

The Oklahoma WinCharger

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(A Newsletter for Oklahoma Wind Stakeholders)

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Oklahoma Wind Power Initiative

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Proposed "Wind Energy Partners of Oklahoma"

Greg Adams is a farmer, rancher and entrepreneur from Buffalo, Oklahoma. He is concerned about his livelihood and the future of rural Oklahoma. Recently, Adams founded "Wind Energy Partners of Oklahoma" (WEPO). WEPO is an unincorporated agriculture group with Adams as the director. WEPO will work on behalf of all Oklahoma agriculture producers who wish to invest in and utilize the renewable natural wind resources available in our state. A steering committee has been selected to provide guidance as WEPO moves



Greg Adams, a farmer and rancher from Buffalo, founds Wind Energy Partners of Oklahoma.

toward incorporation in the near future.

In August, Adams submitted to the USDA a proposal for Farm Bill Title 6 (Value Added Products) funding to study the economics and develop a business plan for the formation of medium scale, locally-owned, distributed generation wind farms. The title for Adams' planning grant proposal is "A Blueprint for Wind Energy Partnerships in Oklahoma: Value Added Energy". This project is designed to develop the information needed for WEPO to invest in and profit from wind energy conversion systems by identifying and quantifying the top ten distribution scale wind farm sites. This project addresses the limiting factors that have delayed the development of wind energy as an alternative income source.

The intent of this grant is to promote wind energy generation at sites where the distribution lines have the capacity to accept additional power. It will create the organization and structure needed to facilitate the development of opportunities for producers to participate in and receive income from renewable energy wind farms. These wind farms would convert Oklahoma's most abundant and least utilized natural resource into a readily marketable commodity - electrical energy, and give Oklahoma producers a "new" renewable product to sell into an established market without harming our environment or existing business structures.

The study will involve extensive detailed wind resource assessment and mapping of distribution

systems, to find optimal locations for the small wind farms. Because "distributed wind generation" directly feeds into local distribution lines, development would not be constrained by lack of nearby transmission capacity. It is then expected this scenario would provide economic development opportunities for areas that are currently too far from transmission lines with capacity - a major consideration in the placement of the large utility-scale wind farms.

Furthermore, local ownership of wind generation can return many times the economic benefits to Oklahoma citizens, over the typical scenario of leasing of land to out-of-state wind farm developers. However, a detailed economic study must be performed to consider financing, wind resource, electricity cost (current and predicted), economies of scale, coming renewable energy credits, and other factors that will impact the bottom line.

The personnel so far involved in this project are Adams and steering committee members Louis B. Sims (Hobart), Dwight V. Terry (Woodward), Joe C Horton, MD (Frederick), Michelle Garcia (Iowa Nation), Kathy Moore (Woodward), Charles P. Rainbolt (Legal counsel from Cordell), Tim Hughes (OWPI Director), Troy Simonsen (OWPI Assistant Director) and Matthew Meares (President, Southeastern Winds LLC).

It is expected that results on Farm Bill Title 6 grant applications will be announced by mid-September. If interested in assisting with this grant or as a possible future investor, please contact WEPO via -

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OWPI Applies for US-DOE/ODOC FY03 Funds

The Oklahoma Wind Power Initiative has applied for U.S. Department of Energy funding, to be administered by the Oklahoma Department of Commerce. These funds will allow OWPI to continue its work assessing Oklahoma's wind resource and providing citizens and potential investors with valuable information. Some of the main goals for the ensuing work will be to:

- collect wind resource data at higher levels to validate and improve OWPI's wind maps;
- encourage local investment in wind farms;
- study the economics of and encourage the distributed-generation wind-farm scenario; and
- provide wind data for energy assessment and as part of K-12 educational outreach programs.

The funding will allow for wind monitoring equipment to be placed on two existing tall-towers, similar to OWPI's work at Hobart (see September 2001 and April 2002 issues). One 66-foot tower will also be purchased and placed near a K-12 school, college, or university. The criteria for selection of locations will follow closely to that set out in the September 2001 issue, and include:

- class 4 or better wind resource,
- access to an existing tower (up to 328 feet),
- communities that offer in-kind resources such as free tower access, and
- strategic value of location, in terms of proving a wealth of resource previously not assessed by wind farm developers.

The equipment will be placed where local rural communities will likely benefit the greatest. Target dates for installations will be early 2003. Data will be collected for at least one year. If you are interested in having your community considered for this project, please review the September 2001 WinCharger issue. OWPI hopes to know by late September 2002 if it will receive this funding. If you have any questions, please contact Troy Simonsen at simonsen@ou.edu or (405) 447-8412.

Future Farms 2002: A Supermarket of Ideas

Are you shopping for fresh, practical ideas to make your farm, ranch or food business more profitable? Do you want to hear what the most innovative agriculturists from across the country are doing? Do you want to know about opportunities right here in Oklahoma and/or in this region?

The Kerr Center for Sustainable Agriculture and the Oklahoma Department of Agriculture, Food and Forestry have teamed up to bring you more than fifty of the most dynamic farmers, ranchers, and entrepreneurs in the U.S. The lineup of speakers is exceptional. Five were recently featured in the book The New American Farmer: Profiles of Agricultural Innovation. Other presenters include creative

farmers/entrepreneurs with successful food businesses and new marketing structures such as value-added cooperatives.

Tim Hughes, Oklahoma Wind Power Initiative Director, will present wind power related economic development opportunities for landowners and communities. Mr. Hughes will speak on wind power development over the past two decades, on the work that OWPI is doing to aid Oklahoma landowners and potential wind farm investors, and on provisions of the new Farm Bill that could affect development of locally owned small wind farm cooperatives. He will provide information on leases and wind farm developers, and he will suggest what Oklahoma's rural communities and individuals can do and whom they can find to help them make proposed wind development most advantageous to them.

Farmers and ranchers trying new crops, or finding new ways to either diversify their operations or add value to traditional crops, will share their successes. Practical business and financing advice will also be featured. Attendees may choose among a variety of sessions under four tracks: crops, livestock, value-added marketing, and alternative ideas.

This event will be held November 15-16 at the Marriott in Norman, Oklahoma. Registration before October 15 is just \$50 for both days, \$30 for one-day. Children and student rates are also available. For more information, contact the Kerr Center at (918) 647-9123 or visit their web site at <http://www.kerrcenter.com>.

WFEC reviews Proposals for Wind Generation

**Source: WFEC Request for Power Supply Proposals. For a copy, go to www.wfec.com.*

Western Farmers Electric Cooperative (WFEC), a member-owned, regional rural electric cooperative, released a Request for Power Supply Proposals during May 2002. The request was released to selected and interested companies to determine how best to meet its incremental capacity needs, projected to begin June 1, 2004. Of interest to wind stakeholders, the Request solicited proposals for wind-generated electricity.

WFEC is headquartered in Anadarko, Oklahoma and serves nearly 465,000 people including Altus Air Force Base. As of December 31, 2001 WFEC

had a total of 1133 MW of installed generating capacity including one coal-fired plant, six gas-fired steam turbine units, and three combined cycle generating units. In addition to its existing generating units, the South-West Power Administration provides 279 MW of hydroelectric generation.

WFEC and its consulting engineer, Black & Veatch, undertook extensive system planning studies during 2001. The current WFEC system forecast indicates that the WFEC system peak demand is projected to increase from 1341 MW in 2004 to 2509 MW in 2038, an average annual growth rate of 2.02 percent. The study results presented to WFEC in October of 2001 indicated that the least-cost option was the addition of coal-fired generation at the existing coal-fired plant. The study also evaluated the addition of 80 MW of wind generation to the WFEC system. Results indicated that the addition of wind energy to the base expansion plan (expansion of coal plant) slightly lowered system cumulative present worth costs. System cumulative present worth costs include installation, operation and maintenance, fuel, peak demand costs, pollution monitoring and control, etc. In other words, Black & Veatch determined that based on projected costs of wind energy, 80 MW of wind generation would lower the overall cost of the WFEC system.

Because of Black & Veatch's study, WFEC solicited Proposals for the installation of between 20 and 100 MW of wind generation. WFEC will also consider Proposals from other renewable resources, but they must be economical. The deadline for Proposals was July 3, 2002. WFEC is expected to "short list" their Request for Proposals by August 30th. Wind generation bids are expected to range from the \$24 to more than \$30 per MWh. Further details will be disclosed in coming issues of the WinCharger.

Hedge Value for Wind Power Proposed

** The following is excerpted from the WIND ENERGY WEEKLY, Vol. 21, #999, 21 June 2002, published by the American Wind Energy Association (AWEA).*

At WINDPOWER 2002, Mark Bolinger and Ryan Wiser of Lawrence Berkeley National Laboratory presented a paper that attempts to take the discussion of the fuel price hedge value of wind

power to the next level by quantifying what that value could be. The authors equate the hedge value of wind and other renewables—or the worth a company could assign to the fact that wind power needs no fuel input and can therefore charge a fixed price for the electricity generated over the life of the project—to other products that give a similar certainty, such as gas-based financial derivatives.

The authors conclude that this premium alone may be sufficient in some cases to tip the investment decision in favor of a renewable project instead of a new natural gas-fired generating plant. They find that, "Over the past two years, natural gas customers have had to pay a premium of roughly 0.50¢/kWh over expected spot prices to lock in natural gas prices for the next 10 years."

The fundamental point that the authors are trying to impart to resource planners and policy makers is that the correct price to compare a wind power plant to is the hedged or long-term guaranteed cost of new gas-fired generation.

The entire paper, "Quantifying the Value that Wind Power Provides as a Hedge Against Volatile Natural Gas Prices," by Mark Bolinger and Ryan Wiser, LBNL-50484, is available from the Lawrence Berkeley Web site at http://eetd.lbl.gov/ea/EMS/EMS_pubs.html#RE.

Editor's note: Bolinger and Wiser's paper states that wind carries a \$5.00 per MWh advantage over natural gas due to price variability over a 10 year timeframe. They do not go beyond a decade because gas commodity markets only go out that far. Because of expected rising costs of natural gas, it is conceivable that many times that amount would be a safe bet for a 30-year contract.

Midwest ISO Panel Votes to Consider Plan for 10,000 MW of Wind Development

** The following is excerpted from the August 2002 Windletter, the monthly newsletter of the American Wind Energy Association.*

In late June, the Planning Advisory Committee of the Midwest Independent System Operator (MISO) voted to support a study of transmission planning needed to accommodate 10,000 MW of wind development in the nine-state western Midwest region (Illinois, Iowa, Kansas, Minnesota,

Nebraska, **Oklahoma**, North Dakota, South Dakota, and Wisconsin) by 2007.

The panel supported the study of the plan, proposed by AWEA and the nonprofit group Wind on the Wires, along with study of a MISO "base case" expansion plan that includes only reliability upgrades and reinforcements to support generation already under construction in the region.

The purpose of the plan, according to AWEA policy director Jim Caldwell, is "to test MISO's new planning process that is dominated by a 56,000-MW predominantly natural-gas-fired interconnection queue (about 80,000 MW if non-MISO queues in the region are included). These queues represent requests for future transmission service by generation developers in the region, and they include about 6,000 MW of wind."

Explained Caldwell, "Unless we can get MISO to break out of simply reacting to projects in the queue in the order in which the projects were posted, major wind development in the region will be stymied for a very long time. Hopefully the output of the MISO study would be a blueprint for the location and rough cost of 'network upgrades' to accept 10,000 MW of wind development in the next five years considering both close-in but lower wind speed projects, and remote but Class 6 wind speed projects."

Political support for the plan will be crucial this summer. AWEA and Wind on the Wires will be jointly soliciting letters of support, etc., from Senators, Governors, state public utility commissions, and local officials." For further information, contact Caldwell at jim_caldwell@awea.org.

Editor's Note: Transmission issues are critical to longer-term development of wind power in Oklahoma. Current estimates of transmission capacity indicate much less than 1000 MW of wind can be installed under current constraints and assumes that new gas turbines won't use up the remaining capacity - a distinct possibility. In one study, OWPI estimates that our state's windy areas could easily support over 10,000 MW of development, that is, if transmission is not a constraint. Of course, the extent of development would be over the long-term (1 to 2 decades), but

transmission upgrades also take considerable time to put into place. Therefore, those policymakers in Oklahoma who are looking to the future economic development of our state would do well to pay attention and fight for Oklahoma's interests as transmission upgrade plans unfold.

“Clear Skies” Bill could kill Green Market

** The following is excerpted from WIND ENERGY WEEKLY, Vol. 21, #1005, 02 August 2002, published by the American Wind Energy Association (AWEA).*

AWEA is disappointed with the “Clear Skies” bill released on July 30 by the Bush Administration. The bill threatens to harm development of renewable energy generation and end-use energy efficiency resources, the trade group said. Despite their contribution to achieving air quality objectives and reducing compliance costs, renewables are not allocated emission allowances, or allowed to participate in emission trading under the President’s bill.

The bill continues the Title IV allowance set-aside program for renewables established by the original Clean Air Act legislation. But that program was limited to renewable energy projects installed by 2000 (though installations before that date can still theoretically receive allowances until 2010), and the deadline for installation is not extended under “Clear Skies.” The bill would likely kill new green marketing programs that are emerging in parts of the U.S., as it effectively strips away the environmental attributes associated with reducing energy consumption or adding renewables to the generation mix. Explained David Wooley, AWEA’s Northeast policy project director and Clean Air Act expert, “Under Clear Skies, the total emissions limits on various pollutants will not change when a renewable energy project is installed, so that in turn means that the project cannot be said to reduce pollutant emissions.”

Added Wooley, “This is a huge missed opportunity for the Environmental Protection Agency and the Department of Energy. They could have included provisions that would allow wind, solar, and biomass to participate in the market for clean air resources. Instead they left us out, drove up the cost of attaining clean air, and threaten to do real damage to emerging green markets. Hopefully the

House and Senate will do better than this.” Wooley noted that S. 556, a bill that was reported out of the Senate Environmental and Public Works Committee last month, does contain provisions to allocate emission reduction credits to renewables and would allow wind generators to reduce air pollution emissions from the electric sector.

Renewable Energy Exhibit at Tulsa State Fair

The Oklahoma Renewable Energy Council (OREC), Oklahoma Educational Television Authority (OETA), Bergey Windpower Co., and others will sponsor an exhibit on renewable energy at the Tulsa State Fair. The exhibit will feature video excerpts from OETA's "Stateline:Fields of Dreams" (a documentary on how renewable energy can play into Oklahoma's new farm economy), a demonstration version of a home wind turbine, posters, handouts, and more.

The exhibit will be part of the "Caring for Planet Earth" show supported annually by Oklahoma State University's Cooperative Extension Service and Langston University, and can be found in the area that joins 4-H called 'Exchange 2' or 'Made in Oklahoma' building on the Tulsa State Fairgrounds. The fair runs from September 26 to October 6.

See www.tulsastatefair.com/directions.htm for a Tulsa area map showing how to find the fairgrounds.

Reminder:

WinCharger has become Bi-monthly Issue

In an effort to reduce postage and printing costs, the WinCharger has gone to a 6 to 8 page format, effective July 2002, and will now publish every other month, early in the odd-numbered months (January, March, May, etc.). If you have news items or issues you would like to see printed or addressed in the WinCharger, please note this new printing schedule and give plenty of notice.

Calendar of Coming Events

- Sep 18** **Planning Committee Meeting for 2003 Wind and Bioenergy Conferences**, 9 to 10 a.m., State Capitol, Room 108.
- Sep 18** **Oklahoma Renewable Energy Council** meets from 10 a.m. to noon, State Capitol, Room 108 (see www.seic.okstate.edu/orec for more information).
- Sep 26-Oct 6** **Renewable Energy Exhibit**, as part of "Caring for Planet Earth", Tulsa State Fair, "Made in Oklahoma" Building. Organized by Oklahoma Renewable Energy Council. See inside issue for more information.
- Oct 9** **Planning Committee Meeting for 2003 Wind and Bioenergy Conferences**, 9 to 10 a.m., State Capitol, Room 108.
- Oct 9** **Oklahoma Renewable Energy Council** meets from 10 a.m. to noon, State Capitol, Room 108 (see www.seic.okstate.edu/orec for more information).
- Nov 15-16** **Future Farms 2002: A Supermarket of Ideas**. NCED Marriott Conference Center, Norman, Oklahoma. Sponsored by the Kerr Center and Oklahoma Department of Agriculture. Oklahoma wind farm opportunities will be one of the many topics discussed. See inside issue for more information, or contact the Kerr Center at 918-647-9123 or mailbox@kerrcenter.com.

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