and \$235,000 to Satterfield Oil. Satterfield Oil plans to add CNG pumps to a gas station it owns in Conway off Arkansas 64.

Awarded by the Arkansas Energy Office, \$70,000 of the one-time grants came from Senate General Improvement Funds and \$400,000 from Oil Overcharge Funds. The \$400,000 was the last of Arkansas' overcharge funds, money from court settlements with petroleum com-

panies accused of overcharges during tight oil supplies of the 1970s and 1980s.

The state is promoting CNG because it decreases dependence on foreign oil and "is more economical for fleets," said Kelly Volin, Arkansas Clean Cities Coordinator for the Arkansas Energy Office. CNG also offers a cleaner burn than gasoline, producing significantly lower amounts of harmful emissions and greenhouse gasses.

The Arkansas Energy Office previously focused on the general public through a program that offered rebates of 50 percent of the CNG conversion cost, or incremental cost of buying new CNG vehicles. But there were few stations where the public could fill up.

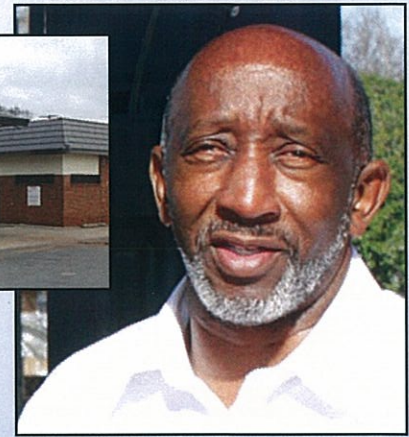
"While other parts of the country have had time to fully develop an adequate natural gas fueling infrastructure, Arkansas' is still young," Gov. Mike Beebe said in January when the grants were announced. "But, with



Eric Stanage, an AT&T U-Verse technician, fills up his work van's tank with pressed natural gas at North Little Rock's CNG station. He paid the equivalent of \$1.44 per gallon. Stanage's van is part of a large AT&T fleet of vans that solely run on compressed natural gas.



Wendell Jones (right), Little Rock's director of fleet services, is in negotiations on behalf of the city to buy this Fuel Man gas station off Interstate 30 at Ninth Street in downtown Little Rock and reopen it as a public compressed natural gas station. The Fuel Man does not currently have compressed natural gas, but it did at one time in the 1980s.



the completion of these two new stations, it will be more practical for fleets to use natural gas.”

The two new stations are expected to open by February 2013. Jones said he hopes by then Little Rock will have added more CNG vehicles to its existing two-vehicle fleet. “I would seem to think by the end of the year, we would love to have 30 or more vehicles that have been converted to CNG. We’re going to try and touch every department we possibly can,” Jones said.

The city didn’t have a figure for how much it will spend on buying the station or CNG vehicles, but Jones is a big proponent of the idea. “I think it’s the way we should have gone a long time ago,” Jones said. “I think it’s going to be good for our country and city and environment, and also for our kids and grandkids. We have just got to start doing things different for our environment and our dependence on foreign fuel.”

For Satterfield Oil, becoming a CNG distributor is about getting ahead of the market. The company owns four gas stations and supplies oil to another 25. “CNG is a transportation fuel now and that’s what we do,” said Branch Satterfield III, who sees a lot of potential in CNG, especially because of the Fayetteville Shale. “We want to try and get out in front of the herd, so to speak, and try to take advantage of it.”

The company doesn’t own any CNG vehicles, but Satterfield said that will likely change after investing \$500,000 to \$700,000 in the project, including the state’s grant. “There’s a lot of interest in it but there’s not a lot of vehicles, so we have to go out and develop this market, get some commitments and show that it is profitable,” he said.

CNG stations in the state are already being used by some work fleets. At North Little Rock’s

CNG station, which opened to the public in August, Eric Stange spent \$17.51 to fill up his AT&T work van — the equivalent of \$1.44 per gallon.

By looking at the unmanned station’s receipts, North Little Rock’s Nathan Hamilton can also tell “there are some folks with rural vehicles that have come. They can now come into town and use [the station] rather than relying on their slow-fill at their house.”

Hamilton, director of special projects, said receipts from September to November 2011 reflected 315 non city fill-ups. “It’s definitely been worth it,” Hamilton said. “The city did it to provide options for residents and visitors of North Little Rock. ... It’s a cleaner and cheaper fuel. It’s American made. We don’t import it from countries that just don’t like us too much.”

Other public CNG stations are in Fort Smith and Damascus.

It’s cleaner and cheaper fuel. It’s American made.



Solar energy looks promising but incentives still needed for industry to grow

The solar industry needs more time to develop a market in the United States before it evolves into a subsidy-free industry, solar experts said at a recent panel on the subject at the Clinton School in Little Rock. “We all need to face reality. In America, all power sources have been incentivized,” said Joe Thomas, president and CEO of MAGE Solar USA.

Thomas and two other panelists spoke in February about the continued need for incentives to grow the industry and about how solar applications have become more mainstream, specifically to produce electricity.

Over a period of two years, Arkansans took advantage of a renewable energy technology rebate to add 121 solar installations throughout the state. The installations added 843 kilowatts of capacity to the grid, according to the Arkansas Energy Office, which administered the rebates. That was a 400 percent increase over the past decade as a whole.

Arkansas receives an average to higher-than-average amount of sunlight than other locations in the world, an ideal situation for solar use, Thomas said. If Germany, a cloudy and cold country, can lead the world in solar power use, Thomas said, then Arkansas and the United States can do just as well in capturing sunlight and turning it into electricity or heat.

But the main reason it hasn't taken off in the United States is that the cost of installing solar panels remains too high for many people, the panelists said. The solar Renewable Energy Credit commodities market, a popular way to offset the



John Smirnow, center, speaks at a March 12 panel on solar energy opportunities at the Clinton School of Public Service in Little Rock. Douglas Hutching, left. Joe Thomas, right.

cost of installing solar power, has seen a drop in credit prices sold over the past year. However, solar panels are becoming more efficient and cheaper to produce.

Creating an incentive in Arkansas of some kind, such as establishing a renewable portfolio standard for utilities, could entice more manufacturing of solar panels in Arkansas, said Douglas Hutching, CEO of Silicon Solar Solutions in Rogers.

Manufacturers need a “vote of certainty” or a “strong signal” from the government to show its commitment to solar power, said Hutching, whose startup business was created in an effort to cut the cost of silicon materials used in solar cells and panels.

The solar industry can be a job creator, said John Smirnow, vice president of trade and competitiveness for the Solar Energy Industries Association.

The job market is not only about producing solar panels, Smirnow said. There's a larger supply chain – the gravel needed at solar array sites has to come from a quarry; The silicon in the panel is produced by some company; the chain link fence that might surround a solar array is installed by a worker.

The industry could create jobs from the roofing industry to forklift operators, Smirnow said.

Video from the panel discussion and other talks on renewable energy can be found on the Clinton School's speaker series website, www.clintonschoolspeakers.com.

Arkansas used rebates to add 843 kilowatts of capacity to the grid.

PUBLIC POLICY

The United States lacks a comprehensive energy policy, leaving states to carve out their own plans for renewable energy development and incentives to attract clean energy jobs. Earlier this year, Gov. Mike Beebe tasked several state departments with developing an energy strategy for Arkansas.

Beebe said he is focusing on an energy strategy to not only meet Arkansas' future energy needs but to put the state in a position to compete in the growing "clean energy" industry. "I believe you would agree that if our state is to participate in this economy, it is incumbent upon us to begin this journey now," Beebe wrote in a Jan. 24 letter introducing the new effort.

The Arkansas Economic Development Commission, the Arkansas Public Service Commission and the Arkansas Department of Environmental Quality are leading the effort that may lead to proposed legislation or state policies.

The partners surveyed more than 100 nonprofits, industry officials, educational institutions and others on their opinions of energy issues. The survey asked participants to rank the state's ideal energy portfolio and for input on addressing energy challenges.

In terms of initiative, Arkansas is already behind, said Tom Riley, director of the University of Arkansas Division of Agriculture Public Policy Center. "States surrounding us have seized advantage in both financial development and research capacity," Riley said.

Although the state is behind in some ways, Riley said Arkansas can learn and benefit from its proximity to crop and technology development in surrounding states. "The MFA-based Missouri Miscanthus Biomass Crop

Assistance Program project has an Arkansas footprint. Tyson Foods, Inc. is working with Oklahoma bioenergy firm Syntroleum, Louisiana-based Dynamic Fuels, LLC and the U.S. Navy and Air Force to produce a high-quality fuel from animal fats and used cooking oils. Arkansas has also supported the development of a wind energy technology and manufacturing capacity that is being exported to regions of high potential for wind power," he said.

Arkansas also has plant- and animal-based resources to contribute to syngas and bio-based liquid motor fuel production, Riley said. "Additionally, the state's new natural gas production capacity, while not renewable, offers a clean energy bridge to a better long-term future. We can lose the advantage of learning from the experiences and mistakes of others if we do not pay attention to the details," he said.

The final form and content of the state's energy strategy hasn't been set yet, said Chris Benson, energy policy advisor for the Arkansas Economic Development Commission's Arkansas Energy Office. A rough draft, expected by late spring, will address the path to meeting the governor's goals, he said.

The partners will have to move fairly quickly, Benson said, so they can form proposed policies by the 2013 legislative session.

A state energy strategy is something Benson's office is being asked about more often. "The economic development folks have said if we want prospects to come to the state, then those prospects need to view Arkansas as friendly to sustainable planning and development, green initiatives," he said. "Then at the same time, the Public Service Commission with its utility responsibilities and ADEQ with its environmental responsibilities, it's all coming together and there's a synergy being recognized by the governor's office."



STATE OF ARKANSAS

MIKE BEEBE
GOVERNOR

January 24, 2012

It is clear that we are moving toward a new economy marked by clean energy jobs and sustainable development. I have asked the Arkansas Economic Development Commission, the Arkansas Public Service Commission and the Arkansas Department of Environmental Quality to lead a collaborative effort to develop an energy strategy for the State of Arkansas. I believe that if our state is to participate in this economy, it is incumbent upon us to begin this journey now. The Energy Plan will help us to manage the

Power Co. adds renewable source

Wind energy will help environment and economy

Southwestern Electric Power Co. recently signed multiple renewable energy power-purchase agreements as part of a settlement to end legal challenges to a coal-fired power plant under construction in southern Arkansas.

The December settlement with the Sierra Club, National Audubon Society and Audubon Arkansas ended a four-year battle over the construction of SWEPCO's John W. Turk Jr. Power Plant near Texarkana, Ark. The \$2.1 billion plant is near completion and is expected to start operation this year.

The settlement called for retiring an older Texas plant that burns coal containing higher concentrations of sulfur, as well as an agreement not to build additional generating units at the Turk site. SWEPCO also agreed to add wind power to its portfolio, something the Sierra Club saw as a win for Arkansas.

"This renewable energy is going to create a lot of good jobs for the people who are producing the power and also the people who are producing the wind power blades," said Glen Hooks, senior campaign representative for Sierra Club's Beyond Coal campaign.

Hooks said it's a misconception that a state has to choose between the economy and the environment. "Were saying you can have both a healthy economy and a clean environment," Hooks said.

SWEPCO signed long-term power purchase agreements for 358.65 megawatts of renewable energy from wind sources in Kansas, Oklahoma and Texas. Including power purchase agreements of its affiliates, SWEPCO has already exceeded the settlement's requirement for renewable energy and now has a total of 407.85 megawatts secured for the next 20 years. With these

agreements, SWEPCO has 407.85 megawatts of wind power available at any time.

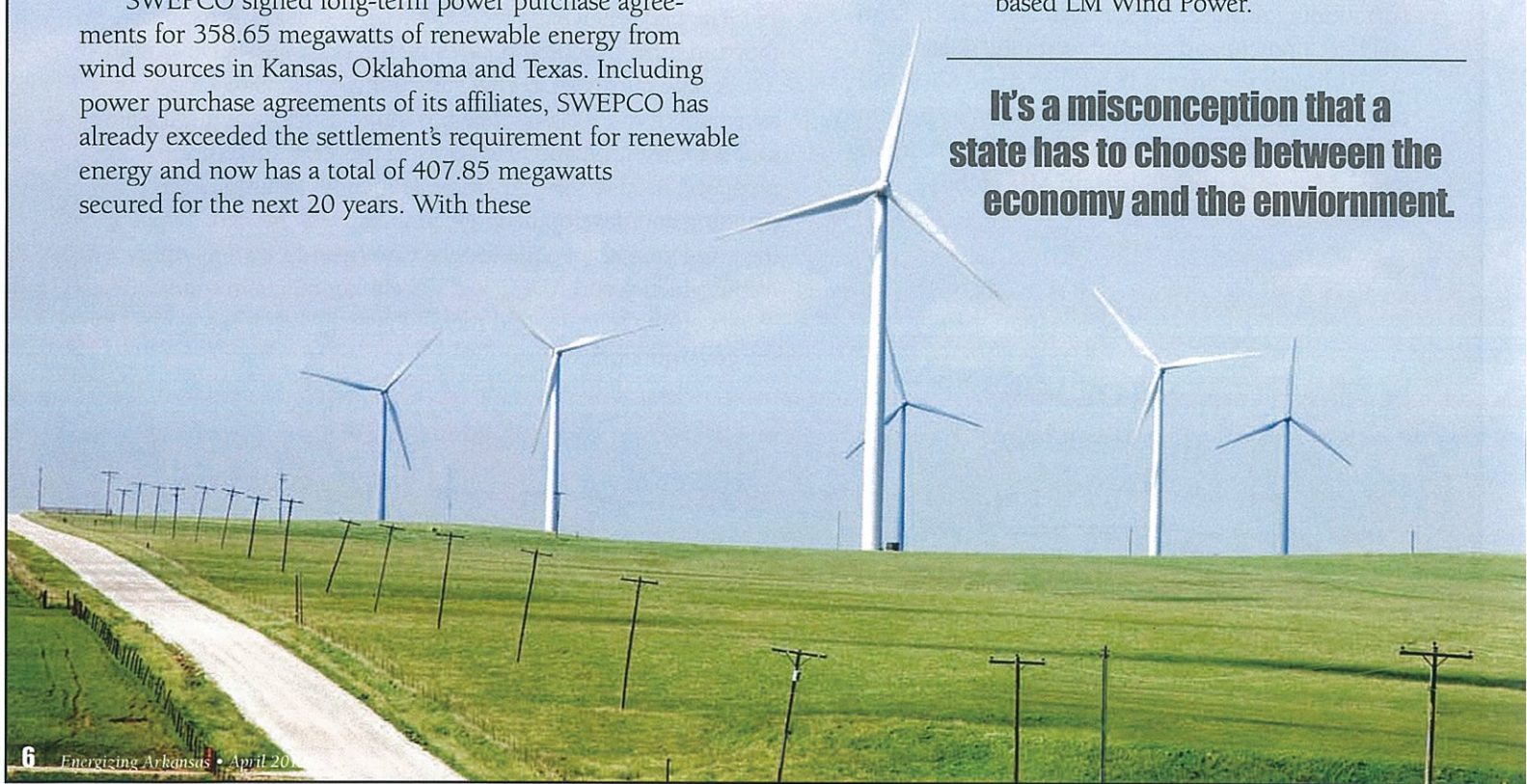
By next year, the wind farms will generate some of the electricity flowing into Arkansas. They will also supply electricity to Louisiana and Texas.

The settlement called for either wind or solar power. SWEPCO, whose parent company owns several wind farms in Texas, opted for breezes over sunshine.

"The wind power is the most affordable resource for our customers," said Peter Main, a SWEPCO spokesman. "When we look at the available renewable energy resources, the wind power that is available through generation resources out in west Texas, western Oklahoma, Kansas, is all available to us through the transmission system in the regional grid called the Southwest Power Pool."

Arkansas doesn't have utility-scale wind power that could supply substantial energy, Main said. But the state still benefits, he said, from the purchase agreements. The agreements prompted one wind generation company to buy 150 wind turbine blades from Little Rock-based LM Wind Power.

It's a misconception that a state has to choose between the economy and the environment.



TREND WATCH

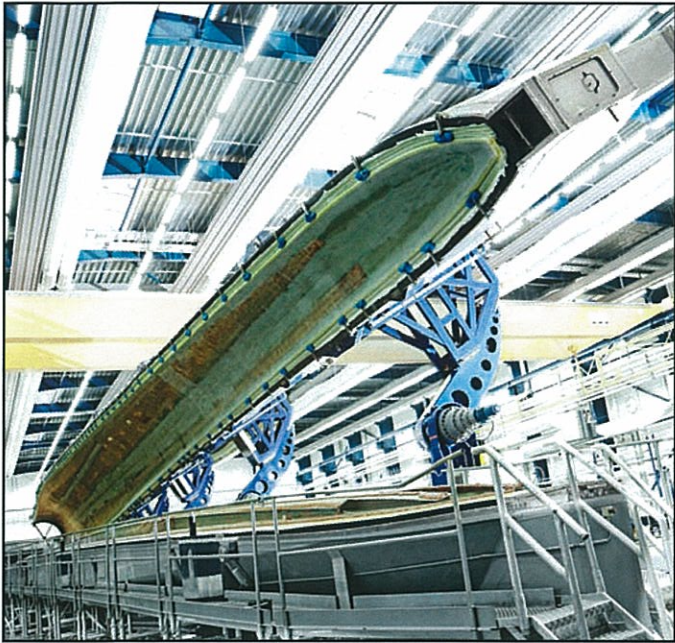


Photo courtesy of LM Wind Power. lmwindpower.com

Two blade halves of a wind turbine are glued together at a LM Wind power manufacturing plant. The power purchase agreements signed by SWEPCO prompted one wind generation company to buy 150 wind turbine blades from the Little Rock-based company.

Along with offsetting Turk Plant emissions by closing down the Texas power plant, the settlement included a \$2 million contribution to Arkansas Community Foundation. The settlement requires the organization to take grant applications from Oklahoma, Texas and Louisiana, as well as Arkansas.

Heather Larkin, the foundation's president and CEO, said a committee will be set up to decide the criteria for the grants, which will focus on energy efficiency and sustainability. Larkin hopes the application process will be in place by the end of 2012 but said the committee won't meet until the foundation receives the grant dollars.

■ Track and Save at your local library.

Some Arkansas libraries are now carrying kilowatt meters for patrons to check out. The "Track and Save" program is meant to show residents how much energy their appliances use and how much money they cost to operate over time. Patrons plug the meter into the outlet and then plug their appliance into the meter for an energy estimate. The average Arkansas household spends about \$1,900 a year on utilities, with \$627 a year spent on appliances and lighting, according to the Arkansas Energy Office. Go to arkansasenergy.org for a list of participating libraries.

■ Nuclear power plants to review new seismic models.

A seismic study released in January is meant to help nuclear power facilities reassess seismic hazards. Arkansas, which has experienced small-scale earthquakes, is home to Arkansas Nuclear One in Russellville. The study, released by the Electric Power Research Institute, the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission, analyzed several hundred years' worth of seismic activity data to create new models to calculate the likelihood of earthquake-caused ground motions. The NRC requested nuclear power plants to re-evaluate seismic hazards using the models. The odds each year of an earthquake occurring that could damage Arkansas Nuclear One was 1 in 243,902, according to a 2010 study involving NRC estimates. The Jan. 2012 report and model are available at www.ceus-ssc.com.

■ Researchers developing solar-powered emergency communications tool.

University of Arkansas researchers are developing a solar-powered emergency communications network that can continue to operate during natural disasters. Using tablets or a smart phone, people could find safe routes to first aid stations or hazardous areas to avoid. Similar to a server, the "mesh" of solar-powered nodes contains data that can be downloaded in the absence of an internet connection. Engineering professors are still working on the power capacity of the "mesh" and software programs that can operate on low power. They expect to deploy a pilot "mesh" later this year in downtown Fayetteville. The researchers received a \$485,000 grant from the National Science Foundation. More information can be found at <http://mpss.csce.uark.edu/mesh/index.html>.





900 W. Capitol Avenue, Suite 400
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MARK YOUR CALENDAR

Arkansas Alternative Energy Commission: upcoming meeting dates

April 19th • June 21st • August 16th
10:00 a.m., Rm 151 - Capitol, Little Rock
See www.aaec.arkansas.gov for more information.

Water Policy and Law Conference: Water; The Choices

November 8, 2012 • 8:00 a.m. - 4:00 p.m., 4-H Center, Ferndale
This biennial water conference, co-hosted by the UA Division of Agriculture Public Policy Center and the UALR Bowen School of Law, will bring participants together with specialists, academics, environmentalists, attorneys and others to address water quality and quantity issues facing Arkansas. For more information, contact Kristin Higgins at Khiggins@uaex.edu or (501) 671-2160.

Energizing Arkansas is a joint education project of the Arkansas Energy Office of the Arkansas Economic Development Commission and the University of Arkansas Division of Agriculture Public Policy Center. The goal of this newsletter is to provide timely, informative articles on the development of energy efficiency, renewable energy and energy policy in Arkansas. Each issue of Energizing Arkansas will explore new research and technology in the bioenergy sector, examine the economic, environmental and policy impacts of bioenergy and spotlight people and organizations leading the pack in sustainable, renewable energy.

Electronic versions of the newsletter may be accessed at www.arkansasenergy.org or at ppc.uaex.edu. E-mail your questions or comments to energizingarkansas@uaex.edu.

