

The Oklahoma WinCharger

Mar./Apr. 2003 (A Newsletter for Oklahoma Wind Stakeholders) Vol. 3, #2

Oklahoma Wind Power Initiative

A Collaborative Project by the
University of Oklahoma and Oklahoma State University
based at the

Environmental Verification and Analysis Center
3200 Marshall Ave., Suite 110
Norman, OK 73072-8032
Tel: (405) 447-8412
www.seic.okstate.edu/owpi/

Staff

Editor and contributor: Tim Hughes, OWPI - OU

Copy editor/contributor: Jeremy Traurig, OWPI - OU

Contributors:

Steve Stadler, Geography Department, OWPI - OSU

Mark Meo, Science and Public Policy Program, OWPI - OU

Kylah Kissinger, EVAC

WFEC Signs Wind Deal

Western Farmers Electric Cooperative (WFEC) announced on January 24th that it had reached an agreement with Blue Canyon Windpower LLC to purchase electricity from their proposed 64-megawatt wind energy project. Blue Canyon is co-owned by Zilkha Renewable Energy of Houston, Texas and Kirmart Corporation of Wichita Falls, Texas.

The project will consist of the construction of 39 wind turbines that will be owned and operated by Blue Canyon. All of the electric energy produced by the wind project will be purchased by WFEC. This is the first such agreement to purchase energy produced from an environmentally friendly wind farm in Oklahoma.

The 20-year purchase agreement will provide wind power to WFEC's 19 rural electric cooperatives that serve farms, rural residences, towns, and commercial/industrial customers in approximately two-thirds of rural Oklahoma. The annual electricity production from Blue Canyon will power approximately 20,000 Oklahoma homes.

"We are pleased to be able to integrate a renewable natural resource that provides economic value to our members, while working in partnership with a developer in utilizing and supporting these efforts. This is part of the ongoing effort of WFEC and its member cooperatives to recognize our responsibility to the environment. We support wind energy as an environmentally-friendly way to generate electricity by using renewable resources,"



Above: A simulation of what Oklahoma's first wind farm will look like from the intersection of Highways 58 and 19, looking south-southeast. Photo provided courtesy of Zilkha Renewable Energy.

commented J.M. Shafer, WFEC's chief executive officer.

"This project will be located within the service territories of two of WFEC's member cooperatives, in an area north of Lawton, Okla. It will be interconnected to the WFEC transmission system, which helps ensure the energy can be delivered and helps keep the price very favorable for our member-owners. This agreement puts additional renewable energy into our generation portfolio. Renewable power is good for the environment and will help provide price stability to our member-consumers in times of turbulent fuel prices," explained Brian Hobbs, WFEC's director of enterprise management.

Commercial operation of the facility is expected by the end of 2003. During construction, the project is expected to employ approximately 100 people with six to eight full-time employees needed for operation and maintenance once the wind project is operational.

"WFEC has a proud tradition of over 60 years of providing low-cost power to customers throughout rural Oklahoma. We are honored to participate in this legacy, and look forward to a long and fruitful relationship with Western Farmers," said Michael Zilkha, co-owner of Zilkha Renewable Energy.

WFEC is a generation and transmission cooperative headquartered in Anadarko, Okla. Additional plant facilities are located in Hugo, Okla. and Mooreland, Okla. Member-owners consist of 19 distribution cooperatives and Altus Air Force Base, which, in turn, serve the total electric needs of more than half a million people. WFEC owns and operates generating plants at three locations and maintains more than 3,400 miles of transmission line. The cooperative has a combined capacity of over 1,400 megawatts, including hydropower allocation.

Zilkha Renewable Energy is a family-owned company based in Houston, Texas. In 2001, Zilkha built 104 megawatts of wind farm capacity in Pennsylvania and Iowa.

Energy Sec. Sullivan Pushes Renewable Energy

On November 12, 2002, researchers from the Oklahoma Wind Power Initiative were invited to join a state energy strategy planning meeting, hosted by then Secretary of Energy Robert Sullivan.

In January, Mr. Sullivan issued a report to the Governor entitled "Oklahoma's Energy Future: A Strategy for the Next Quarter Century." The following contains excerpts from the January 7, 2003 press release on that report.

Oklahoma is gradually running out of easily accessible oil and gas reserves and needs to promote research partnerships among energy companies and state universities if we are to retain our leadership as an energy producing state, former Secretary of Energy Robert J. Sullivan, Jr., said in early January.

Sullivan said Oklahoma is also well positioned to become a national resource for cutting-edge energy research, and to take advantage of abundant alternative energy sources, especially wind and solar power.

"Fortunately, we have virtually all the tools available within Oklahoma's borders to effect this transition on a timely and efficient basis," Sullivan said in his report, "Oklahoma's Energy Future: A Strategy for the Next Quarter Century." The report was delivered to Governor Frank Keating on January 7 at the State Capitol.

"I applaud Secretary Sullivan for the thoughtful and comprehensive way he has addressed our future path in energy," Keating said. "Hopefully, our leaders will respond by implementing his most timely recommendations."

Sullivan said oil production in Oklahoma peaked in 1967, while natural gas production peaked in 1990. While state energy producers have extracted some 14 billion barrels of oil and 87 trillion cubic feet of gas since the first wells were drilled a hundred years ago, that rate of production cannot continue, since remaining reserves are harder to reach and extract.

"It is unlikely that we can reverse our state's oil and gas production decline pattern," Sullivan said, "but we can affect favorably and significantly the rate of decline."

Sullivan also said Oklahoma can become a national and international center of ideas and leading edge research in the energy field, given our strong public and private sector resources in the field.

"The strategy here is to develop in a highly organized manner, a marketing program that presents Oklahoma as the single best place to go for energy related answers," he said.

A third effort should include developing abundant alternative energy sources, he said, especially wind and solar power. Sullivan said it has been estimated that Oklahoma's steady winds could produce up to nine percent of the entire nation's electricity, if enough wind-driven turbines and transmission systems were in place.

"Wind can be thought of as the next cash crop for Oklahoma ranchers and farmers," he said. "At present, however, our state does not have a single large wind energy project (greater than one megawatt), and we are falling behind our neighboring states in the development of wind energy." Sullivan also said Oklahoma's 300 days of sunshine each year offer promising opportunities for solar power generation.

For a complete copy of Mr. Sullivan's report, visit www.seic.okstate.edu/owpi and look under "Policymaker's Information".

OWPI Will Work with OAEC on Wind Study

As a result of a late 2002 meeting between OWPI and officials of the Oklahoma Association of Electric Cooperatives (OAEC), OWPI and OAEC have plans to collaborate with Dobson Cellular to put wind resource monitoring equipment on a Dobson cell tower west of Elk City. The data from this prime location will be used to evaluate the economics of placement of small wind farms in that area, with emphasis on promoting local ownership.

OWPI will provide the equipment, purchased with a grant from the US Department of Energy and the OK Department of Commerce, and it will provide a web site for display of wind resource data from the tower. Dobson Cellular has generously offered to provide personnel to install the instruments, provide instrument booms for the wind sensors, and provide an interface into their cellular network to facilitate the download of data. OAEC has already helped OWPI find this tower, and plans to provide support on future projects such as this. OWPI, OAEC, and Dobson expect that other Dobson towers in key wind resource areas may be instrumented someday.

State Representative Jack Bonny helped facilitate this arrangement by requesting a meeting with Dobson personnel. OWPI and OAEC expect to apply for more federal funding to support future efforts.

OWPI's number one goal is to promote economic development for our state through wind power. Wind resource assessment and sharing of such information with groups like OAEC, and the public, are ways we feel we can help promote in-state ownership of wind farms. If any of our readers are interested in similar collaborations to evaluate the wind resource in their areas, contact Jeremy Traurig (traurig@ou.edu, or 405-447-8412).

Update on OG&E Green Power Offer

(The following contains excerpts from an OG&E press release from 2/19/03).

On February 5, OG&E Electric Services issued requests for proposals (RFP) to establish one of the country's largest utility-specific green marketing programs.

In its request, OG&E is seeking a large-scale wind developer to provide 50 megawatts of wind-generated electricity. According to the Department of Energy, this request is one of the largest made by a utility solely to market to its customers. OG&E hopes the project will be online by fall 2004 so its customers can begin taking advantage of it.

"We believe that many of our customers are interested in purchasing electricity generated from renewable resources, even if it means paying a bit more," said Brian Alford, OG&E Spokesman. "This program will give our customers a renewable energy option."

According to OG&E's request for proposals, all proposals will be submitted by March 11th. OG&E expects to complete the RFP evaluation and select a bidder by April 2nd. At the end of April, OG&E hopes to have the wind energy purchase agreement finalized and sent to the Oklahoma Corporation Commission for approval.

OG&E, Oklahoma's largest utility, serves 700,000 customers through an interconnected network of power lines and related equipment spanning 30,000 square miles in Oklahoma and western Arkansas.

Update on Green Corn's Wind Initiative for OU

Formed in fall 2002, Green Corn is a student group that dedicates itself to pursuing initiatives it feels will benefit the University of Oklahoma, its surrounding community, and the state. Currently, one of Green Corn's main goals is to stimulate the University of Oklahoma to buy approximately 5% of their OG&E provided electricity from green sources, such as wind.

On Monday February 3, Green Corn presented a letter to OU President David L. Boren discussing their intent to encourage the university to buy electricity generated from wind. Green Corn has received a response and will meet in late March with Nick Hathaway, Vice President for Administrative and Executive Affairs, to further discuss the OU wind initiative.

In addition to the letter, Green Corn formed a wind committee at its February 10th meeting. This committee will be responsible for a campaign to educate the student body about wind power and Green Corn's wind initiative. Green Corn hopes the education and awareness campaign will lead to a student petition, which would ask the Board of Regents to increase student activity fees to purchase the electricity generated from wind power.

If you would like to help Green Corn support the development of wind power use at OU, please write to greencorn@ou.edu.

OK Senate Passes SB342 but Drops SJR8, Then Passes Amended SJR8

Senate Bill 342 (SB342), introduced early this session by Senator Jim Maddox (District 32), called for state funding (non-mandatory) for the Oklahoma Wind Power Initiative over state fiscal year 2004. This funding would allow OWPI to continue its work in wind resource assessment, outreach and education, research, promotion of in-state ownership of wind farms, and more, to help maximize economic benefits. SB342 passed the Senate on February 26th, and now will move to the House. While this is certainly good news, much remains to be done as funding sources must be found in order for OWPI to continue its work.

Senate Joint Resolution 8 (SJR8), also authored by Senator Maddox, has had a rougher road. For those who are not familiar with it, the original version of

SJR8 encouraged the voluntary compliance of utilities in adding scheduled amounts of renewable energy to their portfolios, over a period from 2004 to 2011. SJR8 called for annual awards to be presented by the Governor's office to the utility and the customer who contribute the most to renewable energy development in Oklahoma. This was intended as a "carrot" approach to encourage utilities to diversify their energy source portfolios, thereby promoting other abundant Oklahoma energy sources. On March 3, SJR8 failed by a vote of 27 to 17. One factor that seemed to help lead to its defeat was the perception that the percentage goals as recommended were just a step away from making a mandate, or renewable portfolio standard, for renewable energy. In fact, those goals were guidelines for voluntary compliance.

On March 4, the Senate voted to allow for a reconsideration of SJR8. During the reconsideration, an amendment was proposed by Senator Kevin Easley to change section 1. The original version of section 1 read as follows:

"It should be a voluntary goal of the electric power providers located in this state to:

1. Achieve the following annual goals for use of renewable energy as a portion of the total electric consumption by Oklahoma consumers:
 - a. One percent (1%) by January 1, 2004;
 - b. Two percent (2%) by January 1, 2005;
 - ...and so on, up to
 - h. Eight percent (8%) by January 1, 2011.

Renewable energy sources shall include: wind, sun, geothermal, biomass/bioenergy and new hydroelectric sources;

2. Increase public education to their customers of the benefits of energy efficiency and the promotion of renewable energy by various methods including the use of deliberative polling of customers to gauge the public's support of these issues; and
3. If renewable energy sources are not included in an electric provider's rate base, they should offer a renewable energy choice for their customers and utilize the most innovative and productive marketing programs to encourage Oklahoma customers to purchase renewable energy."

The amendment, which was approved by the senate, deleted all of the language above and inserted the following in its place:

"It shall be a goal of the State of Oklahoma to encourage the development of renewable resources, which include wind, sun, geothermal, biomass/bioenergy and new hydroelectric sources. It shall further be a goal of this state to promote the use of renewable energy and encourage Oklahoma citizens to consider utilizing renewable energy sources in our homes and businesses."

The amended SJR8 passed by a vote of 35 to 11.

"Kudos" to Senator Maddox for his efforts on behalf of developing renewable energy in Oklahoma.

Farmers in Minnesota Invest in Wind Power

Wind development is no longer for the large, well-financed corporations. Small, locally owned wind farms are beginning to be developed in states like Minnesota. Farmers in Minnesota see a real potential to diversify their income and boost the local economy by developing cooperatively owned wind farms.

Two cooperatively owned wind farms, MinWind I and II, recently went online near Luverne Minnesota. Sixty-six local investors took advantage of this opportunity and raised 30% of the \$3.6 million cost of the four 950-kW NEG Micon turbines. The remaining 70% of the cost was raised through local banks. While the debt is being repaid, the farmers should expect to earn about 3% on their return. After the debt has been repaid, Tom Arends, president of MinWind II, estimates that with the Minnesota tax credit (1.5 cent/kWh for the first 10 years for wind projects up to 2 MW) the farmers could expect a 17% annual return on investment.

Mark Willers, one of the project leaders, summarized the projects by saying "We wanted a farmer-owned project that would bring economic development, get farmers a return on their investment, and could use local businesses and contractors to do the work".

The WinCharger hopes this story will spur similar cooperatives in Oklahoma. These cooperatives have a great potential to boost farmers' incomes as

well as local economies in rural Oklahoma. OWPI hopes to collaborate with similar cooperatives sometime in the future. See the Sept/Oct 2002 WinCharger for a related story on "Wind Energy Partners of Oklahoma".

Editor's Note: For more information on Minnesota efforts, please refer to www.windustry.org/.

Iowa Schools Save Money with Wind

(The following contains excerpts from AWEA's Wind Energy Weekly #1014)

The Eldora-New Providence School will join several other schools in Iowa, including Akron-Westfield, Forest City, Northwood-Kensett, Nevada, Clarion-Goldfield, and Spirit Lake, that are saving money on their electricity bills while learning about wind generation when its 750-kW wind turbine goes into operation.

The superintendent at Eldora-New Providence, Bill Grove, expects the school will save \$10,000 to \$20,000 per year during the 10-year life of the loan. After the loan has been repaid, he believes the school savings could increase by a factor of 10. In addition, the school expects to make a profit by selling excess generation to Alliant Energy.

Tom Wind of Wind Utility Consulting expects the project will pay for itself in 7 years, and he believes the school can expect a return of 13% on its investment. Superintendent Groves said the electricity that is produced by the wind turbine is "inflation proof", meaning if electricity prices rise, the savings the wind turbine provides to school will be even greater.

Spirit Lake was the first school in Iowa to save money using wind power. The school had a 250-kW wind turbine constructed on school grounds in 1992. Since then, the school has created a wind energy curriculum for its students, as well as a website devoted to the wind turbine that includes detailed statistics on the turbine output in terms of actual kWh produced and savings to the school (<http://www.spirit-lake.k12.ia.us/dist/bg/building.htm>).

Spirit Lake recently replaced their 250-kW turbine with a new 750-kW NEG Micon turbine. The school expects to have even greater savings with the new 750-kW turbine.

Colorado Considers a RPS

(The following is a summary of a story in the Denver Post written by Ryan Morgan on 2/21/03).

Colorado power companies may be required to increase the percentage of energy they produce from renewable resources under a bill that passed in the Colorado House on February 20th.

House Bill 1295, sponsored by Speaker Lola Spradley and co-sponsored by Minority Leader Jennifer Veiga, now heads to the Senate. The bill is intended to increase the amount of renewable resources, including wind, solar, biomass, and geothermal, in the state.

The bill directs the Public Utilities Commission (PUC) to set a standard for the amount of renewable energy that electric service providers (not including municipalities or rural electric cooperatives) should produce or purchase each year. This standard, according to the bill, should not require a provider to incur a cost more than that specified by the PUC for renewable energy.

Spradley stated that as power companies use renewable sources for an increasingly large percentage of the state's overall power, the cost would continue to fall, which will benefit both consumers and the environment.

The WinCharger will follow this bill as it goes through the legislative process and update readers as more information becomes available.

Federal Legislative Issues Relating to Wind

On January 23, Senator Gordon Smith (R-OR) introduced legislation (S. 207) to extend the wind energy production tax credit (PTC) 10 years through January 1, 2014. On the House of Representatives side, Rep. Mark Foley (R-FL) introduced legislation (H.R. 570) to extend the PTC for wind 5 years through 2009.

Jamie Steve, AWEA Legislative Director, said the Smith bill acknowledges the importance of a long-term extension to stability in the industry. This is a fact recognized in legislation introduced during the last session of Congress by Senators Harry Reid (D-NV), Chuck Grassley (R-IA), Jeff Bingaman (D-AZ), Byron Dorgan (D-ND), Kent Conrad (D-ND) and others.

In terms of small wind, Representative Tom Cole (R-OK) introduced legislation (H.R. 790) to provide a 30% tax credit for individuals and businesses who purchase a wind system that is 75 kW in capacity or smaller. This legislation follows along the same lines as that introduced last session by former Representative J.C. Watts of Oklahoma.

Finally, Senators John McCain (R-AZ) and Joe Lieberman (D-CT) introduced a bill that would require reductions in carbon dioxide emissions. The bill proposes a nationwide market-based carbon-trading program, similar to the acid rain trading program of the 1990 Clean Air Act, to reduce carbon emissions. The carbon-trading program could potentially be a huge market for wind power and the states, utilities, and developers involved in wind development.

Progress on 2003 OK Wind Power Conference

Progress continues for development of the June 19, 2003 Wind Power and Bioenergy Conference. To recap for those who have not seen previous news about this, the conference will be held in Norman at the Marriott Hotel (Postal Training Center) just off Highway 9 on the south side of Norman, and plans call for 4 tracks to cover the following topics:

- 1) Large utility-scale wind issues
- 2) Small wind turbines and distributed generation
- 3) Bioenergy
- 4) Business and research opportunities

With construction of Oklahoma's first wind farm now set to begin in mid 2003, this promises to be a very exciting conference. In fact, we hope to have wind turbine components brought to Norman for display in the hotel parking lot. If you have never seen a wind turbine nacelle (or hub) or blade up close, this is something you cannot miss! Stay tuned for more on plans for this exciting display.

The committee is optimistic that special workshops on wind power (and bioenergy if the interest is there) will be held on June 20, at the same location. If you or your group are interested in helping to develop the conference agenda (for the 19th) and/or workshop agendas for special topics on the 20th (e.g.: utility specific issues, agriculture related issues, and so on), please contact Tim Hughes at thughes@ou.edu or at 405-447-8412. If you or

someone you know is interested in being a cosponsor for this event, please contact Tim as well for information on categories of support.

The next planning committee meeting will be held March 12 from 1:30 to 3:30 pm at the State Capitol in Room 108. Visit the OWPI web site (www.seic.okstate.edu/owpi) and click on "2003 Wind Power and Bioenergy Conference" (on left side) for updates on the conference agenda, speakers, and special notices.

OSN Holds 2003 Conference

On March 21st, the Oklahoma Sustainability Network (OSN) will be holding its second annual conference titled "*Strategies for a Sustainable Oklahoma*". The conference will be held on the OKC-OSU campus located at 900 N. Portland Ave in Oklahoma City.

The new Secretary of State, Susan Savage, has agreed to be the luncheon speaker. She will discuss her strategy for a sustainable Oklahoma. In addition, Tim Hughes of OWPI and Mike Bergey of Bergey Windpower Co. have agreed to speak on wind power issues in Oklahoma. Mike Bergey will have a small wind turbine set up near his exhibit. For more information, please visit www.oksustainability.org or contact Jay Yowell at (405) 317-8424 or jyowell@e-a-a.com.

OWPI to Present and Exhibit at OK Farm Show

The Oklahoma Farm Show will be held on the Oklahoma State Fairgrounds in Oklahoma City Friday to Sunday, March 28th to 30th. Since this is a great opportunity for rural landowners to learn about the economic development and other benefits of wind power, The Oklahoma Wind Power Initiative has been invited to give talks and exhibit posters and literature. Talks, to be presented by Tim Hughes and Jeremy Traurig, will take place from 3:00 to 4:00 in Building D, all 3 days. OWPI's exhibit can be viewed from 9 am to 5 pm on Friday and Saturday, and from 9 am to 4 pm on Sunday, in Building B.

For more information on the Oklahoma Farm Show, visit www.oklahomafarmshow.com.

Windpower 2003 to be held in Austin, TX

WINDPOWER 2003 promises to be the American Wind Energy Association's largest and most

successful conference to date with over 115 exhibitors, 100 speakers presenting on 25 different wind energy topics, 30 poster presentations, and over 2,500 attendees. This is the premier U.S. wind energy show of the year, bringing together wind energy professionals for more than three days of technical sessions, exhibition exposure, and networking opportunities. OWPI researchers have attended the last 3 conferences so we can say from first-hand experience that these have been exciting events for wind power professionals and enthusiasts.

Topics to be covered in Austin that may be of special interest to Oklahoma wind power stakeholders are:

- Economic Development
- Large Wind Turbine Vendor Forum
- Technology Development: Small Wind Turbines
- Transmission & Grid Operations Issues
- Wind Resource Assessment
- Green Marketing & Community Involvement
- Wind Forecasting
- The Energy Economy of the Future
- Hybrid & Distributed Generation
- And more

For more information, visit AWEA's conference web site at www.awea.org/conference or call (202) 383-2500.

IPE Announces 2003 Coleman Internship at OU

Interdisciplinary Perspectives on the Environment (IPE) and the College of Arts and Sciences announce the 2003 Coleman Internship on the Environment. The Coleman Intern will earn \$5,000 over 10 weeks during the summer and will earn 3 hours of upper division credit.

The Coleman Internship will be awarded to an OU sophomore or junior, who will spend the summer researching the development of Oklahoma's potential for wind power. He or she will be posted at the Oklahoma Wind Power Initiative in Norman and at one or more energy companies in the Oklahoma City area. He or she will interview individuals in government, business, and environmental interest groups. For more information, go to www.ou.edu/cas/ipe.

Calendar of Coming Events

- Mar 11** **GIS Day at the Capitol**, 9:00 am to 3:00 pm, State Capitol, 4th Floor Rotunda. OWPI will exhibit posters and new wind resource software.
- Mar 12** **Oklahoma Renewable Energy Council meeting**, 10 am to noon, State Capitol, Room 108 (see www.seic.okstate.edu/orec). **Planning Committee Meeting for 2003 Wind & Bioenergy Conference**, 1:30 to 3:30 pm, State Capitol, Room 108.
- Mar 19** **Town Meeting on Wind Power in Loyale, OK**, 7:00 pm. Call Clifford Duffy at 405-729-4442 for location and more information.
- Mar 21** **Oklahoma Sustainability Network Conference**, 9:00 am to 5:00 pm, OSU-OKC Student Center, 900 N. Portland, Oklahoma City. See inside issue for more info.
- Mar 28-30** **Oklahoma Farm Show, Oklahoma State Fairgrounds**. OWPI will present and exhibit on wind power (see www.oklahomafarmshow.com or inside issue for more).
- Apr 9** **Oklahoma Renewable Energy Council meeting**, 10 am to noon, OK Dept. of Commerce, 900 N. Stiles, Gallery 1-2 (see www.seic.okstate.edu/orec). **Planning Committee Meeting for 2003 Wind and Bioenergy Conferences**, 1:30 to 3:30 pm, same location.
- May 14** **Oklahoma Renewable Energy Council meeting**, 10 am to noon, (see www.seic.okstate.edu/orec for location)
- May 18-21** **WINDPOWER 2003** - National wind power conference presented by American Wind Energy Association, Austin, TX. See www.awea.org/conference for more.
- June 19** **Oklahoma Wind Power and Bioenergy Conference**, Norman, Oklahoma. See inside issue for more information, or visit www.seic.okstate.edu/owpi and click on '2003 Wind Power and Bioenergy Conference' on home page.

EVAC - Environmental Verification and Analysis Center
University of Oklahoma
3200 Marshall Ave., Suite 110
Norman, OK 73072-8032

122-7422



March/April 2003