WIND POWERING AMERICA

WIND POWERING AMERICA FY08 ACTIVITIES SUMMARY

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Dear Wind Powering America Colleague,

We are pleased to present the Wind Powering America FY08 Activities Summary, which reflects the accomplishments of our state Wind Working Groups, our programs at the National Renewable Energy Laboratory, and our partner organizations. The national WPA team remains a leading force for moving wind energy forward in the United States.

At the beginning of 2008, there were more than 16,500 megawatts (MW) of wind power installed across the United States, with an additional 7,000 MW projected by year end, bringing the U.S. installed capacity to more than 23,000 MW by the end of 2008. When our partnership was launched in 2000, there were 2,500 MW of installed wind capacity in the United States. At that time, only four states had more than 100 MW of installed wind capacity. Twenty-two states now have more than 100 MW installed, compared to 17 at the end of 2007. We anticipate that four or five additional states will join the 100-MW club in 2009, and by the end of the decade, more than 30 states will have passed the 100-MW milestone. WPA celebrates the 100-MW milestones because the first 100 megawatts are always the most difficult and lead to significant experience, recognition of the wind energy's benefits, and expansion of the vision of a more economically and environmentally secure and sustainable future. Of course, the 20% Wind Energy by 2030 report (developed by AWEA, the U.S. Department of Energy, the National Renewable Energy Laboratory, and other stakeholders) indicates that 44 states may be in the 100-MW club by 2030, and 33 states will have more than 1,000 MW installed (at the end of 2008, there were six states in that category).

WPA continues to work with its national, regional, and state partners to communicate the opportunities and benefits of wind energy to a diverse set of stakeholders. WPA now has 33 state Wind Working Groups (welcoming Nebraska, Arkansas, and Kansas in 2008) that form strategic alliances to communicate wind's benefits and challenges to state stakeholders. We anticipate adding several more state Wind Working Groups in 2009. More than 140 members of national and state public- and private-sector organizations from 36 U.S. states and Canada attended the 7th Annual WPA All-States Summit in Houston in June. The WPA Web site activity has doubled in 2008, and the site now receives 45,000 to 50,000 visitors per month.

WPA's emphasis remains on the rural agricultural sector, which stands to reap the significant economic development benefits of wind energy development. Additionally, WPA continues its program of outreach, education, and technical assistance to Native American communities, public power entities, and regulatory and legislative bodies. Many of our state partners are active in attracting the wind manufacturing supply chain and developing the workforce needed for a rapidly growing industry.

We continue to work on wind-siting issues, including radar, with other agencies that have responsibility for development on public lands and protection of wildlife. WPA solidified its Wind for Schools pilot effort in Colorado, Nebraska, Kansas, South Dakota, Montana, and Idaho and plans to expand it to additional states in 2009. WPA managed the three Regional Wind Energy Institutes to educate and train stakeholders to present the wind energy story. Through these joint efforts and many others, we continue to expand wind energy as a viable option for power generation.

The 20% Wind Energy by 2030 scenario requires significantly enhanced outreach efforts to communicate the benefits, the required infrastructure upgrades, and the regulatory actions needed to accomplish this promising future for many stakeholder groups in all regions of the country.

The past year has been a year of transition in many ways. WPA's national coordinator, Phil Dougherty, moved on to the private sector. Our everexuberant DOE colleague Steve Palomo passed away, and we all miss his engaging spirit. Additionally, there is new leadership at NREL, DOE, and AWEA. But as always, we appreciate the commitment of our partners to continue to work together for a cleaner, more prosperous America with increased energy security.

Regards,

Larry Flowers, WPA National Technical Director

Lisa Barnett, WPA National Coordinator

Contents

The Wind Powering America FY08 Activities Summary is dedicated to the memory of our friend and colleague Steve Palomo.

Cover photos:

Members of the WPA team at NREL's National Wind Technology Center. Back row, left to right: Larry Flowers, Trudy Forsyth, Ian Baring-Gould, Brian Parsons, Marc Schwartz, Eric Lantz. Front row, left to right: Ruth Baranowski, Marguerite Kelly, Beverly Cisneros, Bob Gough, Michael Milligan.

The 99-MW Grand Ridge Wind Energy Center in Illinois came online in 2008. Photo credit: Invenergy LLC.

Sanborn Central School in Forestburg, South Dakota joined the Wind for Schools program in 2008. Photo credit: East River Electric Power Cooperative.

WPA's Phil Dougherty presents a Carpe Ventem Award to John Deere's Dave Drescher for his role in bringing Harvest Wind, Michigan's first utility-scale wind farm, online.

WPA State Activities

Alaska

A wind-diesel site tour in Kotzebue, Alaska. Photo credit: Brad Reeve.

- The Alaska Wind Working Group (WWG) initiated a wind-training interest group that focuses on training wind technicians and related activities. State university campuses, vocational institutions, private industry, manufacturers, and funding agencies attended the first meeting to identify roles and responsibilities in a coordinated effort to initiate a wind-training program for Alaska.
- The WWG initiated the development of a statewide programmatic environmental assessment to streamline and facilitate wind permitting. At the first round of meetings, state and federal agencies showed great interest in immediately developing a best practices wind-permitting guide with the input of all relevant agencies. The guide will allow developers and agencies to streamline and coordinate the permitting process.
- The WWG participated in and conducted a statewide wind development screening study as well as regional energy planning guides. It also contributed to the Alaska State Energy Plan that will be released by the Governor.
- In January 2008, more than 80 participants learned about wind-diesel system technology at the 2-day Wind Energy Applications and Training Symposium (WEATS) in Bethel. Also discussed were policy options that foster the further development of wind-diesel systems with the goal to reduce the high cost of energy in rural Alaska and move toward energy independence.
- In April 2008, more than 100 participants from more than 11 countries attended the 2-day International Wind-Diesel Workshop in Girdwood with additional site visits to wind-diesel systems in Kotzebue and Kasigluk. The participants shared information about system performance and industry trends. Presentations, networking, and a wind industry presence yielded positive feedback from participants. Due to this success, the organizers discussed presenting this workshop annually, alternating locations between Canada and Alaska.

The 0.3-MW Hooper Bay project came online in 2008. Alaska Village Electric Cooperative/ PIX16066.

The 0.2-MW Savoonga project also came online in 2008. Alaska Village Electric Cooperative/ PIX16071.

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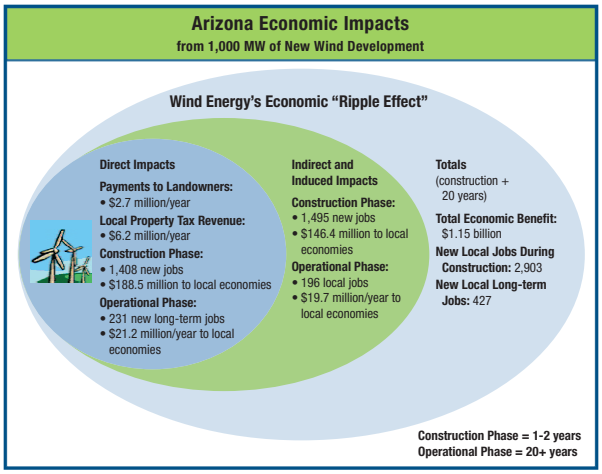

Analyst Eric Lantz determined the economic impacts to Arizona from 1,000 MW of new wind development.

Arizona

Although Arizona is one of the fastest-growing states, with new electric needs exceeding 800 MW per year, no commercial wind projects exist in the state. The State Wind Outreach Team (SWOT) identified priorities to help build wind development in the state, and team members engaged in the following activities in FY08 to support these priorities:

- Provided technical assistance to the Navajo Nation to develop their resource – one of the best sites in the state. Acted as a liaison to help coordinate various participants for the Gray Mountain Project
- Hosted working group meetings to exchange technical information on wind energy integration costs, wind forecasting, development activities in other states, and project updates. Every utility and major state agency is an active participant in the Arizona Wind Working Group
- Developed an avian protocol to assist Arizona state agencies in developing a reasonable approach and criteria for avian concerns related to wind development
- Participated in meetings, made presentations, and distributed information to potential wind energy developers, county planning commissions, elected officials, and utility representatives statewide
- Continued data collection and information publishing on the Northern Arizona University (NAU) Web site, the most comprehensive wind energy site in the state
- Expanded the SWOT from two to five people who are actively working to educate and promote wind energy in the state
- Developed a strategic plan to guide state activities for the next 3 to 5 years.

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The Arkansas Wind Working Group was launched on June 26, 2008. Photo credit: Jenny Ahlen.

Arkansas

- In January 2008, Arkansas hosted its first Wind Energy Conference, which attracted more than 200 people. Speakers included Larry Flowers from NREL, Tom Wind from Wind Utility Consulting, Warren Ault from LM Glasfiber, and Jay Godfrey from American Electric Power. This conference provided the opportunity to form the Arkansas Wind Working Group.
- In June 2008, the Arkansas Wind Working Group held its first official meeting. Approximately 50 business professionals, commercial wind developers, private landowners, academics, and state officials were introduced to the WPA program and began strategic planning for Arkansas. Five subcommittee groups were identified: Small and Community Wind Development, Commercial Wind Development, Policy and Legislation, Education and Outreach, and the Manufacturing Sector. Each of these five

subcommittees selected a chairperson, identified stakeholders who were not present and should be invited to participate, and established initial goals.

- WPA awarded Arkansas a $25,000 grant to start Arkansas' anemometer loan program. The state is currently planning the application and implementation processes.

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Colorado

Wind Energy School Programs

- The Colorado Wind for Schools team developed a tracking matrix to help coordinate activities by the State Facilitator, the Wind Applications Center (WAC), and the Governor's Energy Office. The matrix shows the status of each of 19 school wind sites in priority order of installation likelihood, most recent action by the team, and next step toward installation. At the end of FY08, one installation date was planned for Colorado, but three more projects were close to a final agreement on installation taking place before the end of the 2008-2009 school year.
- One of the biggest successes of the past year was the building of the Colorado Anemometer Loan Program (ALP). In past years, the Governor's Energy Office (GEO) ran the program, contracting with local installers and sending the raw wind data to the University of North Dakota for wind resource analysis. With WPA support, a contract was secured with the GEO to establish the Colorado ALP at Colorado State University. Michael Kostrzewa oversees a team of student installers and wind resource analysts who have installed 12 anemometer towers across Colorado, analyzed the wind from another 15 sites, updated the wind data from all of the historical sites in the program, and published all data online at www.engr.colostate.edu/ALP. More information about the program, including installation photos, is available at www.engr.colostate.edu/ALP/ALP_Current_Personnel.htm.
- Along with four dedicated mechanical engineering undergrads, Kostrzewa has built a team for the upcoming planned installation site and plans to add additional students as needed when additional school projects are planned. About 13 students are available to work on the WAC and ALP projects as project engineers on the WAC, tower installers, and wind resource analysts for the ALP. All CSU students will have an opportunity to work on each of the programs so that they will know how to site and install a tower for wind prospecting and development; how to analyze wind data; and how to site, permit, and install a small-scale wind turbine. Plans are underway to install an additional four anemometer towers at potential Wind for Schools host schools, and students will be involved in this process as well.

In February 2008, the Wray School District RD-2 dedicated its 900-kW Americas Wind Energy wind turbine. Ian Baring-Gould/ PIX15457.

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Georgia

Members of the Georgia Wind Working Group visit the Grant Park wind turbine. Photo credit: Rita Kilpatrick.

- The Georgia Wind Working Group (GWWG) organized a local planner's workshop and town hall meeting in the Savannah area and responded to requests to present at city council and planning meetings as well as a Chamber of Commerce statewide conference. GWWG members also presented and displayed on mountain wind at two events in north Georgia. Background materials for coastal, offshore, and mountain wind were developed and widely disseminated at these events.
- The GWWG provided comments to Minerals Management Service (MMS) as part of its rulemaking processes for offshore wind and attended meetings to learn about proposed rules. MMS selected three offshore Georgia sites for wind-related assessment work under an interim rule, and Southern Company is proceeding with an interim lease. The GWWG educated the public about this and other offshore wind regulatory opportunities and helped disseminate the report Southern Winds published in fall 2007 by Georgia Tech and Southern Company.
- The GWWG developed and disseminated several fact sheets, including one on north Georgia wind energy and one for landowners interested in developing wind on their property.
- Team members developed sample ordinance language for local government officials based on input received from other states and local planners in Georgia.
- The group designed a display board for use at a coastal wildlife education center.

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Hawaii

Wind Energy School Programs

A contract between the University of Hawaii – Maui Community College (MCC) and State of Hawaii – Department of Business, Economic Development, and Tourism supports incorporating wind energy education and demonstration activities into the Sustainable Technologies Program at the college. Activities include:

- New full-time Instructor Carlton Atay was hired in August to teach in and coordinate the MCC Sustainable Construction Technology Program.

- William Bennett was hired to teach Energy 101: Introduction to Sustainable Energy, which includes information on wind energy. Instructional costs for this three-credit course were paid with funds from this project.
- Meetings were held regarding wind demonstration projects on the MCC campus, including at least one anemometer and tower. A student employment position was established for the anemometer loan program and other wind energy projects. MCC hopes to hire two student employees who will work from 10 to 15 hours a week on sustainable energy projects.
- Twelve months of wind data gathered in Haiku, Maui from an anemometer loan program are now available for use in MCC Sustainable Energy classes. MCC students traveled to the Haiku location during spring 2008 to see the anemometer.

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Idaho

In 2005, a WPA Carpe Ventem (Seize the Wind) Award was presented in honor of Idaho's first utility-scale project, the 10.5-MW Fossil Gulch Wind Park near Hagerman. Fast forward to 2008, and Idaho is home to 75 MW of wind energy development with another 71 MW under construction. The four new wind project sites are located in areas first scouted by the WPA-sponsored anemometer loan program.

Wind Energy School Programs

- As part of WPA's Wind for Schools program, a Skystream turbine was installed between the Jerome Middle School and Elementary School in Jerome at the end of FY08.

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A Skystream turbine is installed at Jerome Middle School in Idaho as part of WPA's Wind for Schools program. Stephanie Lively, Boise State University/PIX16146.

GE Energy turbines at the new Grand Ridge Wind Energy Center in LaSalle County, Illinois. Invenergy LLC/ PIX16041.

Illinois

- The Illinois Wind Working Group hosted the second annual Advancing Wind Power in Illinois Conference in June 2008 in Bloomington, Illinois. The conference attracted a capacity crowd of more than 350 people.
- The group also hosted a Siting, Zoning, and Taxation Conference in Peoria in December 2007 that attracted 225 people.
- The Illinois Institute for Rural Affairs (IIRA) at Western Illinois University continues to operate and maintain the state's wind monitoring program. The program now has information on 27 sites throughout Illinois and has utilized the data to create wind maps at various heights (simulating hub heights for small to large wind turbines). The data and maps are available at www.illinoiswind.org/, along with online resources for individuals interested in wind energy in Illinois.

Wind Energy School Programs

Illinois State University welcomed 42 students to the new Renewable Energy interdisciplinary undergraduate major in fall 2008. The curriculum includes courses in technology, economics, and agriculture. Students in the program may choose between a technology track or an economics/public policy track. Renewable energy experts and potential employers who comprise the program advisory committee reviewed the curriculum to ensure that its scope and depth will result in graduates that are highly trained and knowledgeable. Graduates are expected to be conversant in diverse disciplines, including technical, managerial, political, and economic issues important to renewable energy.

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Indiana

The 130.5-MW Benton County, Indiana wind farm came online in 2008. Turner Hunt, Vision Energy LLC/PIX16109.

- The Indiana Wind Working Group (IWWG) now has 200 members dealing with a variety of topics, including transmission, siting, and distributed wind. As part of the IWWG facilitation, the Indiana Office of Energy & Defense Development (OED) created a strategic plan for wind energy in Indiana. This plan was developed with input from IWWG members.
- OED continued its public outreach program in FY08, including hosting Windiana, a statewide conference in Indianapolis in June that attracted more than 300 people.
- The OED also conducted meetings, regional workshops, and county-level informational meetings; conducted presentations before local, regional, and state organizations; and conducted outreach at the Indiana State Fair.
- Wind development in Indiana accelerated following the release of the Tall Towers Wind Study commissioned by OED. For the first time the wind resource at 100 meters above the average terrain was measured, and the new wind resource maps showed that Indiana has a viable wind resource. Wind development is now underway in 15 Indiana counties.

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Kansas

- Governor Kathleen Sebelius announced the formation of the Kansas Wind Working Group (WWG) in January 2008. Formed through Executive Order 08-01 (learn more at http://www.governor.ks.gov/executive/Orders/exec_order0801.htm), the WWG will educate stakeholder groups with current information on wind energy markets, technologies, economics, policies, prospects, and issues. Lt. Governor Mark Parkinson serves as chair of the Kansas Wind Working Group, which will be supported by the Energy Programs Division of the Kansas Corporation Commission (KCC) and the lieutenant governor's office.
- With the assistance of WPA and NREL, Kansas developed new wind resource maps. Mean annual power density and mean annual wind speed maps were developed for 100, 70, 50, and 30 meters. The maps are available on the KCC Web site at http://www.kcc.ks.gov/energy/wind.htm.
- The KCC Energy Programs and Kansas Department of Commerce sponsored an exhibit at the 2008 Windpower Exhibition and Conference in June in Houston. Governor Sebelius' keynote address for the conference's opening general session generated substantial interest in the Kansas exhibit.
- In response to the considerable activity regarding Kansas land leasing for potential wind farm development, KCC Energy Programs developed a Kansas Wind CD featuring more than 900 pages of resources for farmers and ranchers. Nearly 2,000 copies were distributed at more than a dozen area and regional forums across the state. These forums were organized and co-sponsored by the Kansas Energy Office, Kansas Rural Center, Climate & Energy Project, Kansas Farm Bureau, Kansas Farmers Union, numerous county and regional economic development organizations, and county commissioners.

Wind Energy School Programs

- The Kansas Wind for Schools program, under the direction of Ruth Douglas Miller and Dan Nagengast, installed five turbines in FY08:
  - — Fairfield High School in Langdon in May
  - — Sterling High School in Sterling in June
  - — Walton Elementary in Walton in June
  - — Concordia High School in Concordia in September
  - — Kansas State University (KSU) campus in September.
- At KSU, Douglas Miller taught a combined wind and solar system design class to 15 students in spring 2008 (three graduate students and 12 seniors). Eight students were involved in siting turbines at Wind for Schools project sites. During the fall semester, Douglas Miller directed eight undergraduate students in wind siting projects at Wind for Schools project sites, a Kansas Department of Transportation site, and a site belonging to the Kansas 4-H Foundation. Students also visited three large wind farms nearby and one turbine refurbishing shop. Two of these students are doing honors research to build a Web site displaying data from all Wind for Schools turbines.

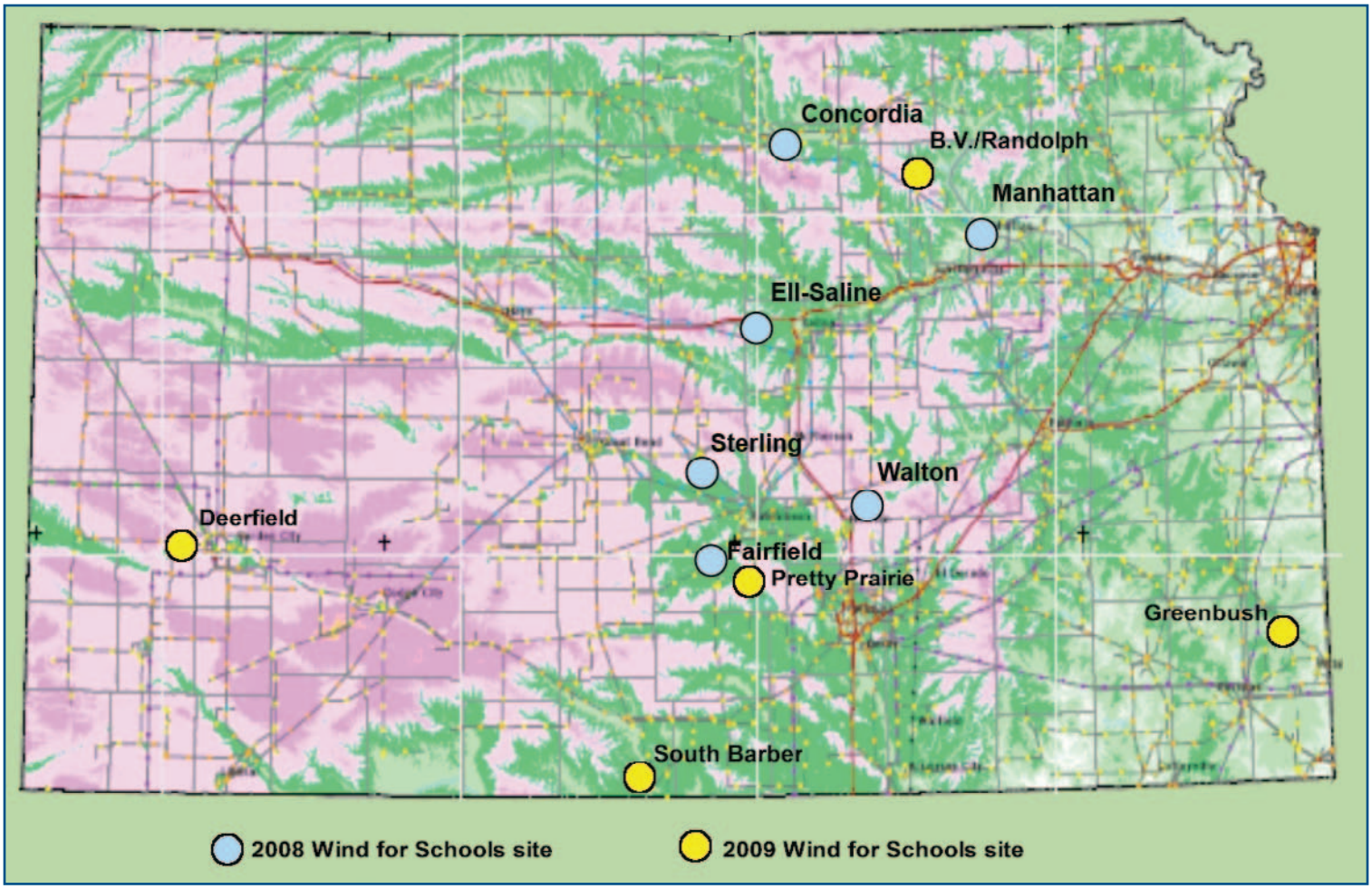
9th Annual Kansas Wind and Renewable Energy Conference

September 23-24, 2008
Topeka, Kansas

The 9th Annual Kansas Wind and Renewable Energy Conference attracted more than 760 people from 25 states.

"The world energy challenge is a great opportunity for Kansas," said Kansas Lieutenant Governor Mark Parkinson, as he welcomed delegates to the annual event. With tremendous renewable resources, especially from agriculture and wind, Parkinson said the state has the capacity to generate more than 1,000 MW of electricity from wind by the end of 2008, exceeding a 10% goal announced in 2007 by Governor Sebelius.

Phase I of the Smoky Hills Wind Farm west of Salina brought 100.8 MW online in Kansas. The completed project will have a 250-MW capacity. Amanda Brown/PIX16023.



The 2008 and 2009 Wind for Schools project locations in Kansas. Credit: Dan Nagengast.

A Skystream turbine was installed at Kansas State as part of the Kansas Wind for Schools program. Ruth Douglas Miller/PIX16025

- The Wind Application Center was involved in four KSU research proposals and received one internal grant to support development of the Web site and further research into smart grid communications using the turbine data. One KSU grad student visited the National Renewable Energy Laboratory to receive training on setting up a small-wind testing site.
- Douglas Miller made six formal Wind for Schools presentations: two to Kansas science teachers at conferences, one to Kansas School Board Association members, two to workshops for school facilities personnel, and one at the Kansas Renewable Energy Conference.
- Nagengast provided one-on-one counseling with schools interested in the Wind for Schools program, before and after the application process. Nagengast provided numerous Wind for School program presentations at various wind summits, renewable energy events, and conferences. He also worked with journalists on three articles about the program.

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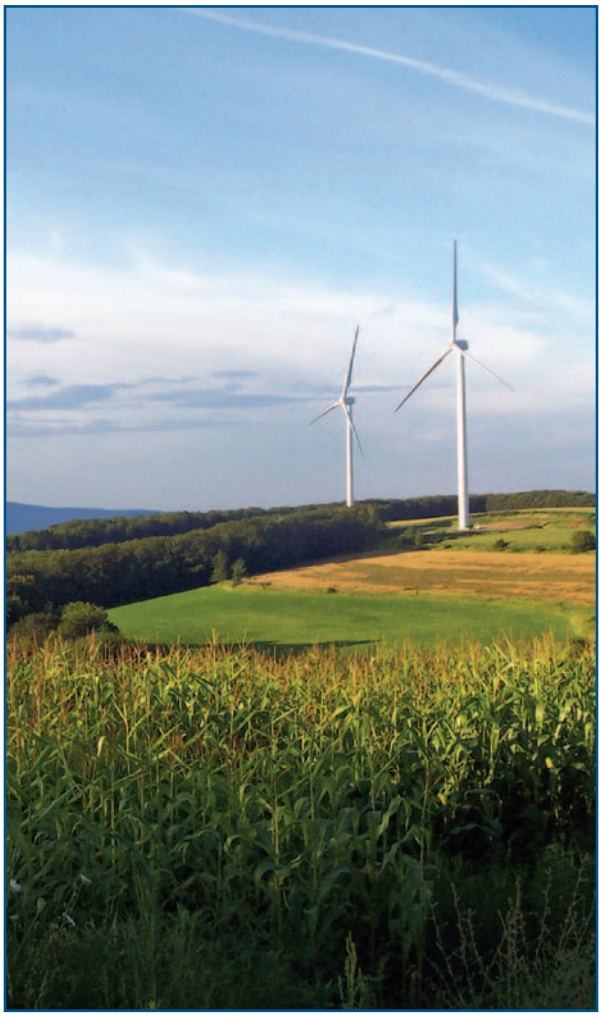
Maine

After nearly a year of stakeholder meetings and analysis, the Maine Task Force on Wind Power Development completed its recommendations and compiled them into a report in February 2008. On April 18, 2008, the recommendations of the task force were enacted into law. Since then, numerous rulemakings and changes in policy have been, or are now being, processed based on the following key task force recommendations:

- *Wind Power Development Goals:* Maine should seek to host at least 2,000 MW of installed wind power by 2015, and at least 3,000 MW by 2020. Of the latter, at least 300 MW could be achieved with offshore projects.
- *Expedited Permitting Areas:* About 2/3 of the state is proposed to be identified as within Expedited Permitting Areas that are subject to streamlined permitting. This includes all organized towns and portions of Maine's unorganized areas that are on the fringe of the jurisdiction of the Maine Land Use Regulatory Commission (LURC).
- *Streamlined Permitting:* The Maine Department of Environmental Protection (DEP) is deemed to have jurisdiction of all Expedited Permitting Areas, with an expedited process and general decisions made within 185 days.
- *Consistent Permitting Process:* LURC and DEP are to harmonize their two regulatory approaches to wind power development, to include LURC's adoption of DEP's approaches regarding bird and bat impacts, noise, shadow flicker, and impacts on scenic resources of state and national significance.
- *Tangible Benefits for Maine People:* As part of a project's regulatory review, it must demonstrate that the project provides significant benefits to Maine people and its environment.
- *Community-Scale Wind Development:* The task force recommends promoting the development of more of these projects through the adoption of additional financial incentives, drafting of a model wind ordinance, identification of actions to remove obstacles at the pre-construction stage, and other activities.
- *Offshore Wind Power:* The state should actively work to understand the potential for offshore projects and be ready when the technology and economics allow.
- *Tracking Progress:* The Office of Energy Independence and Security should annually track the state's progress toward meeting its wind power development goals and should complete a comprehensive 5-year assessment by December 2013 that would assess the status of meeting its 2015 and 2020 goals, examine its experiences in its new permitting requirements, review



The 57-MW Stetson Wind Farm in Maine was constructed in 2008. First Wind/PIX16061.

technology and developer trends and projections, evaluate progress in Maine and the rest of New England in making greenhouse gas reductions, and make recommendations for new policies and regulations.

Small Wind Rebate Program Update

With assistance from Trudy Forsyth (NREL), the PUC is in the process of drafting rules for a new rebate program for small wind purchases (under 100 kW) in Maine. A public hearing was held this fall, and the details are being deliberated. The final program will be announced in January 2009.

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Maryland

- The Maryland Energy Administration (MEA) created the Windswept Grant Program, a new rebate program for small wind systems, to encourage small wind system development in Maryland and to increase public awareness of wind technology. The MEA distributes limited grants to residential and non-residential applicants for wind projects of at least 1 kW for residential properties and 1.5 kW for non-residential properties. The maximum grant is $10,000 ($2,500 per kW). Through this program, 14.4 kW of small wind power capacity has been installed since November 2007 and 46.6 kW of proposed wind power capacity has applied since July 2008. The first funding cycle was limited to $15,000, but due to high demand (with no advertising), funding was increased to $50,000 for FY09.
- The popularity of the State Anemometer Loan Program led to the development of a Maryland-based online wind calculator, which provides ballpark estimates of wind speeds at 30- and 50-meter heights as well as tools to determine payback and environmental benefits for popular wind turbine systems. Referring interested parties to the online wind calculator assists with the volume of inquiries from interested parties.
- The MEA also drafted a model small wind zoning ordinance, which was vetted through several wind energy experts from the U.S. Department of Energy, National Renewable Energy Laboratory, American Wind Energy Association, and state agencies and counties.
- The State Anemometer Loan Program installed four of the six anemometers originally in its equipment pool. MEA has since added a rooftop anemometer, which is currently scheduled for installation at the University of Maryland of College Park to study the feasibility of a 53-kW Wind Cube project for at least two sites. The program also has a long wait list.
- The MEA will continue to work with Tri-County Council in Western Maryland to arrange training workshops on applying for grants or loans through the USDA Section 9006 Farm Bill. (The USDA Renewable Energy Systems and Energy Efficiency Improvements Program provides direct financial assistance to farmers, ranchers, and rural small businesses for the purchase of wind power and other renewable energy systems as well as for energy efficiency improvements.)

Wind Energy School Programs

A 1.8-kW Skystream wind turbine was installed as a demonstration project at Crisfield High School in March 2008. Crisfield's feasibility study should be complete in November 2008 with its anemometer continuing to measure wind speeds through 2009.

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Massachusetts

- The Massachusetts Wind Working Group produced an in-depth analysis and strategic plan to address barriers to wind energy deployment in the state. This study was conducted in a ferment of activity by a wide variety of stakeholders, including the legislature, state agencies, developers, communities, NGOs, and business groups. Work is underway to execute plan tasks and pursue supportive funding.
- Quarterly Wind Working Group meetings were held. The meetings typically draw 60 to 80 stakeholders and focus on networking and sharing key information. This year's topics included perspectives on energy reform legislation, offshore wind and development impacts in the coastal zone, innovative financing and ownership models for community-scale wind projects, and update on the Green Communities and Green Jobs Acts, and a tour of Aeronautica Wind's turbine refurbishment facility.

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Michigan

- The Michigan Wind Working Group (WWG) developed siting guidelines to assist township and county planners and officials. The Land Policy Institute, Michigan State University recently added these guidelines to "zoning language" to make them easier for townships to use and adopt.
- The Great Lakes Renewable Energy Association (GLREA) developed a county wind energy plan, including zoning and siting recommendations for Manistee County. With DOE and NREL support, the GLREA is now working with Berrien and Saginaw Counties to develop plans for them. Funding is expected from the state Department of Environmental Quality to expand this program to Alpena County in northeast Michigan. State Wind Outreach Team (SWOT) members targeted organizations critical to zoning and siting issues and made presentations to large numbers of planners and officials.

A 0.6-MW Enertech turbine was erected on the site of a new, mixed-use loft community outside Boston. Learn more at www.forbeslofts.com. Forbes Park LLC/PIX16116.

WPA's Phil Dougherty presents a Carpe Ventem Award to John Deere's Dave Drescher for his role in bringing Harvest Wind, Michigan's first utility-scale wind farm, online. Additional awards were presented to representatives of Wolverine Power Cooperative and Michigan Wind.

- SWOT members from the Michigan Public Service Commission (MPSC) addressed transmission issues by organizing the Michigan Wind Energy Transmission Study (MI-WETS). An organizing meeting was held at MPSC offices in Lansing on December 14, 2007 to: (1) solicit input from all interested parties on the design and scope of one or more studies; (2) begin organizing an advisory team to provide oversight for such studies; and (3) further develop plans about how to pursue this work. The MI-WETS study is not intended to provide a detailed plan for Michigan wind energy development; it proposes a fairly high-level and general overview of various plausible scenarios.
- Michigan State University Extension (MSUE) has nine towers and anemometers, each of which is loaned for 1 year. The program, which is targeted at farmers and agricultural producers, is moving into its third annual cycle. Interest in anemometer loans has increased (42 applications in 2006 versus 93 in 2007). Data are available on the MSUE Web site at http://web1.msue.msu.edu/wind/. MSUE staff members continue to work with farmers and other loan recipients to encourage and assist them to purchase and install wind turbines.
- MSUE continues to work on a number of community wind projects, and this effort will expand next year as interest in small- and medium-size turbines increases. Cascade Renewables plans to manufacture a small turbine in Grand Rapids, and another small turbine manufacturer is considering Michigan as the site for its factory. The State of Michigan will purchase a 50-kW wind turbine for a new state office building in Bay City.
- Michigan SWOT members have been active participants in the Great Lakes Wind Energy Institute Webinars and Detroit meeting. SWOT members have also been active in the Great Lakes Wind Collaborative, including the annual meeting, Advisory Committee, Steering Committee, and work groups. This work will continue and focus on zoning, siting, and transmission.

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Missouri

Missouri now has 163 MW of installed capacity, and efforts continue to reach the 20% Wind Energy by 2030 future scenario of up to 1 GW.

Montana

Wind Energy School Programs

- The Montana State University (MSU) Wind Applications Center (WAC) demonstration project has been commissioned and inspected. This project received funding from a Department of Environmental Quality (DEQ) technical support grant. The WAC project consists of one grid-tied Southwest Windpower Skystream 3.7 wind turbine on a 50' tilt-down monopole tower. The turbine is fully operational and is already being used in a number of MSU monitoring and experimental projects.
- Western Community Energy facilitated the installation of five Wind for Schools projects across Montana in fall 2008. NorthWestern's Universal System Benefits program and the Montana DEQ provided grant funding. In addition to the MSU WAC turbine, projects are underway in Cascade, Fairfield, Livingston, and Stanford.

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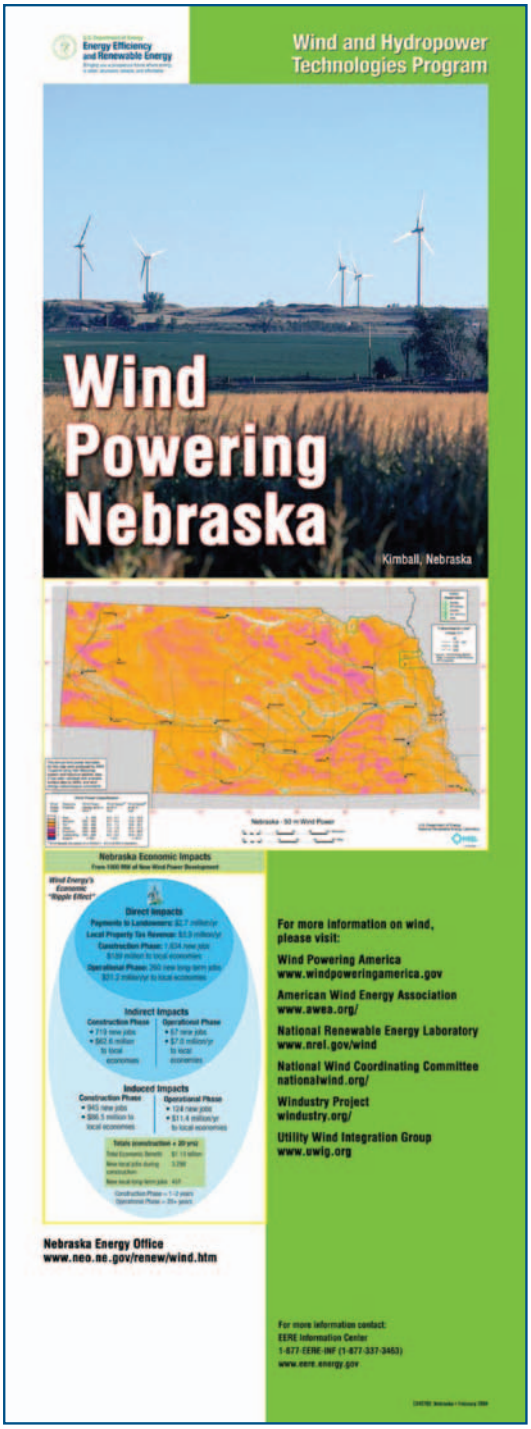
WPA's Wind for Schools Project Takes Off in Montana

The National Energy Education Development (NEED) project conducted a curriculum development workshop in Livingston on October 11, which was attended by 25 teachers from Wind for Schools host schools and candidate schools. Photo credit: Sean Micken.

Montana Governor Brian Schweitzer and Montana Wind for Schools Coordinator Sean Micken at a turbine installation in Fairfield. Photo credit: Sean Micken.

MSU WAC students at the Stanford installation. Photo credit: Sean Micken.

Construction crew in Cascade. Photo credit: Sean Micken.



The WPA team produced a state-specific bannerstand exhibit for Nebraska and 17 other states in FY08.

Nebraska

Nebraska launched its Wind Working Group in December 2007. Highlights of the group's first year include:

- Organized a state wind energy information tour in February 2008
- Launched a transmission working group with Nebraska utilities, which resulted in an NREL tour in early 2008 with staff from the state's two largest generators and a meeting led by Michael Milligan (NREL) for Nebraska utility generation specialists in April 2008
- Organized 13 Resource, Conservation, and Development District organization meetings
- Organized three meetings with Natural Resource Districts
- Held 18 informational meetings, primarily with groups of interested landowners
- Staffed exhibits at the 2008 Nebraska State Fair and 2008 Husker Harvest Days
- Updated *Small Wind Electric Systems: A Nebraska Consumer's Guide* and printed and distributed 2,000 copies.

Wind Energy School Programs

- The University of Nebraska-Lincoln (UNL) installed a Skystream turbine as part of its Wind Application Center (WAC). UNL graduate students will handle the technical details for future school installations, such as calculating the cost of installing the turbine, determining the best way to connect the school to the power grid, and overseeing construction of the turbine. UNL researchers also assist with data analysis.
- Five rural Nebraska schools are in various stages in the Wind for Schools planning process: Elkhorn Valley High School at Tilden; Hayes Center High School in Hayes Center; Cedar Rapids High School in Cedar Rapids; O'Neill Public Schools in O'Neill; and Diller-Odell High School in Odell. More schools are expected to join the program shortly.

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Nevada

- The Nevada Wind Working Group identified a State Wind Outreach Team (SWOT) leader: Rich Hamilton, president of Great Basin Wind.
- The group designed, launched, and continues to provide fresh content for www.windpowernevada.com, a new site that serves as Nevada's single source for all things wind.
- The group built a coalition of industry representatives, economic development, labor, environmental advocates, utilities, and workforce training entities.

- The team helped to create the Nevada Renewable Energy Roundtable. In addition, the Nevada Commission on Economic Development now utilizes WPA's economic development slides in all of its presentations to Nevada's Economic Development Authorities.
- Members worked with Washoe County planners and Nye County economic development consultants to create wind workshops for city officials.
- The group launched WindGenerations, a rebate program for the installation of small wind energy systems modeled after the SolarGenerations program, a rebate program for the installation of small solar systems that enabled Nevada to successfully jumpstart a solar photovoltaic industry.
- Members worked with the military to help wind developers navigate the military's approval processes and with the military and industry to develop mitigation procedures to maximize the developable wind resources under military control.

Wind Energy School Programs

In 2007, Truckee Meadows Community College developed the state's first Renewable Energy Technician curriculum. This program will help train the workforce that will build the wind farms and install the small wind energy systems created by Nevada's legislative initiatives.

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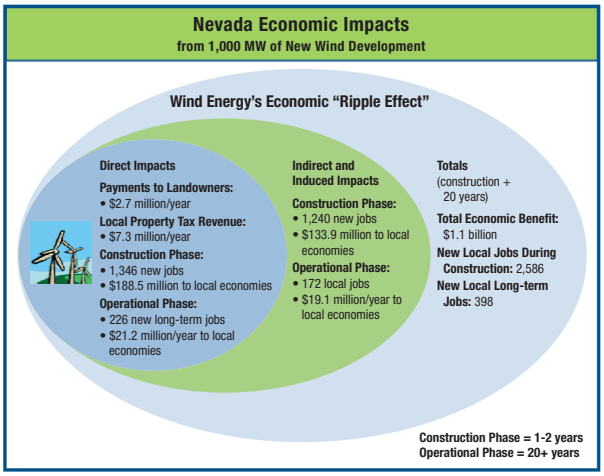

Analyst Eric Lantz determined the economic impacts to Nevada from 1,000 MW of new wind development.

New Jersey

- The New Jersey Board of Public Utilities approved three new anemometer loan program partners in summer 2008 through a grant solicitation provided by the New Jersey Clean Energy Program. Five colleges now assist the state with providing wind resource assessment services.
- The New Jersey Small Wind Working Group, initiated in fall 2006, has organized three subcommittees to address siting, economic, and net metering and interconnection issues.
- The Siting Committee encouraged the use of the New Jersey Small Wind Energy System Model Ordinance for small wind installer use as a conditional use permit in overcoming local opposition specific to an application. To date, seven municipalities have reported their adoption of a wind ordinance for the purpose of installing wind generation systems.
- The Economic Subcommittee addresses and provides recommendations on financial incentives necessary to make wind energy systems economically viable. The subcommittee provided recommendations for wind incentive levels under the New Jersey Customer On Site Renewable Energy (CORE) program administered by the New Jersey Clean Energy Program. The CORE program incorporated an expected performance-based buy-down methodology for calculating wind rebate incentives from a rated capacity methodology.
- The Economic Subcommittee is also participating in the stakeholder proceeding to address changes to the net metering rules signed by the Governor in January 2008 from Senate Bill 2936 and Assembly Bill 4554 concerning net metering for electricity and renewable energy portfolio standards. Other activities include participation in the stakeholder

proceedings for community renewables for wind energy systems and providing stakeholder input on the state's Energy Master Plan (EMP) goal of 200 MW of onshore wind by 2020.

- The state released the EMP, which calls for a minimum of 1,000 MW of offshore wind capacity to be developed in New Jersey by 2012 and a minimum of 3,000 MW of offshore wind by 2020. To further the EMP goals, the New Jersey Board of Public Utilities established a public stakeholder process to begin developing amendments to the Renewable Portfolio Standards (RPS) rules (N.J.A.C. 14:8-1.2) to set minimum percentages for offshore wind energy. Meeting agendas and notices will be posted at NJCleanEnergy.com.
- The New Jersey Board of Public Utilities awarded a grant to Garden State OffShore Energy (GSOE) to develop what could be the first offshore wind farm on the East Coast. GSOE proposes a 345.6-MW offshore wind facility southeast of Atlantic City, 16 miles off the coastline. When completed, the facility would produce enough electricity to power approximately 125,000 homes annually. The Board also recommended supporting other qualified projects to meet the state's EMP goals for 1,000 MW of offshore wind by 2012.
- In January 2008, the New Jersey Department of Environmental Protection contracted to conduct an 18-month ecological baseline study of the state's ocean natural resources, designed to inform the development of an offshore wind project. No offshore wind project construction will begin until the results of the environmental analysis are completed.
- In fall 2008, the New Jersey Commerce Commission released its final report on the potential costs and benefits of offshore wind turbines to New Jersey's economy, including tourism.

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New Mexico

New Mexico now has 496 MW of installed capacity, and efforts continue to reach the 20% Wind Energy by 2030 future scenario of 5 to 10 GW.

North Carolina

The State Energy Office (SEO), Appalachian State University (ASU), and the North Carolina State University Solar Center (NCSC) teamed up to conduct wind education, provide wind consultation, understand the wind resource in North Carolina, and work with decision-maker stakeholders in the state. Major activities for the North Carolina Wind Working Group (NC WWG) include:

- WWG team leaders at the SEO, ASU, and the NCSC identified action areas and developed a 3-year strategic plan.
- The NC WWG, wind developers, state agencies, environmental stakeholders, and others met over a 6-month time period to develop a model wind ordinance (available at http://wind.appstate.edu/research/permitting.php).
- In response to requests, WWG members provided more than 70 free wind resource consultations in FY08. Preliminary wind resource assessment maps were provided, accompanied by a guide to interpret the map and a list of next

steps, including local installer information. Interests range from small wind to utility-scale development, and consultations include the City of Asheville, Google's request for the Rocky Knob area, the town of Atlantic Beach, and Breakaway Village in Madison County.

- The NC WWG conducted policy seminars and meetings.

  — Community Wind Workshop, Morehead City, October 12, 2007: This workshop attracted city, utility, large landowner, and environmental stakeholders. Presentations by Windustry staff explored community-scale wind technology, wind project development, and project financing.

  — Regional Wind Energy Institute, Raleigh, November 15, 2007. The meeting included a panel discussing the North Carolina portfolio standard and incentives. The Attorney General, Utilities Commission, permitting agencies, and environmental organizations attended.

- The anemometer loan programs continue to be popular. The western anemometer loan program has three towers collecting data; two towers have recently been decommissioned. Applications are being reviewed for the next two tower locations. The coastal anemometer loan program has one 30-meter tower collecting data. Two 30-meter towers have completed the loan cycle and will be installed soon. One 50-meter tower is installed, and another is awaiting installation. Three applications are being reviewed.

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North Dakota

North Dakota now has 517 MW of installed capacity, and efforts continue to reach the 20% Wind Energy by 2030 future scenario of up to 5 GW.

Ohio

- As interest in wind development in Ohio increased through 2007, so too did the need for an accurate interpretation of the local and state's siting and zoning structure. The Ohio Wind Working Group (OWWG) took on this role through its Strategic Development Action Team (SDAT).
- Toward the latter part of 2007, the OWWG developed the Manufacturing Action Team to develop and implement strategies to harness Ohio's abundant wind turbine manufacturing and R&D potential, taking advantage of Ohio's well-established supply chain while also attracting new manufacturing to Ohio.
- Although the OWWG does not advocate for or against policy, many of its members, through the agencies, companies, and organizations they represent, offered significant commentary on the drafting of Senate Bill 221 (Ohio's RPS).
- RESOLVE and the Ohio Department of Development (ODOD) worked with the OWWG Steering Committee members to assess OWWG ground rules, operating procedures, membership, action teams, and activities to align them with WPA direction, ODOD objectives, and OWWG expertise. Primary changes to the ground rules include:

  — Greater focus on outreach activities

North Carolina Small Wind Activity

- North Carolina is an active member of the North American Board of Certified Energy Practitioners (NABCEP) Small Wind Technical Committee, developing the task analysis and requirements to sit for the new Small Wind Installers certification exam.
- Appalachian State continues to operate the Small Wind Research and Demonstration Facility at Beech Mountain, where six small-scale wind turbines operate for public demonstration; skills training and education; and turbine research on power performance, avian impacts, sound, durability, and reliability.

— Increased advisory capacity and broader stakeholder representation of steering committee (adding developer and county commissioner representation)

— Use of work groups formed around specific activities (rather than standing Action Teams)

— Addition and definition of "resource" documents (as well as "consensus" documents).

- Outreach and education has been a timely topic in the state, given recent legislation on a renewable portfolio standard and wind facility siting procedures for Ohio. OWWG meetings served as a forum for information sharing on the developments of these two pieces of legislation and their respective rulemaking processes, with recent speakers including the executive director of the Ohio Power Siting Board and Governor Strickland's energy advisor.
- Despite the challenges of the process to develop siting documents between September 2007 and March 2008, the SDAT and OWWG conversations helped gel an influential group of agency and other stakeholder support for development of effective legislation on siting for projects 5 MW and over in Ohio, which will have a lasting impact and provide support to wind power development in the state.
- As a major activity of the OWWG's Environmental Action Team (EAT), the Ohio Department of Natural Resources, Division of Wildlife (ODNR/DOW) developed a draft Wind Energy Voluntary Cooperation Agreement (Cooperative Agreement). The goal of the Cooperative Agreement is for the ODNR to work with wind energy developers and other stakeholders to ensure that wind energy project sites are developed in an environmentally conscientious manner and with best regard to the conservation of Ohio's wildlife resources. The goal of the agreement is to focus on potential project sites with high wind potential and limited impact to birds, bats, fish, and amphibians. In developing the document, the EAT also communicated with the Pennsylvania Game Department to benefit from lessons learned from that state's cooperative agreement process.

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Stone Bluff anemometer installation in Bixby, Oklahoma. Photo credit: Kylah McNabb.

Oklahoma

- The Oklahoma Wind Power Initiative (OWPI) began collaborating with numerous wind energy industry partners to increase wind component manufacturing in Oklahoma. OWPI launched a new Web site that provides targeting information for site selection consultants and community economic development professionals (see http://www.okcommerce.gov/content/2788).
- Met towers were installed in Bixby, Haskell, Prague, and Norman.

Wind Energy School Programs

- OWPI assisted the Yarbrough Public School with the assessment and collection of wind data for 2 years and worked with school district members and leaders, which led to the installation of a 50-kW small wind system this year.

- A statewide survey titled Renewable Energy Education and Awareness in Oklahoma was conducted. More than 500 schools across the state were surveyed to determine their current knowledge level of the wind industry and what outstanding needs exist in order to bring renewable energy education to the forefront in Oklahoma classrooms.
- OWPI exhibited at the annual ScienceFest event at the Oklahoma City Zoo. ScienceFest offers 4th- and 5th-grade Oklahoma students a day of interactive science and environmental activities focusing on the conservation of natural resources and the use of alternative energies. OWPI hosted an exhibit and interacted with 5,000 students at the event.
- The University of Oklahoma committed to purchasing 100% of its electricity from wind power by 2013 via a power purchase contract. This is the largest commitment by a public university in the United States to date. FY08 has also seen a dramatic increase in the interest level of Oklahoma higher education professionals in developing wind turbine technician training programs.

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Oregon

- A group of stakeholders worked for about 2 years to develop Uniform Interconnection Standards for distributed generation projects of 10 MW or less for projects in the investor-owned utilities. A final hearing was held before the Administrative Law Judge in August. The Oregon Public Utility Commission (OPUC) has not yet made a ruling.
- Wind turbine availability for small wind farms has been a serious issue. For example, one 10-MW community wind farm was scheduled to receive its turbines by the first of October in time to have the farm operating by the end of this year. Unfortunately, the delivery of the machines was postponed until next spring. The Energy Trust of Oregon transferred its 2008 funds for community wind to solar programs because of the lack of wind turbines. Several companies are trying to install refurbished 250-kW turbines from the California wind farms for small community wind farms. Another company actively markets new 50-kW machines in clusters.
- The Oregon Columbia Plateau Ecoregion Wind Energy Siting and Permitting Guidelines were published in September 2008. Representatives from the wind energy industry, counties, environmental organizations, consultants, and state and federal resource agencies convened to collaboratively develop wind energy siting and permitting guidelines for the Columbia Plateau Ecoregion. For almost a year the taskforce compiled and synthesized current industry practices, agency recommendations, environmental concerns, and supportive science. Until separate regional guidelines can be developed, the taskforce recommends using these guidelines as a roadmap during each step of a potential wind project's development, construction, and operation. A copy of the guidelines will soon be posted on the Oregon Department of Energy's (ODOE's) wind Web page at http://egov.oregon.gov/ENERGY/RENEW/Wind/windhome.shtml.

Oregon added to its installed capacity in 2008 with the Klondike III project. Iberdrola Renewables/PIX16112.

- ODOE staff attended several workshops hosted by Bonneville Power Administration (BPA) on the cost of Within-Hour Balancing Service, which provides the generation capability to follow within-hour variations of wind resources in the BPA Control Area and to maintain the power system frequency at 60 Hz in conformance with North American Electric Reliability Council (NERC) and Western Electricity Coordinating Council (WECC) reliability standards. BPA and the main stakeholders settled the rate case with the integration cost of $0.68/kW-month of installed capacity. For a typical wind farm in the Columbia Gorge region with a capacity factor of about 33%, this means a cost of about $2.80/MWh.
- ODOE staff participated in the Western Governor's Association (WGA) Wildlife Corridors Initiative Energy Working Group (EWG), which made recommendations relating to wildlife corridors and crucial habitat overlapping with energy development. The EWG presented a report to the governors at the June 2008 WGA Annual Meeting in Jackson, Wyoming. The report focuses on the need for new transmission lines and renewable resources to meet our growing energy needs. The EWG developed recommendations on policy options for implementing and utilizing wildlife corridors as a planning framework.
- ODOE staff attended a workshop by county planners on siting large wind farms under the jurisdiction of the county. Wind farms larger than 104 MW have to follow the state siting process under the jurisdiction of the Energy Facility Siting Council. Smaller systems may choose to follow the state process or may choose the county siting process, which tends to be less time-consuming. There is controversy because it appears that some large wind farm developers are dividing farms into smaller units to stay below the 104-MW threshold to avoid the state siting process.
- ODOE's staff is working with the Association of Oregon Counties to develop a Model Zoning Ordinance for small wind systems. Members will use the Wisconsin ordinance as a starting point and will emphasize that height restrictions are not needed with a proper setback procedure and that small systems (25 kW or smaller) are a permitted use.

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The 29.4-MW Forward Wind Farm in Somerset County, Pennsylvania came online in 2008. Edison Mission Group/ PIX16131.

Pennsylvania

- The Community Wind Project builds on the Pennsylvania Wind Assessment Program (PennWAP), managed by the Renewable Energy Center at St. Francis University. PennWAP collected data at six towers across the state. Two sites show significant potential for wind energy development, and the program is working with small wind developers to develop community-scale projects. Monitoring will begin in six new locations with the goal of creating community-owned wind projects in Pennsylvania.
- The Pennsylvania Wind and Wildlife Collaborative has met monthly since its formation in 2006. The collaborative's mission is to engage federal and state environmental agencies, nongovernmental conservation organizations, and the wind industry in a collaborative, consensus-based process to collect, share, review, and use the best available science, data, and professional

expertise to address how to assist in the wind energy development in Pennsylvania in an environmentally responsible manner. The collaborative was critical to the development of a Voluntary Wind Energy Cooperative Agreement between the Pennsylvania Game Commission and wind energy development companies to address pre- and post-construction monitoring for birds and bats. The commission presented a draft report to the collaborative that shows that the agreement has had positive results. The final report should be available to the public in early 2009.

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South Dakota

- The South Dakota Energy Infrastructure Authority in conjunction with the Public Utilities Commission and the Attorney General's Office issued the South Dakota Landowner's Wind Power Development Handbook to help provide landowners with basic background information on wind power development. The report is available at http://www.sdeia.com/PDF/WindPowerHandbook08.pdf
- Two anemometers were loaned to Fall River Conservation District this year.
- The South Dakota Public Utilities Commission formed the Tower Working Group in 2007 to develop model ordinances for zoning wind energy and

Groundbreaking begins at the Sanborn Central School Wind for Schools Project in Forestburg, South Dakota. Photo credit: East River Electric Power Cooperative.

wireless telecommunications facilities for local governments to use as helpful tools. The group includes representatives of both industries as well as stakeholders from local, state, and national organizations and agencies. In 2008, the commission distributed the Model Ordinance for Siting Wireless Telecommunications Facilities and the Model Ordinance for Siting Wind Energy Systems to local governments. The commission continues to work with local governments to develop ordinances that site towers responsibly without unnecessarily hindering development. Learn more at http://puc.sd.gov/twg/

Wind Energy School Programs

The South Dakota Public Utilities Commission announced that eight schools were selected to participate in the launch of the Wind for Schools program in South Dakota. Selected school districts include Douglas, Sanborn Central, Faith, Selby, Aberdeen, Elkton, Stanley County, and Memorial Middle School in Sioux Falls.

Wind energy developers FPL Energy, Babcock & Brown, and Iberdrola Renewables have each pledged $10,000 to help support the South Dakota Wind for Schools program. The funds will be used to defray construction expenses associated with installing small wind turbines at schools participating in the program. FPL Energy is the developer of South Dakota's first utility-scale wind farm near Highmore. Babcock & Brown is the developer of the Wessington Springs Wind Farm. Iberdrola Renewables is the developer of the MinnDakota Wind Farm and the Buffalo Ridge I Wind Farm, both in Brookings County.

South Dakota poured the foundation for its first Wind for Schools installation north of Sanborn Central School in September. Supporters include East River Electric in Madison, Central Electric Cooperative in Mitchell, the South Dakota Public Utilities Commission, and South Dakota State University.

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Haley and Victoria Stafford visit the Spanish Fork Wind Farm (with their father Ed from Utah State University's Renewable Energy for Rural Economic Development program). Betty Stafford/PIX15742.

Utah

The Utah State Energy Program (USEP) teams with Utah Clean Energy (UCE) to work in three areas that will help the Utah wind industry become more successful: regulatory, wind resource identification, and education. USEP works on the technical side of wind energy issues, and UCE focuses on outreach and education.

Regulatory

- USEP worked with several municipalities and counties to develop wind development zoning ordinances. USEP provided a "strawman" wind-zoning ordinance to provide a starting point for local governments. In addition, USEP provided written comment in the ordinance development process to encourage more wind-friendly ordinances. USEP and UCE are planning to approach other local governments that have wind development potential but no planning ordinance for wind turbines.
- USEP also works with municipal and co-op utilities to develop and refine interconnection and net metering policies that benefit small and mid-size wind technology.

Wind Resource Identification

- USEP has the lead role in assisting the state of Utah to identify its wind resources. Since 2000, USEP has operated the Anemometer Loan Program (ALP), which has collected wind data on more than 65 Utah sites. All data collected are provided to the public on the USEP Web site. Data can also be integrated into the educational process.
- Anemometer towers were installed in locations known anecdotally to have commercial-scale wind resources. USEP identified eight anemometer locations believed to have significant potential for commercial-scale wind development.

Education

- USEP in collaboration with UCE identified Strategic Wind Outreach Team (SWOT) members and educated members on the benefits and facts about the potential for wind in Utah. SWOT members are then able to communicate the benefits of wind development to their communities across the state. SWOT meetings were held on a monthly basis.
- USEP advertised the ALP to increase participation from rural landowners. The ALP's largest application pool was 36 applications in March 2008. Eight of those applications were approved for installations this year, and several were placed on a wait list for installation at a later date.
- USEP supported Utah's Wind Working Group, including the Wind Working Group Policy Committee, which held four meetings to discuss wind development barriers in Utah and strategies to remove barriers. The Wind Working Group Policy Committee was engaged in Governor Huntsman's Renewable Energy Initiative Focus Group activities.
- UCE produced a brochure, *Utah's Clean Energy Potential and Associated Economic Benefits*, which includes information on Utah's wind energy resources. More than 300 copies were distributed to local and state government officials.

Spanish Fork's First Annual Community Kite Festival and Wind Power Celebration celebrated Utah's first utility-scale wind farm, the 18.9-MW Spanish Fork Wind Energy Plant, which came online in June 2008. Utah Clean Energy coordinated with Spanish Fork City, Wasatch Wind, and Utah State University Jon Huntsman School of Business/Renewable Energy for Rural Economic Development to promote the event, which included a press event featuring representatives from Spanish Fork City, Spanish Fork City Council, Edison Mission Energy, Utah Congressman Chris Cannon, and local district Representatives. Thousands of citizens from across the state attended the event, and it received significant media coverage as well. Photo credit: Utah Clean Energy.

Wind Energy School Programs

UCE works with the Utah State Office of Education (USOE), USEP, and the Wind for Schools Program to advance small wind projects and wind education in Utah's public schools. UCE helped the USOE to secure funding from Rocky Mountain Power to support the installation of two to three small wind turbines at K-12 schools in Utah. UCE also worked closely with USEP and USOE on site selection and curriculum integration. A turbine installation is planned for Three Peaks Elementary (Iron County School District), and another effort is underway at the Granite School District.

In addition, UCE worked with USEP and the Utah SWOT to develop a 3-year strategic wind outreach plan for Utah, a working document that provides an outline and priority for Utah's wind outreach efforts.

Utah's first utility-scale wind farm came online in 2008: an 18.9-MW project in Spanish Fork. Edison Mission Group/PIX16135.

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Utah Community Outreach

In June 2008, Utah Clean Energy collaborated with Spanish Fork City, Wasatch Wind, Utah State University RERED, Utah State Energy Program, the Utah State Wind Outreach Team, and Edison Mission Energy to organize, host, and promote the Utah Leaders Forum: Spanish Fork Wind Power Plant Panel Discussion & Tour at Utah's first commercial-scale wind power plant in Spanish Fork. The panel was comprised of the following individuals:

— Mayor Joe Thomas, Spanish Fork City

— Commissioner Larry Ellertson, Utah County

— Tracy Livingston, Wasatch Wind

— Paul Clemens, Rocky Mountain Power

— Karl Warnick, Spanish Fork Resident

— Reed Park, Nebo School District

— Craig Pospisil, Edison Mission Energy

— Sarah Wright, Utah Clean Energy (moderator)

The event was attended by approximately 70 people, including legislators, county commissioners, state and local government officials, utility regulators, and landowners. Edison Mission Energy hosted the wind farm tour. Event sponsors and partners included Utah Clean Energy, Spanish Fork City, Wasatch Wind, Interwest Energy Alliance, Utah State University Jon Huntsman School of Business RERED, Utah State Energy Program, the Utah State Wind Outreach Team and Utah Wind Power Campaign, Suzlon, Xango, and Edison Mission Energy.

In spring 2008, UCE worked with Ogden City's Mayor Matthew Godfrey, community members, and businesses to carry out a Community Wind Challenge to reach 5% participation in voluntary wind power purchasing programs. UCE participated in the Community Challenge Celebration Award Ceremony and received an honorary award for involvement in the campaign.

In November 2007, UCE coordinated with the Governor's Office to host the Utah Energy Forum, which featured national experts on energy efficiency and renewable energy. More than 100 key policymakers, utilities, local governments, regulators, and businesses attended the forum. Following the event, presenters met with Governor Huntsman, the Governor's Energy Advisory, and the Governor's Coordinator for Rural & Legislative Affairs to discuss Utah's wind energy potential and effective policies and programs to advance wind energy in Utah. The experts also delivered technical presentations to the Utah Public Service Commission, the Division of Public Utilities, and the Committee of Consumer Services.

Virginia

- Virginia completed a strategic plan that identified potential stakeholders and initiated a plan to build relationships with them. The strategic plan encouraged the group to plan for education and outreach both onshore and offshore, which in turn helped to expand the State Wind Outreach Team (SWOT) and build bridges between the eastern and western windy regions in the state.
- Approximately 200 environmentalists, utilities, developers, local government officials, teachers, and landowners attended the 2-day Virginia Wind Symposium in June 2008.
- In conjunction with the workshop, Virginia Wind Working Group members held an invitation-only policy discussion with Dominion, BP, Invenergy, the Governor's Senior Energy Policy Advisor, and others. This event, which convened these parties well ahead of the General Assembly meeting in January to discuss the state of the industry and consider policy options, was the first of its kind in Virginia. A follow-up policy discussion with the Lt. Governor was scheduled, and Dominion plans to host a third meeting at its headquarters. The Senior Energy Policy Advisor requested a summary of policy opportunities, including a focus on a wind and wildlife collaborative (similar to Pennsylvania) that might also consider a model statewide ordinance.
- The group began planning a wind workshop series in January 2008, with the goal of establishing critical new relationships with local elected and appointed officials, planners, and economic development officials in Virginia's rural, windy regions and building trust while establishing a new network.
- The group was the primary motivator and organizer in new collaborative efforts in Virginia, bringing the Appalachian Regional Commission (ARC) into the WPA sphere and creating an efficient working relationship with the American Wind Energy Association (AWEA) and James Madison University (JMU). JMU now receives funding through contractual agreements with ARC and AWEA.

Virginia Wind Working Group Contact
Ken Jurman
Division of Energy
Ninth Street Office Building, 8th Floor
Richmond, VA 23219
(804) 692-3222
ken.jurman@dmme.virginia.gov

West Virginia

- Several members of the Wind Working Group participated in forums on renewable energy in the state and forums on the State Energy Plan.
- Patrick Mann, coordinator of the Wind Working Group, is part of a research team investigating the potential for siting wind energy facilities on reclaimed surface mining land.

West Virginia Wind Working Group Contact
Patrick Mann
West Virginia University
PO Box 6025
Morgantown, WV 26506-6025
(304) 293-7872
patrick.mann@mail.wvu.edu

The 164-MW Mt. Storm Phase 1 project came online in West Virginia in 2008. Moe Vetter/PIX16205.

The 129-MW Forward Wind Energy Center in Dodge and Fond du Lac Counties came online in 2008. Invenergy LLC/PIX16037.

The 29.4-MW Happy Jack Windpower Project near Cheyenne came online in 2008. Duke Energy/PIX16167.

Wisconsin

- Wisconsin Wind Working Group (WWG) members organized a tour in March of the Forward Energy Center project as part of the Wisconsin Renewable Energy Summit.
- The group participated in We Energies' open house at Blue Sky Green Field.
- Members attended the official dedication of the Forward Energy Center.
- The WWG prepared an impact statement estimating annual direct payments flowing from 2008 wind projects to local economies.
- The group assisted with the *Wind on the Waters* study report prepared by the Wisconsin Public Service Commission. The *Wind on the Waters* report examined the complexities and opportunities of placing wind turbines in Lake Michigan and Lake Superior and identified follow-up actions to gain a better understanding of the resource potential, engineering challenges, and development costs.
- The number of WWG list serv registered users increased to 61.

Wind Energy School Programs

Focus on Energy awarded a grant to Wausau East High School to erect the first Wisconsin wind turbine greater than 20 kW and attached to a K-12 school. The planned installation date of the Northwind 100-kW turbine is June 2009.

Wisconsin Wind Working Group Contact
Michael Vickerman, Executive Director
RENEW Wisconsin
Wisconsin Wind Working Group
222 S. Hamilton Street
Madison, WI 53703
(608) 255-4044
mvickerman@renewwisconsin.org
www.renewwisconsin.org/

Wyoming

- The Wyoming Renewable Energy Coalition (RECWy) was officially formed in 2008 and has become the title for the Wyoming Wind Working Group.
- The group learned about the Laramie County Community College wind master program in Cheyenne and toured the facility in the spring. During the summer, the group toured the Medicine Bow wind farm between Laramie and Rawlins, and group members had the chance to visit the top of Clipper Wind Energy's Liberty 2.5-MW wind turbine.
- The coalition provided guidance for the Sixth Annual Roping the Wind renewable energy conference in November. The group provided ideas for presentations and helped find speakers. The first day of the conference was dedicated to commercial-scale wind, and the second day included a tour of the Rocky Mountain Power Glenrock wind farm currently under construction.
- New construction was prevalent in many areas of Wyoming in 2008 with several projects under way and others being announced. Rocky Mountain Power is moving forward with the Gateway transmission projects, which will connect Wyoming with Utah, Idaho, and ultimately the West Coast. This badly needed transmission capacity will provide a huge boost to wind development in the state.

Wyoming Wind Working Group Contact

Ed Werner
Werner Solutions
319 Center Street, Suite A
Douglas, WY 82633
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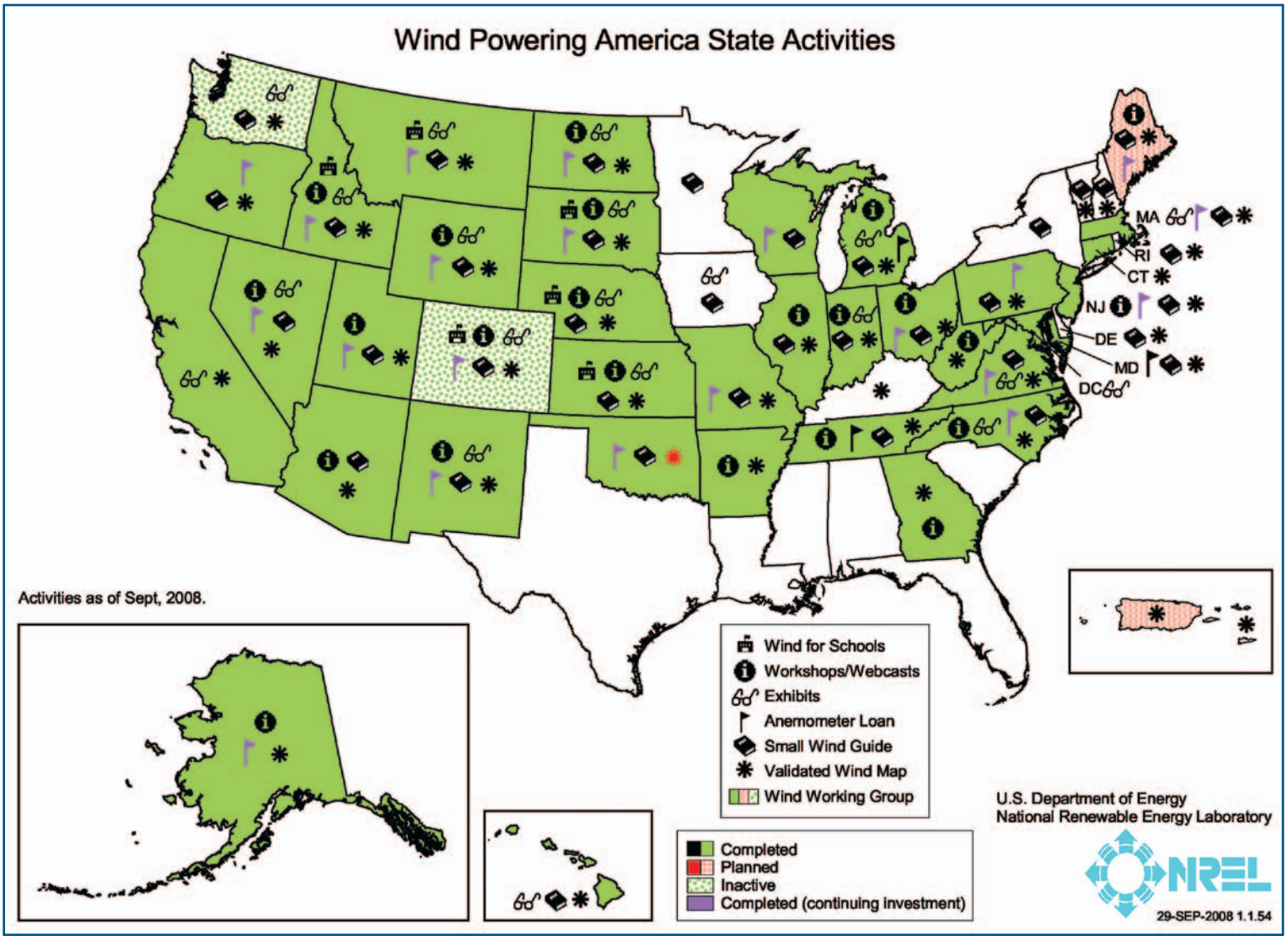
wernersolutions@msn.com



WPA Activities at NREL

State Outreach

Three new State Wind Working Groups were launched in FY08: Arkansas, Nebraska, and Kansas.

WPA team members participated in regional, national, and state events:

- Council of State Governments National Meeting, Oklahoma City, Oklahoma, November 2007
- Midwest Ag Energy Network Annual Summit, Madison, Wisconsin, February 2008
- 25 x '25 Annual Summit, Omaha, Nebraska, March 2008
- Community Wind Energy Conference, Albany, New York, April 2008
- Arkansas Wind Working Group, Little Rock, Arkansas, June 2008
- Sustainable Energy Education and Training (teacher education), Golden, Colorado, July 2008
- National Association of Counties, Kansas City, Missouri, July 2008
- Kansas Renewable Energy Fair, Topeka, Kansas, September 2008.

In addition, NREL lead Larry Flowers participated in and made presentations at additional state wind conferences in Puerto Rico, U.S. Virgin Islands, Alaska, Montana, Maine, North Carolina, and Utah.

NREL lead: Larry Flowers

NREL contractors: Renewable Energy Alaska Project (REAP); Alaska Energy Authority (AEA); University of Arizona; State of Indiana; Massachusetts Division of Energy Resources; Maine Public Utilities Commission; Maryland Energy Administration; Michigan Department of Labor & Economic Growth; North Carolina Department of Administration; Nebraska State Energy Office; Nebraska Farmers Union; James "Wes" Perrin; HiTech Communications; Ohio Department of Development; State of Utah, Utah Geological Survey; Utah Clean Energy; Virginia Department of Mines, Minerals and Energy; RENEW Wisconsin, Inc.; Western Resource Advocates (WRA); Wind Utility Consulting; Det Norske Veritas – Global Energy Concepts (DNV-GEC); National Conference of State Legislatures (NCSL); Western Ecosystems; National Association of State Energy Officials (NASEO); Ron Lehr; MRG & Associates; and Bob Anderson

Regional Wind Energy Institutes

The Regional Wind Energy Institutes (RWEIs) train-the-trainer program provides regional training to a small group of outreach professionals in priority states to enable these individuals to effectively reach out to key audiences in their states. The approach is regional because many of the most challenging wind energy issues are regional in nature and also because the states can learn from the experiences and best practices of others in their region.

The goal is to provide accurate and current information to members of State Wind Outreach Teams who are actively engaged in furthering wind power development by educating key constituents in their respective states. Each RWEI holds an annual 1- to 2-day training session in their region. Sessions include a wind industry update, updates on state progress

and challenges, and national experts providing updates on issues of regional importance. Each RWEI also hosts three to four Webcasts per year on how to speak on current hot topics and an update session at the Wind Powering America Summit following the annual Windpower conference.

The Southwest RWEI, focused on Arizona, Nevada, and Utah and coordinated by the Core Foundation, held a November training in Carlsbad, California. Hot topics included the 20% analysis, transmission planning, siting, property values, wildlife, radar issues, and communicating with specific audiences (such as utilities). Webcasts covered legislative and regulatory issues and included practice sessions in which participants gave presentations tailored to local audiences and received feedback from the group.

The MidAtlantic/Southeast RWEI, focused on Maryland, North Carolina, and Virginia and coordinated by the Southern Alliance for Clean Energy, held a training session in Raleigh, North Carolina. Siting issues were central, along with wildlife, economic development, property values, the viewpoint of regulators, interconnection, and the 20% analysis. Webcast topics included community wind, informing regulators and policymakers, speaking to local officials, and wind energy and the U.S. Forest Service.

The Great Lakes RWEI, focused on Indiana, Michigan, and Ohio and coordinated by Windustry, held a March training in Detroit, Michigan. Discussions included siting, zoning, and land use planning issues; wildlife; economic development; transmission; and wind integration. Webcast topics included landowner education (wind energy basics, myths, and facts), NIMBYism (property values, wildlife, strategies for dealing with opposition), wind energy easements and leases, various funding mechanisms, and distributed wind.

NREL lead: Marguerite Kelly

NREL contractors: CORE Foundation (Craig Cox), Southern Alliance for Clean Energy (Gil Melear-Hough, Brandon Blevins, and Mary Carr), Great Plains Windustry Project (Lisa Daniels, Melissa Peterson)

Publication: *Regional Wind Energy Institutes*, a poster presentation at the 2008 Windpower Conference in Houston

Ag Outreach

The Wind Powering America team at NREL continues to develop and strengthen alliances with the agricultural sector and organizational alliances, including 25 x ’25, the American Corn Growers Foundation, and the National Association of Counties. Members attended agricultural events in FY08:

- National Association of Farm Broadcasters Trade Talk, Kansas City, Missouri, November 2007
- Midwest Ag Energy Network Annual Summit, Madison, Wisconsin, February 2008
- 25 x ’25 Annual Summit, Omaha, Nebraska, March 2008
- Commodity Classic, Nashville, Tennessee, March 2008.

WPA continued contracting with the National Association of Farm Broadcasters (NAFB) to provide monthly wind energy interviews for use on rural radio stations. The following segments were broadcast in FY08 and are available on the WPA Web site:

10/1/2007
Wind Energy Powering Homes, Rural Communities featuring Peggy Beltrone, Cascade County, Montana Commissioner
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1705

11/1/2007
Corn Growers Excited by Wind Energy’s Water and Natural Gas Savings featuring Dan McGuire, Director of the American Corn Growers Foundation Wealth from the Wind Program
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1730

11/13/2007
Time for Rural America to Fully Embrace Wind Energy, Educate featuring Dan McGuire, Director of the American Corn Growers Foundation Wealth from the Wind Program
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1731

12/6/2007
Wind for Schools: Source of Education, Electricity, Revenue featuring Roya Stanley, Director of Iowa's Office of Energy Independence
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1752

12/17/2007
Wind Capacity Growing as Americans Embrace All the Energy Source Has to Offer featuring Roya Stanley, Director of Iowa's Office of Energy Independence
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1753

1/17/2008
As Nation Embraces 25x'25 Vision, Wind Has Role To Play featuring Allen Rider, Volunteer Leader of the 25x'25 Steering Committee
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1774

1/31/2008
Surge in Installed Wind Power Capacity Benefiting Rural America featuring Allen Rider, Volunteer Leader of the 25x'25 Steering Committee
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1825

2/26/2008
Community Wind a Big Opportunity for Rural America featuring Dan Nagengast, Director of the Kansas Rural Center
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1843

3/4/2008
When Wind Development Doesn't Match Up With Potential, Look at Policy featuring Dan Nagengast, Director of the Kansas Rural Center
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1862

4/14/2008
The Power of Wind in Oil and Gas Country featuring Travis Brown, Renewable Energy Community Service Specialist at the Texas Office of Rural Community Affairs
http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1896

8/26/2008
The Power of Wind in Oil and Gas Country, Part 2 featuring Travis Brown, Renewable Energy Community Service Specialist at the Texas Office of Rural Community Affairs
http://www.windpoweringamerica.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=2008

NREL lead: Marguerite Kelly

NREL contractors: American Corn Growers Association, All American Energy, POWAIR, and Western Community Energy

Economic Development Analysis

The Economic Development Research Team at NREL performed analyses and provided support to states weighing the impacts of wind energy versus coal. The team's accomplishments for the year include:

- Used the Jobs and Economic Development Impacts (JEDI) Model to create individual state fact sheets detailing the economic development impacts as well as the CO_2 and water consumption impacts from building and operating 1,000 MW of wind power (see list at the end of this section)
- Provided analytical support to the Kansas Governors Office regarding economic development impacts from wind power and coal power in the state. Provided supplemental analysis on the carbon impacts, water consumption impacts, and land use impacts of wind power in the state. Presented the results to the Kansas Lieutenant Governor and his staff
- Used the JEDI model to estimate the economic development impacts of in-state wind power component manufacturing in Iowa, analyzed potential for Iowa-based manufacturing to support near-term wind power development in the state, and compared these results with the economic development impacts from building coal power in Iowa
- Performed a sensitivity analysis of the JEDI model and used the results to analyze the variables that drive economic development impacts from wind power. Considered the implications for wind and coal JEDI analysis and considered the implications of in-state-owned wind power projects
- Evaluated the economic development impacts from 1,000 MW and 7,800 MW of wind power in Nebraska and completed a report for the Nebraska Energy Office
- Performed a literature review and analyzed existing data on the social acceptance of wind power
- Supported an in-depth review of the JEDI model and played an advisory role in the process of completing a detailed overhaul of the JEDI model
- Created a database of manufacturers for wind-related components in the United States
- Researched wind-related economic development in the Appalachian Region and Great Lakes Region
- Researched manufacturing success stories in Arkansas.

NREL team members: Suzanne Tegen, Eric Lantz, Sandra Reategui

NREL contractors: MRG & Associates, Frank Oteri

FY08 publications:

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Arkansas (http://www.nrel.gov/docs/fy08osti/43518.pdf)

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Georgia (http://www.nrel.gov/docs/fy08osti/43485.pdf)

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Indiana (http://www.nrel.gov/docs/fy08osti/42786.pdf)

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Kansas (http://www.nrel.gov/docs/fy08osti/43517.pdf)

Appalachian Region Wind-Related Economic Development: Manufacturing

1. Molded Fiberglass (Nacelles) Opp, AL
2. Vectorply (Composites) Phenix City, AL
3. Kaydon Corp (Bearings) Sumter, SC
4. Ahlstrom Specialty Reinforcements (Composites) Bishopville, SC
5. PPG (Fiberglass) Shelby, SC
6. GE (Machine Heads) Greenville, SC
7. Aerisyn (Towers) Chattanooga, TN
8. GE (Power Converters) Salem, VA
9. Tower Logistics (Climbing Devices) Huntington, WV
10. Cast-Fab (Ductile Iron Castings) Cincinnati, OH
11. Magna Machine (Large Components) Cincinnati, OH
12. Minster Machine (Castings) Minster, OH
13. Byrne Mfg. (Gears) Mansfield, OH
14. Canton Drop Forge (Gear Blanks) Canton, OH
15. Rotek Inc.(Bearings) Aurora, OH
16. Avon Bearings (Bearings) Avon, OH
17. Kalt Mfg. (Large Components) North Ridgeville, OH
18. Advance Mfg. (Large Components) Cleveland, OH
19. Hodge Foundry (Castings) Greenville, PA
20. Horsburgh & Scott (Gear/Gear Drives) Cleveland, OH
21. GE (Gearboxes) Erie, PA
22. LAI International Inc (Bearing Cages) Westminster, MD
23. Gamesa (Blades, Nacelle, Tower) Fairless Hills, PA
24. Hailo (Climbing Devices) Holbrook, NY

NREL team member Frank Oteri's research on Appalachian Region wind-related manufacturing is compiled into a single map graphic.

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Maryland (http://www.nrel.gov/docs/fy08osti/43368.pdf)

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Michigan (http://www.nrel.gov/docs/fy08osti/42789.pdf)

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Nebraska (http://www.nrel.gov/docs/fy08osti/42790.pdf)

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in New York (http://www.nrel.gov/docs/fy08osti/43377.pdf)

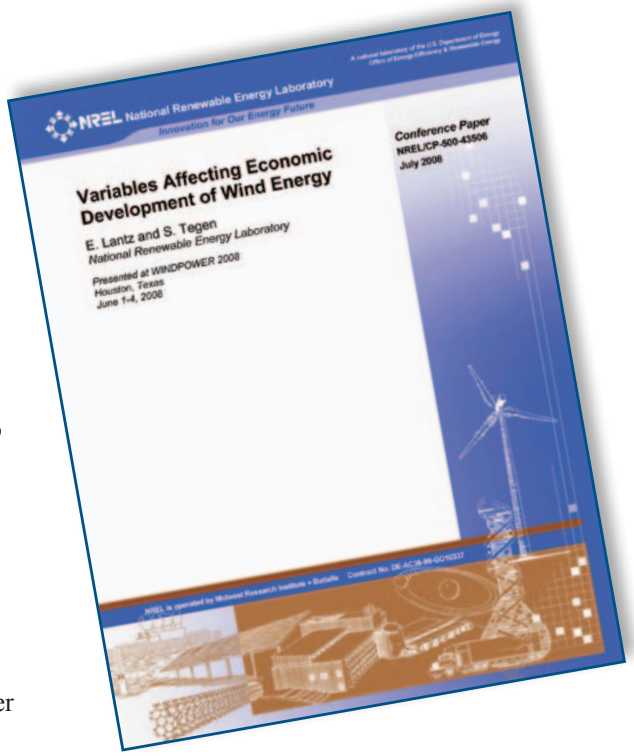
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Ohio (http://www.nrel.gov/docs/fy08osti/42791.pdf)

Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Virginia (http://www.nrel.gov/docs/fy08osti/43378.pdf)

Economic Development Impacts of Colorado's First 1000 Megawatts of Wind Energy (http://www.nrel.gov/docs/fy08osti/43505.pdf)

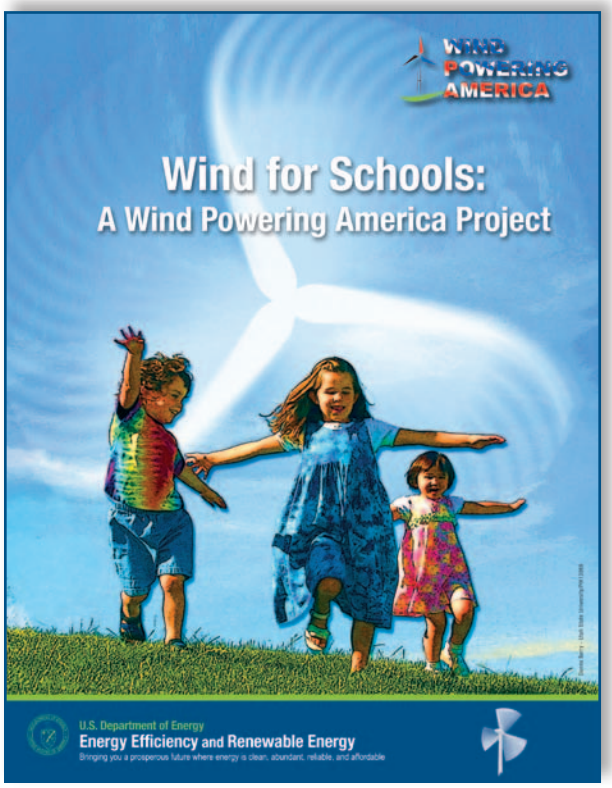
The Economic Benefits of Wind Farms on Rural Communities (conference poster for poster presentation event at WINDPOWER 2008 in Houston)

Variables Affecting Economic Development of Wind Energy (http://www.nrel.gov/docs/fy08osti/43506.pdf)



Wind for Schools

In the first full year of implementation, WPA made strong progress in the Wind for Schools program and attracted a great deal of national interest and press. During the fall semester, the Wind Application Centers (WACs) at Colorado State University, Boise State University, Kansas State University, South Dakota State University, Montana State University, and the University of Nebraska taught engineering classes that incorporated wind technology and supported the development of vibrant wind energy educational programs. Through the WACs, the program also saw its first university graduates enter the wind workforce, a key milestone in the process of training the future generations of wind energy leaders. The program also saw strong implementation of Wind for Schools systems at host K-12 schools, especially in Kansas and Montana. Montana also held the first Wind for Schools teacher training workshop, instructing teachers in the wind energy curricula developed by the National Energy Education Development (NEED) project in partnership with the American Wind Energy Association (AWEA).



The WPA team continues to work on developing curricula for all education levels. Through the program's collaboration with the NEED Project and AWEA, a science discovery lesson plan is being developed through which data from each wind turbine can be used to conduct expanded science-based K-12 projects. Additionally, the WPA team is working closely with each of the WACs and Southwest Windpower to develop a seamless method to collect wind turbine performance and resource data to be used in K-12 and university-level curricula. WPA staff also initiated a wind experts video series (expected to be completed in 2009), which will record lectures provided by wind energy experts to be used as part of the university programs, providing real-life experience in the development of wind energy projects, a rapidly growing and changing field. The program also implemented the procurement of measurement towers for

JOHN THUNE
SOUTH DAKOTA

COMMITTEES
AGRICULTURE, NUTRITION & FORESTRY
ARMED SERVICES
COMMERCE, SCIENCE & TRANSPORTATION
SMALL BUSINESS

United States Senate

WASHINGTON, DC 20510

November 24, 2008

Mr. John Mizroch
Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy
United States Department of Energy
Forrestal Building
Washington, D.C. 20585

Dear Mr. Mizroch,

I write today in support of the U.S. Department of Energy's Wind for Schools program, which helps rural schools reap the benefits of clean, renewable wind energy.

Through continued efforts by the National Renewable Energy Laboratory and Wind Powering America, the Wind for Schools program harnesses one of the most abundant and available natural resources found throughout America's Great Plains and Mountain West regions. Offering technical assistance and educational curriculum development, Wind Application Centers serve as a central hub for the implementation of this program. For example the South Dakota Wind Application Center on the campus of South Dakota State University in Brookings recently helped place a wind turbine at Sanborn Central School in Forestburg, South Dakota. I enjoyed participating in last month's dedication ceremony at Sanborn Central.

I strongly support continued local, state, and federal cooperation in putting this nation's wind energy resources to work for all Americans. I look forward to collaborating with the Department of Energy and other parties in realizing the full potential of America's wind power. The Wind for Schools program is an important step in achieving this goal, and I thank you for your continued administration of this program.

Sincerely,

John Thune
United States Senator

CC: Steven Chalk, U.S. Department of Energy, Office of Technology Development
Megan Mcleur, U.S. Department of Energy, Wind Powering America
Dr. Dan Arvizu, National Renewable Energy Laboratory

320 North Main Avenue
Suite B
Sioux Falls, SD 57104
(605) 334-9596

1313 West Main Street
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(605) 348-7551

320 South 1st Street
Suite 101
Aberdeen, SD 57401
(605) 225-8823

the Wind for Schools program, allowing wind resources to be measured at potential candidate sites but also allowing WAC students to implement resource measurement programs and data assessment, key skills in wind project deployment.

In FY09, each WAC will expand current activities to engage three to five host schools per state, leading to the installation of small wind turbines and the implementation of science-based wind energy curricula at numerous K-12 schools through the NEED Project wind curricula teacher training program. The Wind for Schools program also plans to implement an auxiliary program that will allow host schools and state programs interested in initiating activities using the Wind for Schools model but using locally available non-DOE funds to formally participate in the DOE Wind for Schools program. Any material developed can be applied not only to partner states, but also to other organizations from individual schools, school districts, or state energy offices that may not be formally aligned with the Wind for Schools activity. In 2009, the program will also more actively engage in other workforce development activities being undertaken by community colleges and industry to expand education opportunities in all wind sectors.

For state updates on Wind for Schools programs, see the state summaries for Colorado, Idaho, Kansas, Montana, Nebraska, and South Dakota.

NREL lead: Ian Baring-Gould

NREL contractors: State facilitators are Dan Nagengast, Kansas Rural Center (Kansas); Dan McGuire, American Corn Growers Foundation (Nebraska); Tom Potter, All American Energy (Colorado); Brian Jackson, Renaissance Engineering (Idaho); Mike Costanti, Western Community Energy (Montana); Steve Wegman (South Dakota). The Wind Application Centers are Kansas State University, University of Nebraska at Lincoln, Colorado State University – Fort Collins, Montana State University, Boise State University, and South Dakota State University. Other Wind for Schools contractors are the NEED Project and Earth Turbines.

FY08 publications: *Wind for Schools: A Wind Powering America Project* (http://www.nrel.gov/docs/fy08osti/41966.pdf)

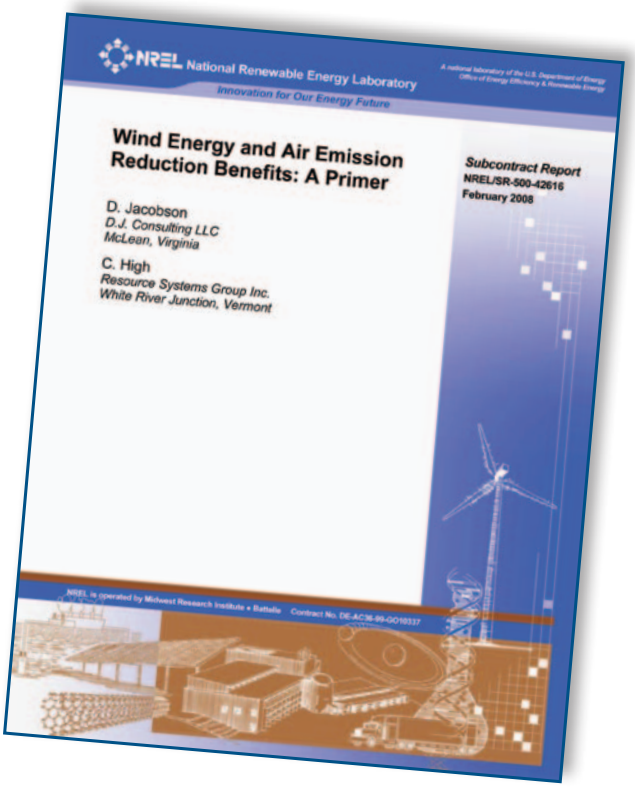
Wind for Schools, a poster presentation at the 2008 Windpower Conference in Houston

Air Quality

Deb Jacobson of D.J. Consulting LLC and Colin High of Resource Systems Group Inc. authored a subcontract report, *Wind Energy and Air Emission Reduction Benefits: A Primer*. The document summarizes the impact of wind energy development on various air pollutants for a general audience. It addresses the key facts relating to the analysis of emission reductions from wind energy development and is intended for use by parties ranging from state environmental officials to renewable energy stakeholders. The report is available at http://www.nrel.gov/docs/fy08osti/42616.pdf.

NREL lead: Lori Bird

NREL contractors: D.J. Consulting LLC, Resource Systems Group Inc.



Wind Resource Assessment

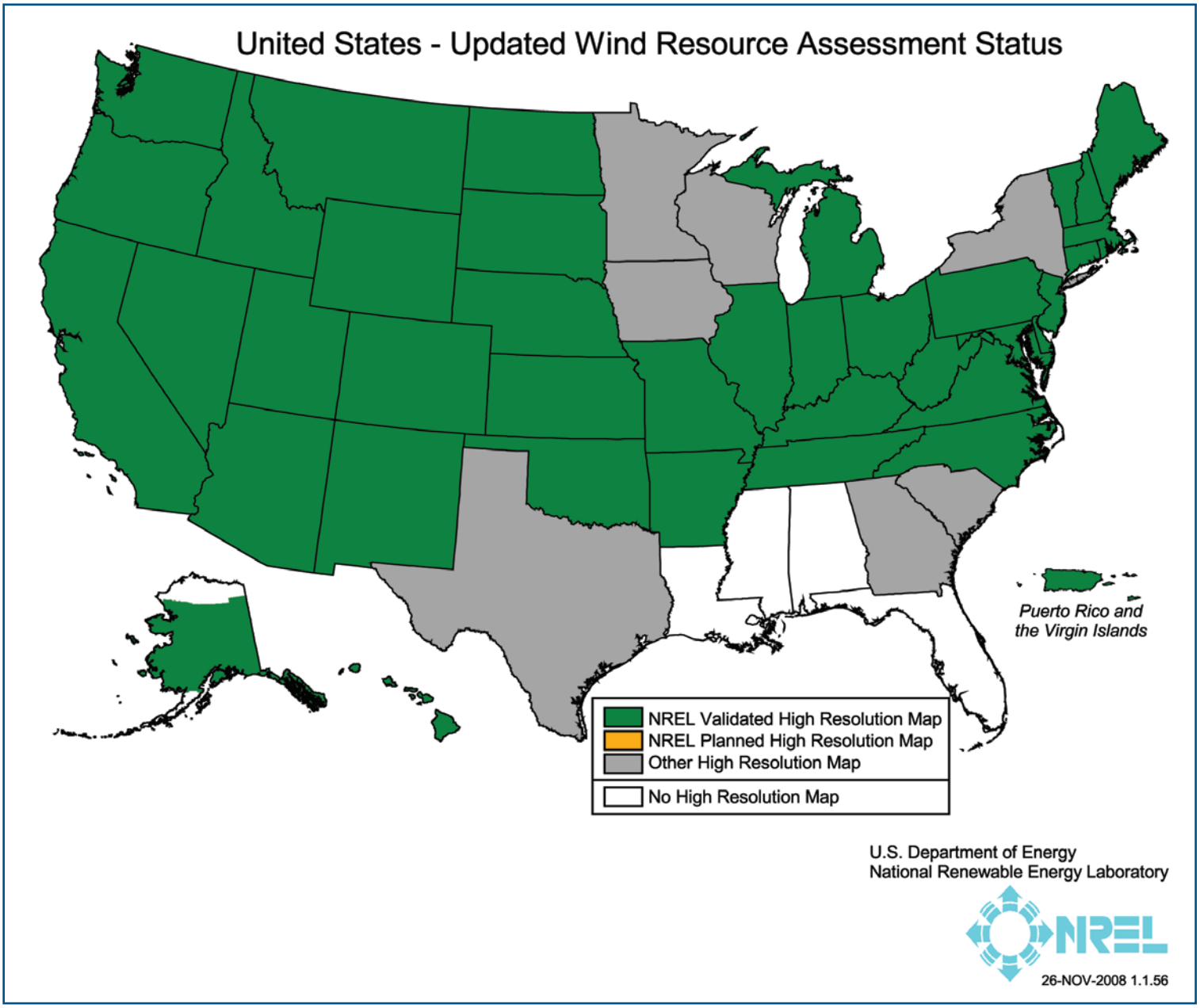
In FY08, NREL's wind resource assessment team:

- Updated wind resource maps for Puerto Rico, the Virgin Islands, Kentucky, Tennessee, and Kansas
- Participated in WPA workshops in Puerto Rico, the Virgin Islands, and at the WPA Summit in Houston.

NREL lead: Dennis Elliott

NREL contractors: AWS Truewind, consulting meteorologists

Publication: *Wind Shear and Resources at Elevated Heights: Indiana and Iowa Case Studies*, a poster presentation at the 2008 Windpower Conference in Houston



FEMP and Federal Lands

Federal wind activities have increased: more education and training, more wind assessment, more project proposals. NREL and WPA have supported these activities through a variety of efforts.

DOE Transformational Energy Action Management (TEAM) Initiative

NREL conducted site visits to look at wind potential at Sandia, Argonne, and Fermi National Laboratories. A preliminary wind feasibility study using existing wind data was completed for Argonne and Fermi. As part of this effort, NREL sent MET towers to Sandia and Idaho National Laboratories to augment MET towers already installed by the labs. NREL is loaning its mini-SODAR to Idaho National Laboratory to augment the wind resource assessment as part of the TEAM Initiative.

MET Tower Installations at Federal Facilities

- NREL installed a 50-m MET tower at Fort Carson, Colorado in December 2007 and deployed its mini-SODAR at Fort Carson in late spring. The wind resource assessment will be completed in early 2009, and Fort Carson will continue wind development activities in the quest to become a net-zero-energy base.
- The Naval Facilities Engineering Command (NAVFAC) Southwest, in partnership with NREL and Det Norske Veritas – Global Energy Concepts (DNV-GEC), installed two 60-m MET towers at naval facilities in Guam as part of initial Navy efforts to assess the potential for wind energy on the island.
- NAVFAC Southwest and NREL conducted site visits to more than a dozen military facilities and federal research stations in Oahu and Kauai, Hawaii. Site evaluations are being completed to determine which two facilities (one on each island) will begin wind resource assessment activities in FY09 with the installation of 60-m MET towers. The MET towers will be moved to the remaining sites in future years.
- General Services Administration (GSA), through NREL and the Alternative Energy Institute at West Texas A&M, has installed 50-m MET towers at a new Border Patrol facility being built in Anzalduas, Texas. The wind resource assessment is ongoing.
- GSA and NREL conducted a site visit to explore the wind resource potential at existing border stations in Alexandria Bay and Messina, New York.
- DOE facilitated the installation of a 50-m MET tower during the summer for the GSA border in Champlain, New York.
- The U.S. Coast Guard (USCG), with assistance from NREL, has been monitoring the wind resource with instrumentation mounted on a 108-m communications tower in Cape May, New Jersey. The wind resource assessment will be completed in December 2008, and wind turbine project plans will be finalized.
- NREL conducted site visits to USCG Air Stations in Cape Cod, Massachusetts and Elizabeth City, North Carolina as part of the Coast Guard's ongoing efforts to utilize wind at its facilities. Discussions for a MET tower installation at Cape Cod are ongoing. No MET tower will be installed at Elizabeth City at this time due to Coast Guard and County airport activities.
- The College of Engineering at Rowan University installed a 30-m MET tower and SODAR unit in April 2008 for the Army National Guard in Sea Girt, New Jersey. The assessment is part of a planned large, single-turbine project. NREL participated in a public forum announcing the project plans.

The U.S. Coast Guard (USCG), with assistance from NREL, has been monitoring the wind resource with instrumentation mounted on a 108-m communications tower in Cape May, New Jersey.

- NREL met with the energy manager from Elmondorf Air Force Base in Alaska to discuss the potential for wind energy on the base or with the new joint basing counterpart, Fort Richardson. A MET tower will be loaned to Elmondorf during FY09.
- DOE and NREL have partnered with the state of Hawaii and Forest City, Hawaii to examine the potential for wind to offset load at military housing facilities in Kaneohe and Pearl City. One 50-m MET tower will be installed at each site in FY09 in support of these joint efforts to reduce the amount of fossil fuel consumed in Hawaii. NREL will oversee the installation and wind data analysis for these installations. Additionally, NREL will facilitate the installation of two 1.8-kW Skystream wind turbines as part of a demonstration project at these sites.
- NREL provided ongoing technical advice to potential wind projects at NASA Wallops Island, NASA White Sands, and NASA Goldstone.
- The National Park Service (NPS) Training Facility in Truro, Massachusetts has completed its wind assessment through efforts with the Renewable Energy Research Laboratory (RERL) at University of Massachusetts. Ongoing discussions with NREL are exploring potential paths forward.
- NREL is providing technical advice with ongoing wind resource assessment activities on U.S. Forest Service land at Aspen Mountain Ski Resort in Colorado.

Wind Training for Feds

DOE, NREL, WPA, the Renewable Energy Research Laboratory (RERL) at University of Massachusetts, Army Environmental Command Impact Area Groundwater Study Program (IAGWSP), Air Force Center for Engineering and the Environment (AFCEE), and the U.S. Coast Guard Air Station Cape Cod at the Massachusetts Military Reservation (MMR) on Cape Cod partnered together to conduct a successful Federal Wind Energy Applications Technology Symposium (FED WEATS) at the Massachusetts Military Reservation in Cape Cod on May 20-22, 2008. Two days of intensive wind energy/technology discussions/lectures with 40 participants were followed by 1 day of presentations by various sectors of the wind industry: manufacturers, developers, meteorologists, environmental assessors, financiers, etc. Participating agencies included the U.S. Air Force, U.S. Coast Guard, National Oceanographic and Atmospheric Administration, U.S. Navy, Army National Guard, National Park Service, National Science Foundation, and NASA from Massachusetts, New Jersey, Rhode Island, North Carolina, Virginia, Colorado, Maine, Ohio, Alaska, Washington DC, and Puerto Rico.

Wind Training for DOD

Pacific Northwest National Laboratory (PNNL) hosted an Army Energy Summit on July 16-18 in Richland, Washington. Energy managers from 20 Army bases convened to learn about current renewable energy technologies suitable for their locations and applications. The WPA team of Jennifer States (PNNL), Robi Robichaud (NREL), and Kurt Meyers (Idaho National Laboratory) presented on wind energy and worked directly with the energy managers to formulate wind development plans for their bases.

NREL lead: Robi Robichaud

NREL contractors: Alternative Energy Institute at West Texas A&M, Det Norske Veritas – Global Energy Concepts (DNV-GEC)

Publication: *Wind Energy Opportunities, Challenges, and Progress Within the Federal Government*, a poster presentation at the 2008 Windpower Conference in Houston

Native American Program

Technical Assistance

- Processed and plotted wind data collected by five met towers located on the Bad River Reservation (Wisconsin) in support of the Tribal Energy Program (TEP).

Tall-Tower Anemometer Loan Program

- Wrote an interim wind-monitoring report for a WPA met tower located on the Grand Portage Reservation (Minnesota)
- Wrote an interim wind-monitoring report for a WPA met tower located on the Seneca Reservation (New York)
- Installed a tall tower on the Wampanoag Reservation (Massachusetts).

20-m Anemometer Loan Program

- Relocated a 20-m anemometer on the Pine Ridge Reservation (South Dakota) from the KILI radio station to the Loneman School.

WAPA Wind Hydropower Feasibility Study (WHFS)

- Conducted a review of Tribal Wind / Federal Hydropower Integration Energy Policy Act of 2005, Indian Title V, Section 2606 and how it relates to the work performed to date and work to be completed. The objective of the WHFS study is to incorporate tribal wind energy into the Western system displacing Western purchases. About 1,200 MW of candidate tribal wind projects were submitted (18 projects at 14 sites, project size ranges from 10 MW to 320 MW).

Meetings, Conferences, and Outreach

- **National Energy & Utility Affordability Conference, Denver.** Patrick Spears and Robert Gough (Intertribal Council on Utility Policy, or ICOUP) presented on "Current Renewable Technologies in Tribal Communities." ICOUP formed a plan that encourages tribally owned development of wind generation on Indian reservations as a viable strategy for building sustainable homeland tribal economies.
- **KILI 65-kW Wind Turbine Installation and Wind Energy Training, Pine Ridge Reservation, South Dakota.** The 65-kW turbine at the KILI radio station on Pine Ridge Reservation is the first wind turbine to be installed as a direct result of the WPA Native American Anemometer Loan Program.
- **Blackfeet Wind Energy Training, Blackfeet Reservation, Montana.** Participate in a day-long briefing of newly elected Tribal Council members on wind energy and wind energy project implementation.
- **SEI Tribal Wind Presentation, Carbondale, Colorado.** Made a 2-hour presentation plus answered questions on Tribal wind power potential at a week-long renewable energy course for renewable energy advocates.
- **Tribal Wind Financing Meetings, San Francisco, California.** Attended meetings with Dan Reicher and Geoff Staples of Google.org and Ben Paulos of the Energy Foundation.

In June 2008, the Lakota Nation celebrated a new wind turbine installation: a 65-kW Nordtank turbine on the edge of Porcupine Butte that supplies 120 megawatt-hours of wind power to KILI, the Pine Ridge Reservation radio station known as the Voice of the Lakota Nation. Work began 6 years ago when WPA erected a 20-m anemometer on the west side of Porcupine Butte in the shadow of the radio station. WPA team members analyzed the data to confirm a wind resource in excess of 13 mph at 20 meters. Bob Gough/ PIX15954.

A technician prepares a Vestas V-47 turbine for installation at Turtle Mountain Community College (TMCC) in Belcourt, North Dakota. TMCC installed a 660-kilowatt Vestas V-47 wind turbine in March 2008. The turbine will provide 30% of TMCC's annual electricity needs, for an annual savings of $90,000 to $150,000. The college purchased the turbine and tower with a $571,000 grant from the U.S. Department of Energy (DOE), 20% of which was matched by an in-kind grant from a non-governmental agency that is no longer operating. Kris DeLorme/PIX15517 and 15518.

- **Western Renewable Energy Zones Environment & Lands and Zone Identification and Technology Analysis Workshop, Denver.** Reviewed and created the Candidate Study Areas that will be analyzed for developing proposed zones. This meeting introduced how technology assumptions will be input into the supply curve analysis. Participated in planning and engaging tribal outreach and participation.

NREL leads: Tony Jimenez/Robi Robichaud

NREL contractors: Robert Gough, New Mexico State University, Global Energy Concepts

FY08 publications:

- Spring and Fall 2008 issues of *NAWIG News: The Newsletter of the Native American Wind Interest Group* (http://www.windpoweringamerica.gov/na_nawig.asp)
- *Windpower Across Native America: Opportunities, Challenges, and Status*, a poster presentation at the 2008 Windpower Conference in Houston

Distributed Wind

In FY08, the WPA distributed wind team continued its work to remove technology, market, and implementation barriers for distributed wind technologies. The distributed wind goal is to expand the market for distributed wind technologies five-fold from a 2007 baseline by 2015.

Solar Organizations

Trudy Forsyth, Jim Green, and Karin Sinclair of NREL led the following activities with solar organizations:

- Member of National Organizing Committee for ASES 2008 in San Diego (May 2008)
- Attended second Small Wind Technical Division meeting (May 2008)
- Presented full-day workshop: Small Wind Power
- Published technical paper on small wind Independent Testing project
- Member of National Organizing Committee for ASES 2009 in Buffalo, New York
- Sponsored ASES Zoning Webinars with presentations by Green, Mick Sagrillo, and Megan Amsler. More than 160 people attended the first Webinar (only 100 were planned for), and more than 130 people attended the second.

Targeted Outreach

- Supported a variety of applications outreach (Greensburg, Hawaii Forrest City, etc.)
- Refined consumer economic tool, including performance estimator
- Worked with KidWind on first small wind design challenge in New York
- Participated in Midwest Renewable Energy Fair
- Gave small wind presentation to U.S. Senate staff by invitation in June 2008
- Provided an overview of small and community wind technologies and markets at the Windustry Community Wind conference.

Work with Farmers

- Reviewed large numbers of USDA grant proposals
- Made wind presentations at National Western Stock Show.

Work with States

- Presented at the Renew New Mexico Conference (April)
- Presented on small and community wind for Kansas sustainability conference. Invited to give expert testimony on net metering and wind in Kansas by invitation from Rep. Carl Holmes (chair)
- Offered expert testimony on net metering with co-ops to Colorado legislature Transportation and Energy Committee
- Gave presentation for Crowder College E-conference in Missouri.

Work with Installers

- Completed North American Board of Certified Energy Practitioners (NABCEP) task analysis of small wind, which will lead to testing for certified small wind installers.

Miscellaneous

- Initiated a team to work on National Electric Code (NEC) sections for small wind. If adopted, the final code will be in place for the 2011 NEC
- Provided technical support to the Wind for Schools program and the Skystream
- Developing small wind JEDI model
- Worked with Washington state chief electrical inspector to overcome perception of no electrical safety standards for small wind
- Provided zoning technical assistance
- Hosted Colorado's agricultural grant program announcement at the National Wind Technology Center
- Supported Nevada in the development of a new small wind incentive pilot project
- Contributed to American Wind Energy Association model zoning ordinance.

NREL lead: Trudy Forsyth

NREL team members: Jim Green, Karin Sinclair

NREL contractor: Interstate Renewable Energy Council

FY08 publication: Federal Grant Fully Funds Small Turbine Installation at Maine Senior Housing Complex
http://www.nrel.gov/docs/fy08osti/42211.pdf

7th Annual WPA All-States Summit

The 7th Annual WPA All-States Summit in Houston attracted more than 155 participants of national and state public- and private-sector organizations from 36 states. This year's Summit offered a stakeholders' panel, an "objections answered" panel, and regional breakout sessions for the West, Midwest, and East. This year's table topics were wind for schools, community wind, wind resources and mapping, avian and wildlife, climate, small wind, transmission, integration, attracting manufacturing, economic development analysis, offshore, policy options, working with RECs, objections answered and dealing with NIMBYism, property values, energy futures and comparative economics, and the 20% wind energy scenario.

7th Annual WPA All-States Summit Awards

Young Wind Advocate Awards: Ryan Brown and Sara Baldwin

Outstanding State Wind Working Group: David Loomis (Illinois Wind Working Group) and Chris Rose (Renewable Energy Alaska Project)

Small Wind Advocate: Dennis Scanlin

Friend of the Program Award: Randy Swisher

Western Regional Wind Advocacy Award: David Olsen of CERT

Eastern Regional Wind Advocacy Award: Brandon Blevins, Gil Melear-Hough, Rita Kilpatrick, Stephen Smith, and Mary Carr of the Southern Alliance for Clean Energy

Midwest Regional Wind Advocacy Award: John Hansen of the Nebraska Farmers Union

Communications

In addition to producing the publications and assisting with the outreach efforts described in each section in the *WPA Activities at NREL* chapter of this report, in FY08 WPA distributed more than 15,000 copies of WPA publications to State Wind Working Groups and various outreach events. WPA Communications also produces the annual Wind Powering America Summit.

NREL lead: Marguerite Kelly

NREL contractors: Ruth Baranowski, National Association of Farm Broadcasters

Additional publications:

Wind Powering America
http://www.nrel.gov/docs/fy08osti/41054.pdf

Wind Powering America Program Overview
http://www.nrel.gov/docs/fy08osti/42998.pdf

Wind Powering America Web Site

WPA Webmaster Julie Jones incorporated the following updates to the WPA Web site (www.windpoweringamerica.gov) in FY08:

- Added the following National Association of Farm Broadcasters interviews: Peggy Beltrone, Cascade County, Montana Commissioner; Dan McGuire, Director of the American Corn Growers Foundation Wealth from the Wind Program; Roya Stanley, Director of Iowa's Office of Energy Independence; Allen Rider, Volunteer Leader of the 25x'25 Steering Committee; Dan Nagengast, Director of the Kansas Rural Center; Travis Brown, Renewable Energy Community Service Specialist at the Texas Office of Rural Community Affairs; and John Hansen, Nebraska Farmers Union President. See www.windpoweringamerica.gov/audio.asp
- Added the following Webcast presentations with audio recordings of discussions: The Energy/Water Nexus Webcast: A Case Study of the Arkansas River Basin, Ag Outreach Webcast: Wind Farming, and Agricultural Outreach Webcast. See www.windpoweringamerica.gov/audio.asp
- Added model ordinance information. See www.windpoweringamerica.gov/policy.asp
- Added content to the New England Wind Forum pages, including updated projects, state pages, and economics. See www.windpoweringamerica.gov/newengland/. Also distributed Issue #4 of the New England Wind Forum newsletter to more than 5,000 subscribers.
- Added a clickable U.S. map showing which states have Small Wind Consumer's Guides. See www.windpoweringamerica.gov/small_wind.asp
- Added a clickable U.S. map showing which states have Anemometer Loan Programs. See www.windpoweringamerica.gov/anemometer_loans.asp
- Updated JEDI Model information. See www.windpoweringamerica.gov/economics.asp

The number of visitors to the Wind Powering America Web site continues to increase.

- Added a clickable U.S. map showing which states have school wind projects and educational programs. See www.windpoweringamerica.gov/schools.asp
- Updated the U.S. Wind Resource Map and added the Alaska Panhandle, Kansas, Kentucky, Oklahoma, and Tennessee maps. See www.windpoweringamerica.gov/wind_maps.asp
- Posted a coordinated wind events calendar. Reviewers and contributors include the American Wind Energy Association, National Wind Coordinating Committee, Western Area Power Administration, Utility Wind Integration Group, state Wind Working Groups, and more. The calendar boasts more than 50 wind-related events that can also be downloaded via an Excel file for importing into an online calendar. See www.windpoweringamerica.gov/calendar.asp
- Upgraded the database to serve the increased number of users.

NREL lead: Julie Jones

NREL contractors: Julie Jones, Sustainable Energy Advantage LLC

WINDPOWER 2008 Presentations and Posters

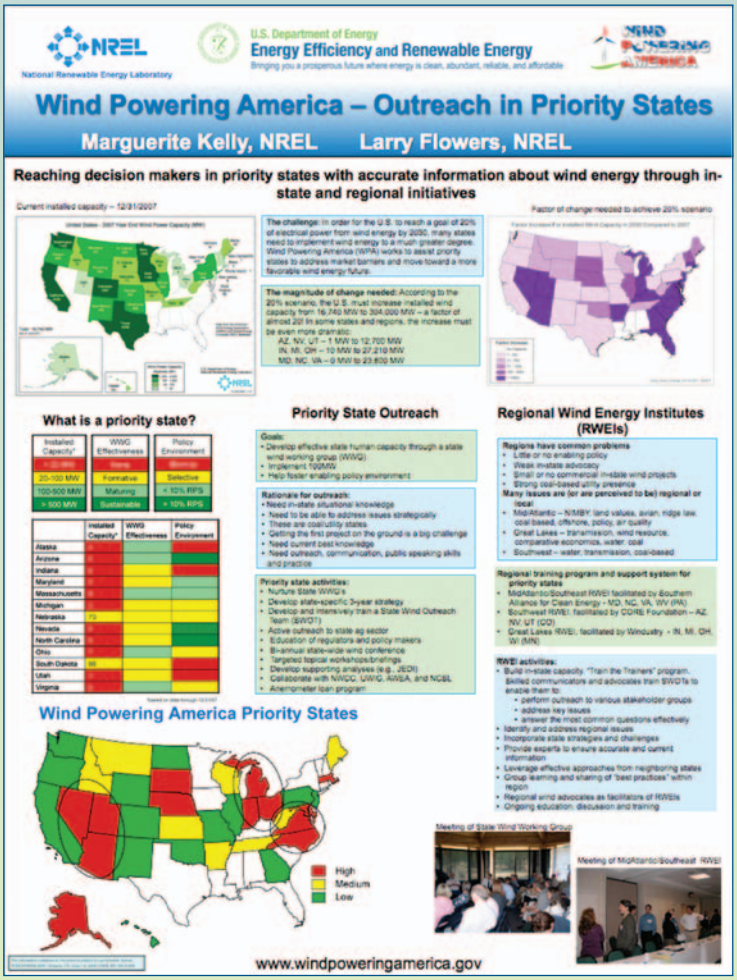
WPA team members presented 12 posters and papers at the WINDPOWER 2008 Conference in Houston, June 1 – 4. Many of these publications can be found in the online NREL Publications database at www.nrel.gov/publications/.

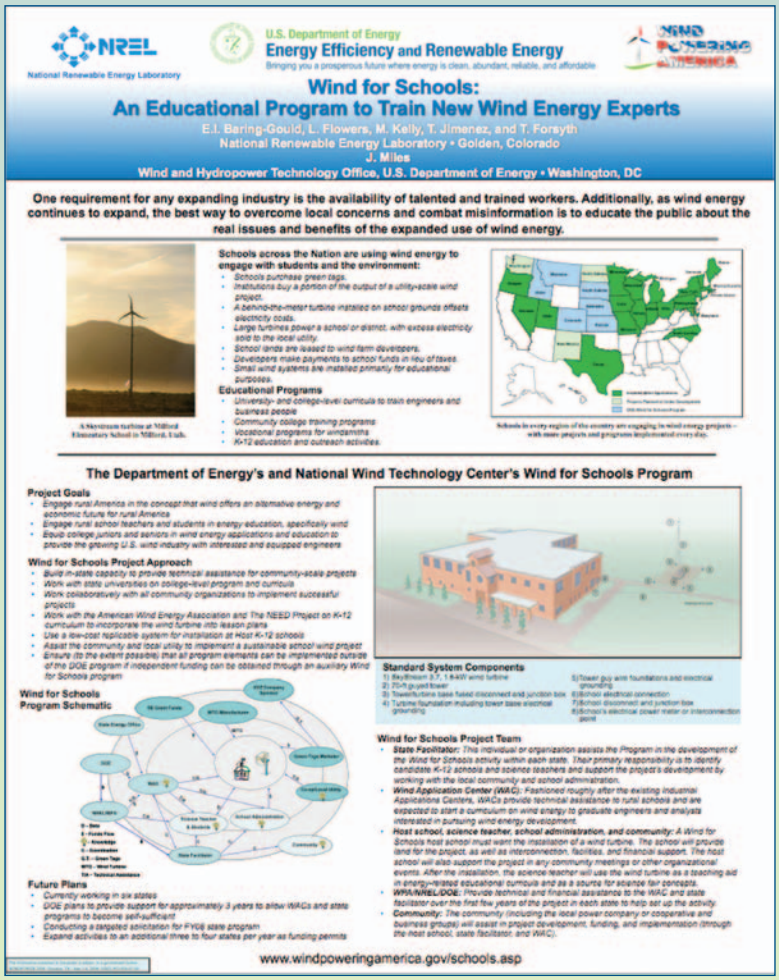
Conference papers include:

Economic Development Impacts of Colorado's First 1000 Megawatts of Wind Energy by S. Reategui and S. Tegen, NREL/CP-500-43505. This report describes jobs, land lease payments, tax revenue, payroll, and business activities that are spurred as a result of constructing and operating 1,000 MW of wind power in Colorado.

Status of Wind-Diesel Applications in Arctic Climates by I. Baring-Gould and D. Corbus, NREL/CP-500-42401. This summary paper describes the current state of wind-diesel systems, reviews the operation of wind-diesel plants in cold climates, discusses current research activities pertaining to these systems, and addresses their technical and commercial challenges.

Variables Affecting Economic Development of Wind Energy by E. Lantz and S. Tegen, NREL/CP-500-43506. This report examines the factors that drive wind-power-related economic development and the impact of specific economic development variables on new wind project economic benefits. The authors also compare economic development impacts of wind and coal power.





Poster topics include:

Economic Benefits of Wind Farms to Rural America by F. Oteri

Economic Development Impacts of Colorado's First 1000 Megawatts of Wind Energy by S. Reategui and S. Tegen

Meeting Municipal Water-Related Energy Needs with Wind Power by L. Flowers, B. Miller, and T. Hern

Wind Powering America – Outreach in Priority States by M. Kelly

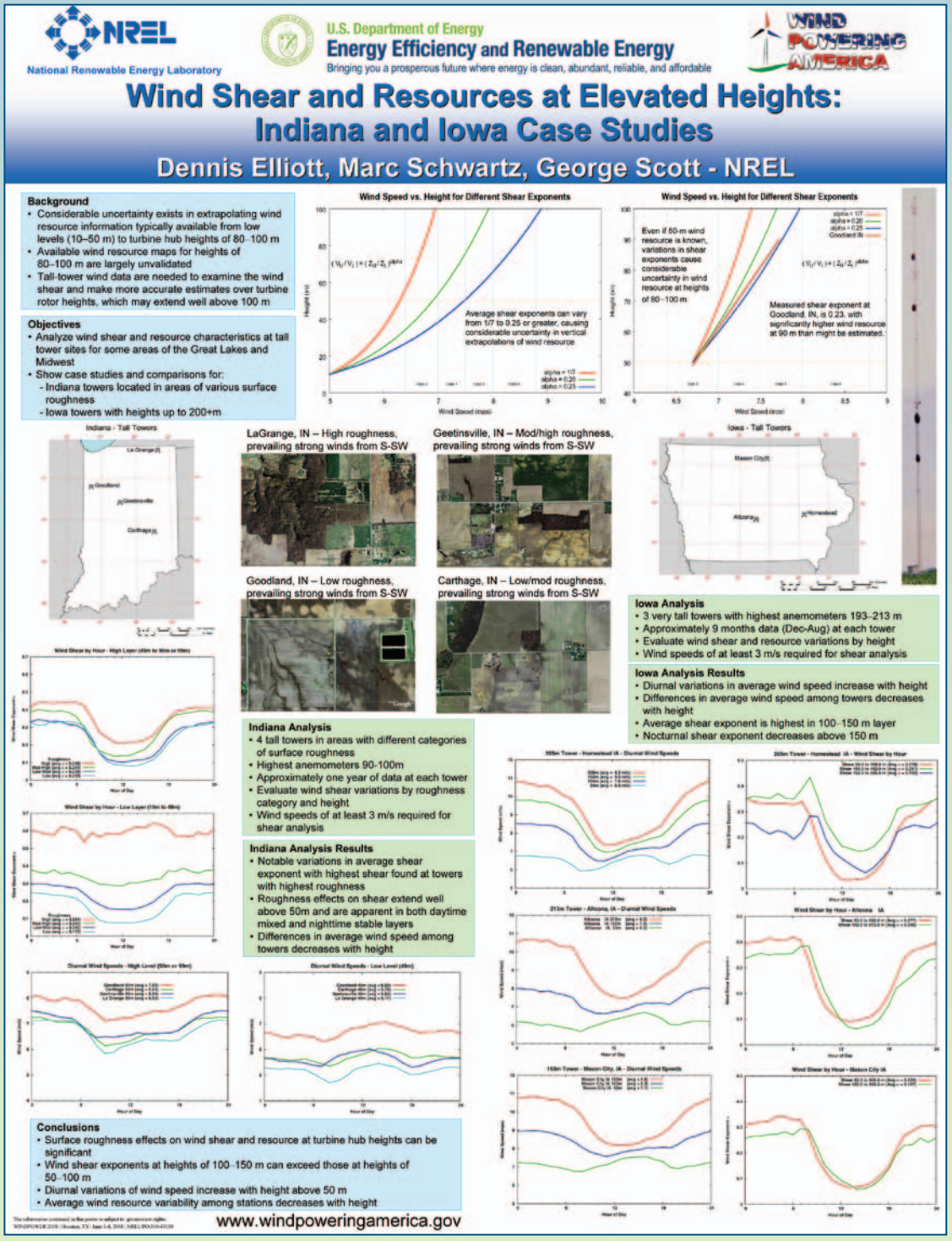
Variables Affecting Economic Development Benefits of Wind by E. Lantz and S. Tegen

Wind Energy Opportunities, Challenges, and Progress Within the Federal Government by R. Robichaud and L. Flowers

Wind for Schools: An Educational Program to Train New Wind Energy Experts by I. Baring-Gould, L. Flowers, M. Kelly, T. Jimenez, T. Forsyth, and J. Miles

Wind Power Across Native America: Opportunities, Challenges, and Status by A. Jimenez, R. Gough, R. Robichaud, L. Flowers, and R. Taylor

Wind Shear and Resources at Elevated Heights: Indiana and Iowa Case Studies by D. Elliott, M. Schwartz, and G. Scott, NREL/PO-500-43150.



The American Corn Growers Foundation produced this advertisement as part of the ACGF's rural economic development outreach efforts in Nebraska.

Top: ACGF outreach coordinator Dan McGuire engaged in wind energy rural outreach at DAKOTAFEST in August 2008 with South Dakota Senator Tim Johnson and (bottom) at the 2008 Farm Progress Show in Iowa. Photo credits: Dan McGuire.

American Corn Growers Foundation

One of the most successful and effective programs ever launched by the American Corn Growers Foundation (ACGF) is its Wealth from the Wind program, which focuses on wind energy outreach and education. ACGF members and American Corn Growers Association (ACGA) members in Nebraska, Illinois, South Dakota, and other states bring the wind energy message to rural America.

Events

- 2008 American Agriculture Movement (AAM) Convention, January 2008, Oklahoma City, Oklahoma: ACGF outreach coordinator Dan McGuire made a presentation to the AAM convention.
- 2008 Husker Harvest Days, September 2008, Grand Island, Nebraska: The ACGF provides wind energy outreach every year at this event.
- DAKOTAFEST, August 2008, Mitchell, South Dakota: McGuire staffed the ACGF outreach and information booth and disseminated WPA literature to attendees. An estimated 35,000 attended this farm show.
- 2008 Farm Progress Show, September 2008, Boone, Iowa: McGuire represented WPA at the Farm Progress Show, the nation's largest farm show. Hot topics with attendees included the need for transmission upgrading, the role of the 20% Wind Energy by 2030 scenario, and wind energy and rural economic development.

New England Wind Forum

WPA launched the New England Wind Forum (NEWF) in 2005 to provide a single comprehensive source of up-to-date, Web-based information on a broad array of wind-energy-related issues pertaining to New England. WPA, Massachusetts Technology Collaborative's Renewable Energy Trust, the New Hampshire Office of Energy and Planning, the Maine State Energy Program, and the Connecticut Clean Energy Fund provide funding for NEWF.

WPA was unable to continue funding the NEWF for the latter part of FY08.

FY08 publications:
New England Wind Forum Newsletter October 2007
(http://www.nrel.gov/docs/fy08osti/42039.pdf)

New England Wind Forum Newsletter May 2008
(http://www.nrel.gov/docs/fy08osti/43183.pdf)

Western Area Power Administration/Public Power Partnerships

Western Area Power Administration (Western) leads WPA's Public Power Partnership effort in coordination with the NREL WPA technical lead. The FY08 plan focused on activities with the nation's 3,000 electric cooperatives and public power utilities, including key partners The American Public Power Association (APPA) and National Rural Electric Cooperative Association (NRECA). Wind technology deployment and technical assistance activities conducted in FY08 include:

Partnerships

- Administered the Wind Cooperative of the Year Award for the U.S. DOE Wind Technologies Program and NRECA
- Administered the Public Power Pioneer Award for the U.S. DOE Wind Technologies Program and the American Public Power Association (APPA).

Procurement

- Established an $85,000 multi-technology transfer grant with NRECA
- Established a $27,500 multi-technology transfer grant with APPA.

Anemometer Loan Program

- Completed 13 anemometer loans to public power utilities and cooperatives
- Two additional anemometers have been requested.

Publications

- Facilitated the development of a wind power handbook for electric cooperatives with NRECA. The publication features the co-op wind decision; siting issues, including wind resources, environmental concerns, and grid access; wind technology; wind integration; and the wind development process.
- Produced 18 issues of Western's Green Power and Market Research Newsletter (http://www.wapa.gov/es/nhnewsback.htm). This newsletter is circulated to more than 1,500 consumer-owned utilities and interested parties.
- Provided technical assistance to Los Angeles Water and Power in developing a Wind Maintenance Program. As a result, a wind maintenance case study was developed that will be provided to other public power utilities interested in establishing an in-house wind maintenance program. APPA and UWIG have endorsed the case study (available at http://appanet.org/files/PDFs/LADWPInHouseWindMaintenanceProg10-15-08FINAL.pdf).

Transmission and Reliability

- Provided assistance to the APPA in developing a Wind Generation Transmission Congestion Pricing and Operational Impacts panel at the national conference in New Orleans in June 2008.
- Partnering with NREL on a Wind Integration Cost Share Program ($1,000,000 available in FY08). Two Western firm electric service customers responded to the RFP, and the Nebraska Power Association received an award. Western will provide a representative on the technical review committee.
- Conducting a tribal lands transmission study in partnership with the U.S. DOE Tribal Energy Program and NREL using DOE Tribal Program funding. The purpose of the study is to identify good wind resource areas with adjacent transmission that has at least 100 MW of available transmission capacity. Results from the study will be coordinated with tribal governments to develop more wind power.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Previous Issues

Responsibility for the factual accuracy of each press release rests entirely with the individuals or organizations identified on the release.

Week of October 27, 2008

Green Power

Oregon Case Highlights the Trouble With RECs

An Oregon Public Utilities Commission investigation that gets under way this morning will offer up one of the best examples to date of the potential pitfalls facing the success of renewable energy certificates (RECs) and, by extension, carbon offsets. It all comes down to the fact that there aren't enough qualified people out there to evaluate and certify renewable energy projects.

For renewable energy producers, the proceedings will also highlight the potential expense of the auditing process if they do not already have deals in place with utilities. The utilities, meanwhile, may either discover a new revenue stream in the auditing process or be saddled with the chore of regulating RECs they're not using themselves. In either case, the outcome of the investigation will affect the number of RECs available to utilities attempting to meet the state's renewable energy portfolio standards (RPS). Read more. *Source: Earth2Tech, 10/21/08*

Kirkwood Ski Resort Environmental Initiatives

Kirkwood has signed a letter of intent with Synergy Power Corporation out of Reno, NV to install twenty variable-speed wind turbines in hopes of generating over 20 percent of the resort's energy needs.

Kirkwood will continue to sell Green Tags at the ticket window this season to help develop new wind power generation facilities in the United States. Kirkwood sold more than any Lake Tahoe resort in 2007-08 and has pledged to match the total sales of Green Tag for the upcoming ski season.

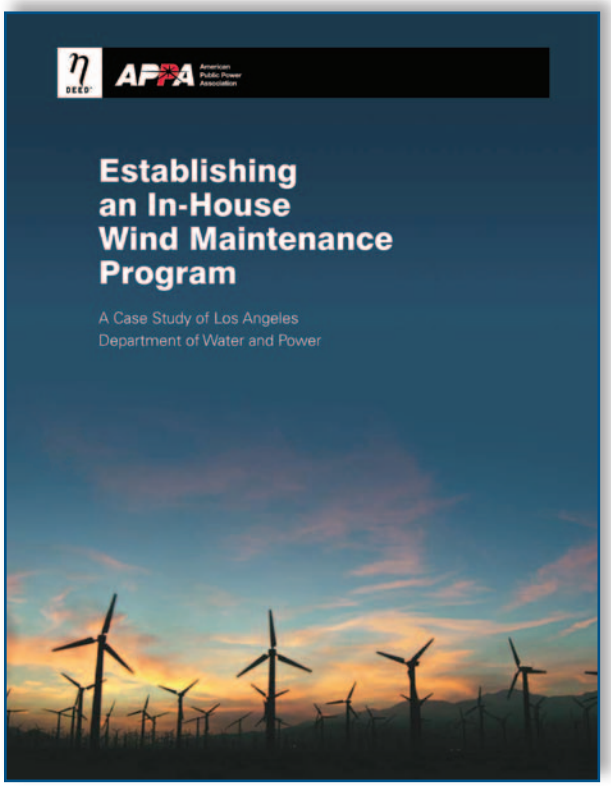
In partnership with the National Ski Areas Association (NSAA), Kirkwood Lodging will continue its agreement with the National Forest Foundation, a congressionally chartered nonprofit partner of the U.S Forest Service, that every lodging rental unit includes an extra $1 fee to be used for funding local projects within the El Dorado National Forest. *Source: Kirkwood, 10/20/08*

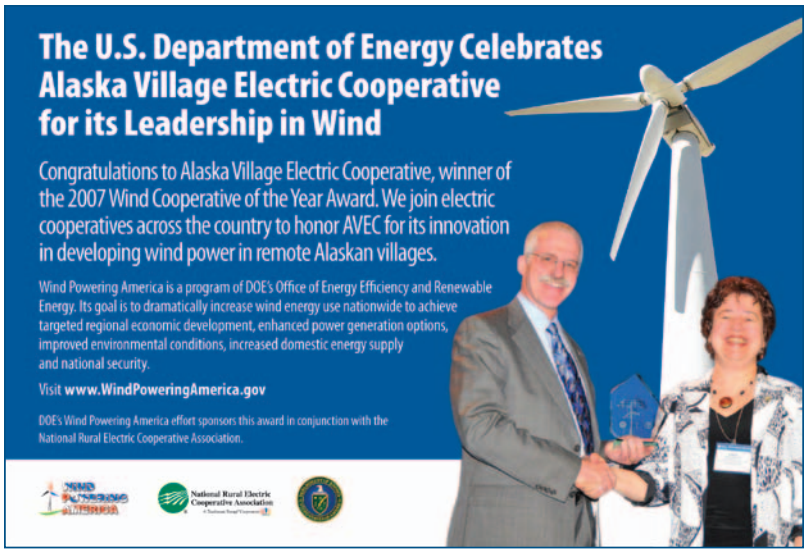
Green Power Bargains: Buying In Bulk

Need another reason to go green? How about stable, predictable energy costs?

A report from the U.S. Department of Energy's National Renewable Energy Laboratory notes that a growing number of utilities are offering fixed-price green pricing programs that act as a sort of hedge fund against rising fossil fuel prices. The programs let residential and commercial customers, such as Advanced Micro Devices, buy blocks of electricity produced through renewable sources. AMD in 2000 became one of the first companies in Texas to purchase green power through Austin Energy and continues to buy batches of green energy.

Other utilities are expanding their green energy options, too. Georgia Power has gained approval from the Georgia Public Service Commission (PSC) to sell green power in 100-kWh increments at 3.5 cents/kWh above the standard rate, which is 1 cent/kWh less than the previous offering. The redesigned program also includes a large volume





Events

- Staffed a WPA exhibit at 11 regional and national consumer-owned-utility conferences and renewable energy industry events:
  - — Northwest Public Power Association (NWPPA) Northwest Innovations Conference, September 2008, Lake Tahoe, California
  - — NRECA Tech Advantage Conference and Expo, February 2008, Anaheim, California
  - — Northwest Public Power Association (NWPPA) Engineering and Operations Conference, April 2008, Reno, Nevada
  - — 28th Annual Utility Energy Forum, April 2008, Lake Tahoe, California
  - — Rocky Mountain Electric League (RMEL) Spring Conference, May 2008, Phoenix, Arizona
  - — APPA National Conference, June 2008, New Orleans, Louisiana
  - — 2008 Northwest Public Power Association (NWPPA) Annual Meeting, May 2008, Anchorage, Alaska
  - — APPA Customer Connections Conference, October 2007, Seattle, Washington
  - — NRECA New Technologies Conference, May 2008, Hilton Head Beach, South Carolina
  - — APPA Engineering and Operations Conference, April 2008, Indianapolis, Indiana
  - — APPA Business and Finance Conference, September 2008, Scottsdale, Arizona
- Coordinated Wind Interconnection Workshop in Golden, Colorado, January 2008
- Facilitated five wind technology Webinars in partnership with the renewable energy industry and APPA and NRECA.

Wind Powering America FY08 Publications

Publication Name	Publication Type	URL
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Arkansas	fact sheet	http://www.nrel.gov/docs/fy08osti/43518.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Georgia	fact sheet	http://www.nrel.gov/docs/fy08osti/43485.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Indiana	fact sheet	http://www.nrel.gov/docs/fy08osti/42786.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Kansas	fact sheet	http://www.nrel.gov/docs/fy08osti/43517.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Maryland	fact sheet	http://www.nrel.gov/docs/fy08osti/43368.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Michigan	fact sheet	http://www.nrel.gov/docs/fy08osti/42789.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Nebraska	fact sheet	http://www.nrel.gov/docs/fy08osti/42790.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in New York	fact sheet	http://www.nrel.gov/docs/fy08osti/43377.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Ohio	fact sheet	http://www.nrel.gov/docs/fy08osti/42791.pdf
Economic Benefits, Carbon Dioxide (CO_2) Emissions Reductions, and Water Conservation Benefits from 1000 Megawatts (MW) of New Wind Power in Virginia	fact sheet	http://www.nrel.gov/docs/fy08osti/43378.pdf
Economic Development Impacts of Colorado's First 1000 Megawatts of Wind Energy	report	http://www.nrel.gov/docs/fy08osti/43505.pdf
Federal Grant Fully Funds Small Turbine Installation at Maine Senior Housing Complex	fact sheet	http://www.nrel.gov/docs/fy08osti/42211.pdf
NAWIG News	newsletter	http://www.nrel.gov/docs/fy08osti/41609.pdf
NAWIG News	newsletter	http://www.nrel.gov/docs/fy08osti/42514.pdf
New England Wind Forum: A Wind Powering America Project Volume 1, Issue 3 — October 2007	newsletter	http://www.nrel.gov/docs/fy08osti/42039.pdf
New England Wind Forum: A Wind Powering America Project Volume 1, Issue 4 — May 2008	newsletter	http://www.nrel.gov/docs/fy08osti/43183.pdf
Variables Affecting Economic Development of Wind Energy	report	http://www.nrel.gov/docs/fy08osti/43506.pdf
Wind for Schools: A Wind Powering America Project	brochure	http://www.nrel.gov/docs/fy08osti/41966.pdf
Wind Powering America	brochure	http://www.nrel.gov/docs/fy08osti/41054.pdf
Wind Powering America FY07 Activities Summary	brochure	http://www.nrel.gov/docs/fy08osti/42345.pdf
Wind Powering America Program Overview	fact sheet	http://www.nrel.gov/docs/fy08osti/42998.pdf

2008 New Wind Energy Projects

2008 New Wind Energy Projects (Complete and Under Construction Only)				
State	**Project Name**	**Location**	**MW**	**Status**
Alaska	Delta Junction	Near Delta Junction	0.10	Complete
	Hooper Bay	—	0.3	Complete
	Savoonga	St. Lawrence Island	0.2	Complete
California	Alite Wind Facility	Kern County	24	Complete
	Dillon Wind Power Project	Near Palm Springs	45	Complete
	Edom Hills Wind Project	Riverside County	20	Complete
	Pine Tree Wind Project	Kern County	120	Under construction
	Shiloh II	Solano County	150	Under construction
Colorado	Wray School District	Yuma County	0.90	Complete
Idaho	Bennett Creek Wind Farm	Elmore County	16.5	Under construction
	Cassia and Cassia Gulch Wind Farm	Gooding County	29.4	Under construction
	Cassia Gulch Wind Farm	Gooding County	18.9	Complete
	Hot Springs Wind Farm	Elmore County	16.5	Under construction
Illinois	AgriWind	Jasper County	8.4	Complete
	Grand Ridge Wind Energy Center	Near Ottawa	99	Complete
	Providence Wind Farm	Bureau County	72	Complete
	Rail Splitter Wind Farm	Logan and Tazewell Counties	100	Under construction
Indiana	Goodland (Benton County) Wind Farm	Benton and Newton Counties	130.5	Complete
Iowa	Barton I	Worth County	80	Under construction
	Century Expansion	Wright and Hamilton Counties	50	Complete
	Endeavor	Near Spirit Lake	100	Complete
	Floyd County Wind Farm Phase I	Floyd County	75	Complete
	Pioneer Prairie Wind Farm Phase II	Near Riceville	102.3	Under construction
	Pomeroy Wind Project Phase II	Pocahontas County	75	Complete
	Top of Iowa III	Worth County	29.7	Complete
	Walnut Wind Project	—	153	Under construction
	Wind Vision	Mitchell County	0.90	Complete
	Winnebago I	Winnebago County	20	Complete
Kansas	Central Plains Wind Farm	Wichita County	99	Under construction
	Flat Ridge I Wind Farm	Barber County	100	Under construction
	Meridian Way Wind Farm Phase I	Cloud County	105	Under construction
	Meridian Way Wind Farm Phase II	Cloud County	96	Under construction
	Smoky Hills Wind Farm Phase I	Ellsworth and Lincoln Counties	100.8	Complete
	Smoky Hills Wind Farm Phase II	Ellsworth and Lincoln Counties	150	Under construction
Maine	Stetson Mountain	Washington County	57	Under construction
Massachusetts	Forbes Park Wind Project	Near Chelsea	0.6	Complete
	Princeton Municipal Wind Project	Near Princeton	3	Under construction

2008 New Wind Energy Projects (Complete and Under Construction Only)				
State	**Project Name**	**Location**	**MW**	**Status**
Michigan	Harvest Wind Farm	Huron County	52.8	Complete
	Noble Thumb Wind Park Phase I	Huron County	69	Under construction
	Stoney Corners Wind Farm Phase I	Kalamazoo County	20	Complete
Minnesota	Cisco Wind Energy	Brewster	8.4	Complete
	Corn Plus (CP) Wind Farm	—	4.2	Complete
	Elm Creek Wind Farm	Near Trimont	99	Under construction
	Ewington Wind Farm	Near Ewington	21	Complete
	Grand Meadow Wind Farm / Wapsipinicon Wind Project I	Mower County	100.5	
	Grant County	Grant County	20	Under construction
	Jeffers Wind Energy Center	Cottonwood County	50	Complete
	Marshall Wind Farm	Lyon County	18.9	Complete
	Nobles and Federated	Nobles County	4.2	Complete
	Odin Wind Farm	Watonwan and Cottonwood Counties	21	Complete
	Taconite Ridge Energy Center	St. Louis County	25	Complete
	Valley View	—	10	Under construction
Missouri	Conception Wind Farm	Nodaway County	50.4	Complete
Montana	Diamond Willow Wind	Fallon County	19.5	Complete
	Fort Peck Community College	Fort Peck	0.10	Complete
	Glacier Wind Farm / McCormick Ranch Wind Farm Phase I	Toole County	106.5	Complete
Nebraska	Elkhorn Ridge Wind Energy Project	Knox County	80	Under construction
New Hampshire	Lempster Mountain	Near Newport	24	Under construction
New York	Cohocton Wind Farm	Steuben County	87.5	Complete
	Dutch Hill Wind Farm	Steuben County	37.5	Under construction
	Noble Altona Windpark	Clinton County	97.5	Complete
	Noble Bliss Wind Park	Near Buffalo	100.5	Complete
	Noble Chateaugay Wind Park	Franklin County	106.5	Complete
	Noble Clinton Wind Park	Clinton County	100.5	Complete
	Noble Ellenburg Wind Park	Clinton County	81	Complete
North Dakota	Langdon II Wind Project	—	40.5	Complete
	Tatanka Wind Farm	Dickey and McIntosh Counties	91.5	Complete
	Turtle Mountain College	Rolette County	0.66	Complete
Oklahoma	Buffalo Bear	—	19	Under construction
	Red Hills Wind Farm	Roger Mills and Custer Counties	123	Under construction
Oregon	Klondike III	Sherman County	2.4	Complete
	Rattlesnake Road Wind Power Project Phase I	Gilliam County	102.9	Complete
	Willow Creek Wind Farm	Gilliam and Morrow Counties	72	Under construction
Pennsylvania	Forward Wind Farm	Somerset County	29.4	Complete
	Highland Wind Project/Krayn Wind Farm	—	62.5	Under construction
	Locust Ridge II	Schuykill County	102	Under construction
	Lookout Wind Project	—	38	Under construction
South Dakota	Buffalo Ridge Wind Farm	Brookings County	50	Under construction
	Tatanka Wind Farm	Near Long Lake	88.5	Complete
	Wessington Springs Wind Project	Jerauld County	51	Under construction

2008 New Wind Energy Projects (Complete and Under Construction Only)				
State	Project Name	Location	MW	Status
Texas	Buffalo Gap 3	Near Abilene	170.20	Complete
	Bull Creek Wind Farm	Near Gail	180	Under construction
	Camp Springs II	Scurry County	120	Complete
	Capricorn Ridge Expansion	—	298.5	Complete
	Champion Wind Farm	Near Abilene	126.5	Complete
	Elbow Creek Wind Project	Howard County	121.9	Complete
	Goat Mountain Phase I	—	80	Complete
	Hackberry Wind Project	Near Abilene	165.60	Under construction
	JD Wind 9	Moore County	10	Complete
	JD Wind Phase IV	Near Amarillo	79.8	Complete
	Lone Star Phase II (Post Oak)	Near Abilene	200	Under construction
	Majestic Wind Farm	Near Amarillo	79.5	Under construction
	McAdoo Wind Farm	Near Lubbock	150	Complete
	Notrees Phase I	Ector and Winkler Counties	90.75	Under construction
	Ocotillo	Howard County	58.8	Under construction
	Panther Creek Wind Farm	Sterling, Howard, and Glassock Counties	142.5	Complete
	Peñascal Wind Farm	Near Corpus Christi	201.6	Under construction
	Roscoe Wind Farm Phase I	Near Abilene	209	Complete
	Roscoe Wind Farm Phase II	Near Abilene	126.5	Complete
	Sand Bluff	Near Big Spring	90	Complete
	Sherbino I Wind Farm	Pecos County	150	Complete
	Silver Star I Wind Farm	Eastland and Erath Counties	60	Complete
	South Trent Mesa Project	Nolan and Taylor Counties	101	Under construction
	Stanton Wind Farm	Martin County	120	Complete
	Wege Wind Energy Farm	Carson County	10	Complete
Utah	Spanish Fork Wind Park	Near Spanish Fork	18.9	Complete
Washington	Goodnoe Hills Wind Farm (East)	Klickitat County	94	Complete
	Hopkins Ridge II Wind Project	Columbia County	7.2	Complete
	Marengo Phase II	Columbia County	70.2	Complete
	Nine Canyon Wind Farm Phase III	Benton County	32.2	Complete
West Virginia	Mt. Storm Phase I	Grant County	164	Complete
Wisconsin	Blue Sky Green Field	Fond du Lac County	145.2	Complete
	Butler Ridge Wind Farm	Dodge County	54	Under construction
	Cedar Ridge Wind Farm	Fond du Lac County	67.65	Complete
	Forward Wind Energy Center	Dodge and Fond du Lac Counties	129	Complete
Wyoming	Happy Jack Windpower Project	Near Cheyenne	29.4	Complete
	Mountain Wind I	—	60.9	Complete
	Mountain Wind II	Near Fort Bridger	80	Complete
	Rolling Hills Wind Farm	Near Rolling Hills	118.5	Under construction

Data compiled by DNV Global Energy Concepts Inc.

2008 New Wind-Related Manufacturing

Location	Company	Component	Jobs	2008 Production Status
Opp, AL	MFG Alabama	Nacelle housings	Currently employs 115; will employ about 200 by 2010	Opened 2005; announced expansion 2008
Little Rock, AR	LM Glasfiber	Blades	1,000 by 2013	2008
Little Rock, AR	Polymarin	Blades	630	Announced October 2008
Little Rock, AR	Wind Water Technology	Nacelles	200	Announced October 2008
Jonesboro, AR	Nordex	Turbines	700	Announced October 2008
Northern Colorado	Woodward Governor	Inverters	100	Announced March 2008
Lamar, CO	Dragon Wind	Towers	100	Announced May 2008; will open 2009
Muncie, IN	Brevini	Gearboxes	455	Announced October 2008; will begin manufacturing in second quarter 2010
Newton, IA	Trinity Structural Towers	Towers	140	Announced April 2008; will open spring 2009
Oelwein, IA	Sector 5 Technologies	Components	Expected to employ 100 by 2015	Announced March 2008
Wixom, MI	Three M Tool & Machine	Gearbox and forward housings	80 one year after expansion is complete	Expansion completed 2008
Plymouth, MI	Danotek Motion Technologies	Variable-speed permanent magnet generators	151 by 2013	Announced 2008
Butte, MT	Fuhrlander	Turbines	150	Announced March 2008; will open spring 2009
Shelby, NC	PPG Industries	Fiberglass	700; will add 120 jobs over next 3 years	Announced expansion November 2008
Blair, NE	North Star Wind Towers	Towers	80 to 100	Announced January 2008
Aurora, OH	Rotek Inc.	Bearings	Will employ 365 within 3 years	Announced expansion May 2008
North Ridgeville, OH	Kalt Mfg.	Components	45	Announced expansion in 2008
Tulsa, OK	DMI	Towers	450 by mid-2009	January 2008
Sioux Falls, SD	Tower Tech	Towers	150	Announced May 2008
Abilene, TX	Tower Tech	Towers	150	Announced May 2008; expected to open early 2009
San Angelo, TX	Martifer	Towers	225 by 2012	Announced September 2008
McGregor, TX	RLTC Industries	Towers	70; eventually could employ 400	Announced February 2008; expected to open January 2009
Antigo, WI	Merit Gear	Gears	Will employ 150 when expansion is complete	Expansion announced August 2008

Data compiled by Frank Oteri, NREL (frank_oteri@nrel.gov)

2008 Renewable Energy Legislation Update

	Legislation Update
Hawaii	On January 31, 2008, Governor Lingle signed a Memorandum of Understanding with the U.S. Department of Energy for the Hawaii-DOE Clean Energy Initiative. The goal is to decrease energy demand and accelerate use of renewable, indigenous energy resources in Hawaii in residential, building, industrial, utility, and transportation end-use sectors so that efficiency and renewable energy resources will be sufficient to meet 70% of Hawaii's energy demand by 2030. Learn more at http://hawaii.gov/dbedt/info/energy/hcei/
Maine	Maine is a deregulated state, meaning that all electricity is provided through competitive service providers. For the most part, transmission and distribution companies cannot own generation. Maine's net metering rule is in the process of being amended. During fall 2008, the Public Utilities Commission made its draft recommendations, held a public hearing, received public comment, and is now in the process of finalizing its rule. It is considering amending the current rule from 100 kW to 500 kW, or possibly higher. The PUC is also considering adopting a new amendment that would allow end users within a transmission territory to co-own generation, regardless of whether they are adjacently located (which is the current rule requirement). The PUC is also considering adopting standardized interconnection standards. All of these proposed rules are in development and will likely be finalized in the winter of 2008-2009.
Maryland	The Clean Energy Incentive Tax Credit offers Marylanders a state income tax credit for electricity generated by qualified resources (including wind) of 0.85 cents per kWh and 0.50 cents per kWh for electricity generated from co-firing a qualified resource with coal. These credits can be claimed over a period of 5 years. Annual tax credits cannot exceed one-fifth of the initial credit certificate issued by the Maryland Energy Administration (MEA). This credit is available to individuals and corporations that build and generate electricity from qualified resources operational on or after January 1, 2006 but before January 1, 2011.
Massachusetts	Massachusetts enacted five pieces of significant energy reform legislation, which will reduce barriers to wind deployment. The Green Communities Act, in particular, allows communities to own power plants and enacts yearly ratcheting for net metering and an innovative net-billing structure that allows small wind projects (up to 2 MW) to share excess power at "behind the meter" pricing. In addition, the governor has worked to eliminate and streamline regulations and impose deadlines on resolution of siting lawsuits.
Michigan	Renewable Portfolio Standard bills have passed the state House and Senate, and a conference committee is trying to resolve the significant differences between the bills. On August 6, 2008, the Michigan Public Service Commission (MPSC) adopted the federally recommended net metering standards. The commission order noted that the consensus agreement in place is a voluntary one and therefore does not conform to the type of net metering envisioned in the Public Utility Regulatory Policies Act, or PURPA (the PURPA standard is a simple netting on a one-to-one kWh basis). The MPSC directed all regulated electric utilities to file an application for approval of a new net metering tariff by Dec. 31, 2009. WWG members continue to provide advice and support to the Governor's Office in the effort to enact a Renewable Portfolio Standard in Michigan.
North Carolina	The North Carolina tax credit is 35% up to $2,500,000 ($10,500 for residential systems), and the North Carolina Green Power program (a voluntary green pricing program) is interested in wind power and can pay a premium per kWh for wind power. North Carolina now has a Renewable Energy and Energy Efficiency Portfolio Standard (REPS) making investment in renewable energy mandatory (by 2021, North Carolina utilities will need to generate 7.5% of their electrical power from renewables).

State	Legislation Update
Ohio	In May 2008, Ohio became the 25th state to enact an official RPS. The RPS, formally known as the Energy, Jobs, and Progress Bill, requires 25% of the energy sold in Ohio to come from advanced and renewable energy technologies, among other goals. In June, Governor Ted Strickland signed into law House Bill 562, which requires all wind energy projects with an aggregate generating capacity of greater than 5 MW to be approved and regulated by the State of Ohio. This insures accuracy, accountability, and proper siting with regard to wind energy projects.
Pennsylvania	In July, Governor Rendell signed Act 1, which provides $650 million for renewable energy and energy efficiency programs (of which $25 million will be dedicated to wind and geothermal).
South Dakota	HB 1320 (Wind Energy Incentives Legislation) provided tax incentives for wind energy facilities and related transmission. The law changed the tax on wind developers from a property-based tax to a nameplate and gross receipts tax. It allows wind developers to pay less of an upfront tax and spreads the tax liabilities over longer periods of time. The legislation provides for a rebate of a portion of the applicable taxes to pay for new transmission infrastructure cost. HB 1123 (South Dakota Renewable Energy Objective) sets a goal of 10% of South Dakota's electricity to be supplied by renewable or recycled resources by 2015. The new law also requires the load-serving entities to annually report their renewable electricity sales. Gary Hanson, chairman of the South Dakota Public Utilities Commission, testified about electric transmission issues before the U.S. Senate Committee on Energy and Natural Resources in Washington, D.C., on June 17. New Mexico Senator Jeff Bingaman, chairman of the committee, invited Hanson to discuss transmission challenges specific to renewable energy resources.
Utah	The Utah Legislature set a goal of 20% renewables by 2025.

Data compiled from state WWG input.

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