

The Oklahoma WinCharger

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Oklahoma Wind Power Initiative

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based at the

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OK Farm Bill Workshops Held in Stillwater, Weatherford

On April 28th and 29th, the Oklahoma Wind Power Initiative, along with the Oklahoma Renewable Energy Council and the U.S. Department of Energy Wind Powering America Program, hosted two workshops on the Farm Bill Section 9006 funding opportunity. Section 9006 provides \$23 million nationwide in funding that can be applied towards renewable energy and energy efficiency projects. Oklahoma State University was the setting for the workshop on the morning of the 28th in the Student Union Building. The conference center on the campus of Southwestern Oklahoma State University provided the venue for the workshop the evening of the 29th.

Workshop participants were able to learn about wind energy and its applications, community wind projects, biomass projects including ethanol production, funding opportunities through the Oklahoma Department of Commerce, and examples of projects that are applicable under the Section 9006 funding. Over 75 people were in attendance for the workshops. If you were unable to attend, the presentations from the workshops are available on the OWPI website at www.ocgi.okstate.edu/owpi.

OWPI and OREC would like to extend a special thank you to the following organizations who

helped make these workshops possible: Oklahoma Department of Commerce, U.S. Department of Energy Wind Powering America Program, Oklahoma State University, University of Oklahoma, Southwestern Oklahoma State University, Great Plains RC&D, Custer County – OSU Extension, Southwest Oklahoma Development Authority, as well as thank you to our speakers: Greg Adams from Wind Energy Partners of Oklahoma, Terry Detrick from the Oklahoma Farmers Union, Jeremy Traurig from the Oklahoma Department of Commerce, and Jody Harris, from the USDA office of Rural Development.

Alliance Formed to Help Protect Bats

Bat Conservation International (BCI), the American Wind Energy Association (AWEA), the U.S. Fish and Wildlife Service, and the U.S. Department of Energy's National Renewable Energy Laboratory are coming together to address an emerging wildlife issue in the wind industry, bats. In some parts of the country bats are showing unexplained tendencies to collide with wind turbine blades. These organizations are joining forces to learn why these collisions are occurring, and how to prevent them.

Bats are an important part of the environment. They are predators of night-flying insects, including many agricultural pests. It is not clear at this time why bats are inclined to collisions with wind turbines, but study and collection of data will be

important to developing strategies to prevent future collisions.

Several wind energy companies and government agencies are providing matching funds for the cooperative effort. A portion of the money is being used by BCI to hire a full-time biologist who will spend three years coordinating work related to bat interactions with wind turbines. In addition to attempting to prevent collisions, the group will suggest methods to help in the siting of wind projects for locations that are safer for bats.

The cooperative effort was finalized at a two-day workshop in Juno Beach, Florida. Leading bat scientists and experts from other fields met with representatives from BCI, the wind industry, and federal and state agencies to share information and discuss ideas to better understand and resolve issues with bats and wind turbines. The workshop was organized by BCI and US Fish and Wildlife Service, funded by NREL and AWEA, and hosted by FPL Energy.

Farm Bill Section 9006 NOFA Released

On May 4th, Agriculture Secretary Ann M. Veneman announced the availability of \$22.8 million in grants as a part of President Bush's energy plan to develop renewable energy systems and promote energy efficiency improvements.

In 2003, \$21.7 million was awarded to assist 114 applicants from 24 states develop or improve wind power, anaerobic digester, solar,

ethanol, and other bioenergy related systems or energy efficiency improvements.

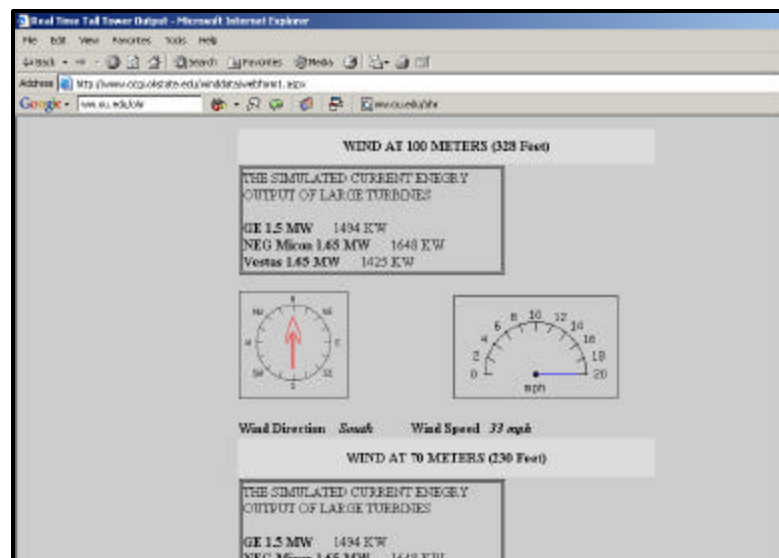
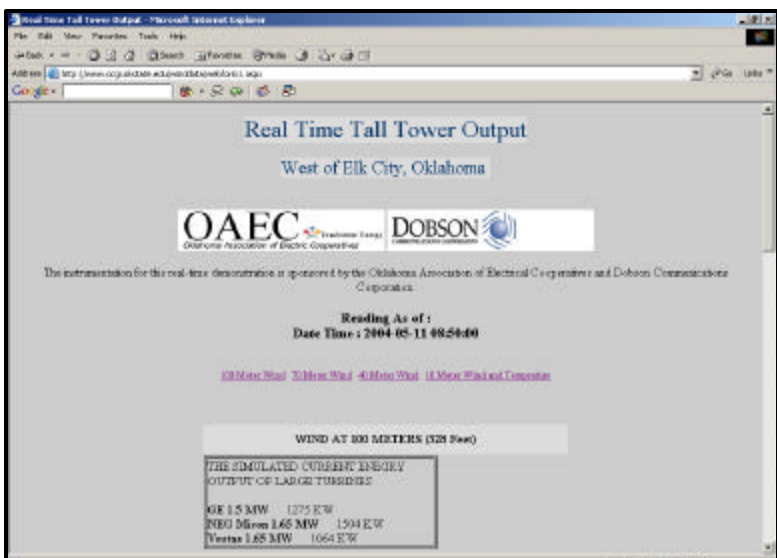
Eligible applicants must be agricultural producers or rural small businesses, U.S. citizens or legal residents, and have demonstrated financial need. The grant funds may be used to pay up to 25% of the eligible project costs. Eligible projects include ones that derive energy from wind, solar, biomass, geothermal source, or hydrogen derived from biomass or water using wind, solar, or geothermal energy sources.

Applications must be completed and submitted postmarked no later than 75 days from May 5th. For more details, contact your local USDA representative. The USDA contact for Oklahoma is Jody Harris, and she can be reached at (405) 742-1036, or at jody.harris@ok.usda.gov.

OWPI Releases Real Time Data Page

On March 5th, OWPI, with the help of Oklahoma Association of Electric Cooperatives (OAEC) and Dobson Communications Corporation, released their real time data webpage. Instruments were installed in early October on a Dobson cell tower with wind instruments, including cup anemometers and wind vanes.

Wind speed and direction are shown at heights of 33-ft, 131-ft, 230-ft, and 328-ft, and are updated every 10 minutes. The temperature is also shown from a height of 10-ft. The corresponding potential energy production from three different types of wind turbines is also shown for each of the instrument heights. The Real Time Page can be found at: <http://www.ocgi.okstate.edu/owpi>.



Above: A view of OWPI's Real Time Data Page showing wind speed, wind direction, and simulated energy output.

Maryland Passes Clean Energy Bill

In early April, Maryland joined the ranks of forward thinking states with the passage of their Maryland Clean Energy Bill by the Maryland General Assembly. The bill requires that 7.5% of the state's electricity come from renewable energy sources by the year 2014.

Maryland's Clean Energy Bill received support from the state's two largest utilities, Pepco and Constellation Energy Group, as well as a broad coalition of Maryland environmental, health, student, and other groups. Maryland now joins a list of 14 other states that have passed similar legislation.

Editors Commentary: OWPI applauds Maryland on their aggressive support of renewable energy. Their forward thinking will aid the economic development for the entire state.

World Trade Center Developer Calls for RFQ

World Trade Center Properties, LLC has issued a request for qualifications (RFQ) for parties interested in developing and operating wind power facilities that are proposed for the new Freedom Tower. The Freedom Tower will be the first, and tallest tower to be rebuilt at the World Trade Center site in New York City.

Developers of the new Freedom Tower have proposed installing wind turbines at the top of the office tower in an upper "open" portion of the tower. The turbines are projected to produce more than 10% of the building's electricity needs.

Editor's Note: The above story contains excerpts from the American Wind Energy Association's (AWEA) Wind Energy Weekly#1083.

Colorado RPS Fails for Second Time

The Colorado Senate recently voted 16-19 against legislation calling for a renewable portfolio standard (RPS) for Colorado. This was the second attempt to pass an RPS for the state.

The legislation failed despite receiving support from a broad range of stakeholder communities, and the utilities of Xcel Energy and Aquila. The bill would have required utilities to purchase electricity from renewable energy sources in an amount up to 900 MW by 2010.

Gamesa Inaugurates First US Wind Farm in IL

On March 26, Gamesa Energia inaugurated its first wind farm in the United States, located in Illinois. The Mendota Hills wind farm is the first wind farm to be producing power for the state of Illinois. The farm is equipped with 63 Wind Turbine Generator 800kW turbines, for a total capacity of 50.4 MW. Commonwealth Edison (ComEd) is the utility purchasing the power produced by the wind farm. ComEd supplies power to the Chicago metropolitan area.

Mendota Hills wind farm is an example of Gamesa's midwestern presence. Gamesa is also developing projects in Minnesota, Wisconsin, South Dakota, Iowa, and other states. 2,000MW is currently in different phases development by Gamesa in the United States. With the extension of the production tax credit (PTC), Gamesa plans to install approximately 200 MW per year of wind energy capacity.

1Q Report: Little to No Growth in 2004

2004 is proving to be a difficult year for the wind power industry. AWEA recently reported its forecast of little to no growth for the industry in 2004, compared to a near record year in 2003 with 1,687 MW installed. The reason for this lack of growth is due to the inability of U.S. Congress to pass an extension of the federal wind energy Production Tax Credit (PTC). On May 11th, the Senate did pass legislation that contains a three-year extension of the PTC, but the legislation still needs approval from the House of Representatives and a Senate-House conference committee before being signed into law.

AWEA predicts that less than 500MW will be installed in 2004. Wind developers generally need at least six months for preparation in building a project. This includes time to obtain permits, purchase equipment, arrange financing, and plan construction. The longer the delay in enacting the PTC, the less likely projects will be completed by the end of the year.

Ripple effects can also be felt down the supply chain. Fiberglass manufacturers which make wind turbine blades and trucking companies that haul turbines and other equipment to wind farm sites are just a few of the companies that are affected by the lack of industry growth.

If the wind industry in the United States were able to grow at a rate of 18% per year, six percent of the nation's electricity could come from wind power by 2020. This would result in over \$100 billion of investment in rural America.

Most industry participants predicted that 2004 could have been a better year than 2003 had the PTC not expired. Wind power, with the PTC, is now in a position to be competitive with other electricity generation sources. Wind power is not affected by fuel price volatility, and wind energy costs are predictable over time. Once a wind plant is built, the cost is stable.

OR Drafts Renewable Energy Plan

Oregon recently unveiled a draft renewable energy action plan for the state. The plan is designed to encourage electricity production from renewable energy sources such as wind, biomass, hydropower and geothermal energy. Energy goals from the plan include 300 MW from wind power, 50 MW from biomass, 10 MW from hydropower, 5 MW from biogas, and 1 MW from geothermal energy. The plan calls for these goals to be met by 2006.

The initial report was written with the input from stakeholders and numerous state agencies including Agriculture, Economic Development, Energy, Environmental Quality, Forestry, and Water Resources. The draft report was sent to interested individuals, businesses and organizations for comments and recommendations. A series of public meetings were also held to receive comments.

The draft plan is currently in the process of being revised based upon the feedback that has been received. A copy of the draft plan can be found on the Oregon Office of Energy's website at www.energy.state.or.us.

CT Governor Calls For Clean Energy Purchase

Governor John G. Rowland of Connecticut announced on April 22nd his call for the purchase of renewable energy for the total electricity needs for the state government by the year 2010. This would be the largest state purchase of clean energy in New England.

Executive Order 32 calls for the state to purchase 20% of the electricity from renewable energy by 2010, 50% by the year 2020, and 100% by the year 2050. This amount of electricity generated by renewable energy would result in 420 million pounds less of carbon dioxide in the atmosphere by 2020. This voluntary purchase is the first in New England and among the most aggressive in the nation.

Connecticut now joins a handful of other states that put into action clean energy purchase programs for government-operated facilities. This measure calling for renewable energy to power state buildings, colleges and universities was promoted by SmartPower, a non-profit group dedicated to promoting clean and renewable energy.

Transmission Lines Now on OWPI Wind Resource Maps

A new addition has been made to the interactive wind resource map located on OWPI's website. You can now view a general location of where transmission lines lay with regards to the wind resource across the state of Oklahoma. The transmission line layer can be viewed by clicking the check box on the right hand side of the Layers section on the Internet Map Server and show as green lines on the wind resource map.

Oklahoma does not maintain an official transmission line data layer. OWPI took on the task of creating this data layer to provide general planning information for possible siting of utility scale wind farms. The lines shown are those that are 69kV and greater, and capable of accepting input from large turbines of utility scale wind farms. It should be noted that this does **not** imply that the capacity to add wind-generated electricity is available.

Data were collected from the Southwest Power Pool, Western Farmers Electric Cooperative, Oklahoma Gas & Electric Company, KAMO

Electrical Cooperative, and USGA Digital Line Graphs. The Oklahoma Wind Resource Map can be found on the OWPI website at www.ocgi.okstate.edu/owpi.

REC's: Renewable Energy Certificates **Part 1: Definition**

Renewable energy certificates (REC's) are continuing to gain an important part of the wind power and other renewable energy generation markets. Yet, the topic of REC's and how important they are can be a confusing topic. This month OWPI will begin a series of articles defining and explaining REC's and their important role in the wind power and other renewable energy markets.

What are renewable energy certificates? When 1 MWh of power is produced from a renewable energy source, such as wind, that is 1 MWh *less* that was produced from conventional power sources, which are generally fossil fuels such as coal and natural gas. This means that there are less emissions, such as carbon dioxide and other pollutants, since the coal or other conventional power sources were not used.

This means that two different "products" are created when power is generated from renewable energy sources: **1.** electricity and **2.** a set of environmental benefits related to power from conventional sources. These environmental benefits make a renewable energy certificate (REC). One REC equals the environmental benefits connected with 1 MWh of electricity produced from renewable energy. The REC also designates the fuel source, the location where the electricity is generated, and the year (or vintage) the electricity is generated.

REC's allow for the environmental benefits to be sold separately from the electricity provided by renewable energy. A person is able to buy a certificate from a REC supplier (such as a renewable generator, marketer, or broker), yet still purchases electricity from their normal electric utility. If a person purchases a REC, it allows that person to support the creation of electricity from renewable sources, even if their utility does not offer electricity from wind power or other renewable sources.

When the REC is sold separately, the power being created from renewable energy cannot claim to be "green" or "environmentally friendly." That "greenness" is what is sold with the REC. The customer that buys the REC is the only person who can claim the environmental benefits associated with the electricity.

REC's and electricity can also be sold together. This is known as a "green power" transaction. In this case, a customer buys both the electricity, and the environmental benefits associated with it generally from their local electricity provider. OG&E's Wind Power Program is an example of both the electricity and the environmental benefits being sold together.

Next month, OWPI will discuss how REC's play an important role in the development of the wind power market in the U.S.

Editor's Note: The above is a summary of the article "REC's: Innovative Products For Wind Power Markets" by Craig Hanson and Vince Van Son from the May 2004 issue of North American Windpower, Copyright 2004.

Electronic Distribution of the WinCharger

If you have email and access to the web, the WinCharger staff would like to put you on our electronic mailing list for future sharing of WinCharger issues. If you do have an email address, please send it to Kylah McNabb at windgirl@ou.edu. This helps us keep our mailing costs low and allow us to continue to produce the WinCharger, as well as, ensure you receive the newsletter the quickest way possible. Thank you for your cooperation and understanding.

Calendar of Coming Events

- Jun 9** Meeting of the **Oklahoma Renewable Energy Council**, 10 am to noon, OK Department of Commerce, Gallery 1-2 See www.ocgi.okstate.edu/orec for more information.
- Jun 18-20** **Renewable Energy & Sustainable Living Fair**, hosted by Midwest Renewable Energy. Custer, WI. See www.the-mrea.org/energy_fair.php, or call (715) 592-6595 for more information.
- Jun 23-24** **Community Wind Energy**, A national conference for new models of wind development. Minneapolis Convention Center, Minneapolis, MN. For more information see www.windustry.org, or contact Sarah Johnson (612) 870-3461.
- Jul 11-14** **NARUC Summer Committee Meeting**, The National Association of Regulatory and Utility Commissioners, with commissioners representing U.S. states, federal agencies and international members, will hold committee meetings addressing regulatory policy. Energy professionals are encouraged to attend. Salt Lake City, UT, call (202) 898-2200, or visit <http://www.narucmeetings.org> for more information.
- Jul 14** Meeting of the **Oklahoma Renewable Energy Council**, 10am to noon, OK Department of Commerce, Gallery 1-2. See www.ocgi.okstate.edu/orec for more information.

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