

Business Meeting #31
Meeting Summary
June 18, 2003

Participants:

Jim Afghani, EPA

Kris Armstrong

Abby Arnold, RESOLVE

Jim Beach, Kansas Windpower

Kevin Bryan, RESOLVE

Stan Calvert, DOE

James Covey, OK House of Rep

Lisa Daniels, Windustry

Dan Deaton

Ed DeMeo

Larry Flowers, NREL

Troy Gagliano, NCSL

Marshall Goldberg,

Bob Gough

Tom Gray, AWEA

Roger Hamilton

Ed Holt, NARUC

Patrick Kelly, EPA

Mark Lambert, IA PUC

Ron Lehr, AWEA

Jim Maddox, OK State Senate

Pat Oshie, WA Trans. and Utility Commission

Rachel Permut, RESOLVE

Patricio Silva, NRDC

Troy Simonsen, EERC

Brian Smith, NREL

Charlie Smith, UWIG

Beth Soholt, WOW

Charles Ward, KCREF

Ken Zimmerman, KCC

Welcome and Introductions

Abby Arnold, RESOLVE, welcomed the group to the Business Meeting. After brief introductions she reviewed the agenda for the meeting. The objectives of the meeting were as follows:

- *Learn more about and discuss economic impacts of wind power development in the U.S, highlighting the NWCC report, **Assessing the Economic Impacts of Wind Power Development**.*
- *Learn more about and discuss wind integration costs and the impacts of recent studies on wind energy development*
- *Review activities and products planned for FY 2004*

Oklahoma State Senator Jim Maddox welcomed the National Wind Coordinating Committee to Oklahoma. He recognized that, while Oklahoma is new to renewable energy development, with policy changes the state can become a renewable energy leader over time. Senator Maddox stated that successful policy change to encourage renewable energy development is a matter of showing rural communities the potential economic development benefits of wind power. Senator Maddox attributes much of the success so far to groups such as the Oklahoma Wind Power Initiative (OWPI) that have helped educate the legislative bodies and general public. The Senator promised to continue working towards beneficial laws for wind in the Senate to ensure that development is environmentally, economically and politically sustainable, the credo of the NWCC.

Panel Discussion: Understanding the Economic Impacts of Wind Power Development

The meeting began with a panel discussion on the economic impacts of wind energy development and methods to measure these impacts. **Ed DeMeo, Renewable Energy Consulting Services**, presented the NWCC report, "Assessing the Economic Development Impacts of Wind Power Development". The document was produced by Northwest Economic Associates under the direction of the NWCC Economic

Development Work Group. The report was prepared according to the Economic Development Guidelines, which were produced in 2001 and provided a methodology for assessing the economic impacts of wind energy development. The report was produced to demonstrate this methodology and to provide statistical information that can illustrate the extent of economic impacts from wind energy development. Mr. DeMeo noted that before this study, relevant research projects were projections of economic impacts, not reviews of actual projects. The document outlines the methodology that was used in three case studies, the results of the projects, the limitations of the methodology, and the specific results for the case studies. The report considers economic impacts from both short-term construction and long-term (20 years) operation and maintenance. Within these two areas, the researchers defined all the inputs and then identified the sources of those inputs. For example, inputs include the turbines, the transmission lines and all services that contribute to the project. The study illustrated that most inputs were from out of the region and that if more of the inputs were local, then the economic benefits would be greater. As has been found by other studies, it was hard to gather information from project developers due to privacy clauses in the power purchase agreements because of the competitive nature of the market.

Mr. DeMeo reviewed the individual results from each of the three case studies, as well as commonalities evident among the three cases. The study suggests that wind development has a modest-to-significant positive impact on personal annual income, tax revenue, employment/job creation and landowner earnings.

Mr. DeMeo discussed the limitations of the methodology. The three primary limitations were the difficulty in attaining data, the limited size of the geographic region studied, and the variance in quantitative effects. Members also mentioned power purchase agreements and utility education as hurdles to be overcome.

NWCC members in attendance agreed that the report is a good start in determining the possible future for wind power revitalizing rural America. A member commented that the value chain has started showing interest in wind power, as many new groups attended the national AWEA conference. By including the insurance firms, lawyers, steel producers, rope harness makers, and mechanics in the industry, the local economic development benefits will increase. Wind Powering America is planning a study on the value chain by following every aspect of one project. It will track all products and services in order to see the full picture of inputs despite their location. For more information on Wind Powering America, check out the website, <http://www.eere.energy.gov/windpoweringamerica>.

A Business Meeting participant suggested that the work group start a project that will look at specific factors and determine whether they have positive impacts on development. Others noted such a project may be difficult because of differences in state and county tax systems. For example, most counties benefit through property taxes on the developments, but Kansas has cancelled those taxes and the local communities benefit through voluntary developer payments.

Members pointed out that states can support programs to maximize positive impacts from wind development. For example, in Oklahoma they have found that creating training programs for windsmiths in the area provides local jobs. States can also help by creating favorable environments for manufacturing or repair shops for the towers. Another important effort may be to secure local financing for projects to retain capital returns in the development area. Education of financiers is an obstacle for developers, and the NWCC may look into helping facilitate this process.

Troy Gagliano, National Conference of State Legislatures (NCSL), discussed his organization's upcoming report on economic impacts results across different states. The report finds that those in areas where wind energy development has taken place, the landowner payments have increased from \$1,500-\$2,000 per turbine to \$2,000 to \$4,000. The report notes that the benefits from taxes go to a variety of

government programs, particularly education and fire department funding. One member suggested that the report should consider the possible relationship between landowner payments and the power purchase prices. Mr. Gagliano said he would look into it.

A participant noted that, at the request of US Senator Tom Harkin (IA), the General Accounting Office (GAO) will investigate the economic impacts of wind power in several four states over the next six months, including California, Minnesota, Iowa, Colorado, and Texas. Members recommended other states that should be included in the GAO study and suggested that the Economic Development Work Group share the methodology with them. Staff will ensure that the GAO has the NWCC Economic Development Case Studies Report and contact information for work group members for any follow-up questions.

At the request of Larry Flowers and Michael Milligan at the National Renewable Energy Laboratory (NREL), **Marshall Goldberg, MRG and Associates**, developed a new web based tool for the public to determine the possible economic impacts of a development. Mr. Goldberg shared this tool with the NWCC during the morning panel. The tool is anticipated for use by economic development professionals and members of the general public interested in estimating the potential economic impacts of wind energy development in their jurisdictions. As much or a little information that is available on a specific project can be entered into the program. Examples of possible inputs include number of turbines in the proposed wind plant, the size of individual turbines, tax rates, and other such data. Users should understand that the results are not 100% accurate, but that the model can give an idea of the range and degree of impact. The model takes into account local spending and economic structures as well as inter-industry linkages. The goal is to have the tool tested by academic institutions interested in using the tool to measure the impacts of local projects, after which the tool will be released to the general public via NREL's website.

Discussion - Examining Wind Integration Costs: What Impact Will Recent Studies Have on Wind Energy Development?

UWIG Study of Impacts on System Operation

Charlie Smith, Utility Wind Industry Group, presented a recent study on the impacts of wind energy on electric system operation costs. The utilities determined last year that one of the most important issues they needed resolved before adding wind to the grid was to determine the impacts on their whole system. Xcel served as the host for the quantitative study. Different time frames, seconds, hours and days, were studied to see the degree of impact. The industry had four concerns: frequency control, area control error, load following and scheduling. It was determined that frequency is an issue, but that because wind doesn't change from 0-100MW in a minute, risks can be lowered with better scheduling. Controllers were concerned about wind having an inverse relationship to peak loads. The final issue was scheduling difficulties-as the technology and patterns improve, this is becoming less of a concern in minute and hourly planning. Wind still cannot be forecasted days in advance though.

In the Xcel study, NREL generated time services that could be used to find statistical significance. The study used utility rules and language in order to ensure that the report be considered reliable. The results showed that the increase in operational costs would be around \$1.80 mWh or \$.0018 kWh. It was figured that at 5% penetration wind would increase system costs by less than \$2.00 a megawatt hour. These numbers are very conservative and it is possible that the costs are even lower. For example, according to the Pacificorp IRP at 3.6% penetration, the cost of adding 1400 MW of wind would be part of the lowest cost option. Therefore they are planning on adding over 1,000 MW of wind over the next 10 years. Mr. Smith reported that wind could penetrate up to 15% without having a significant impact on the transmission system. When the report was presented to the UWIG member utilities, they were surprised by the numbers, but did not question the studies integrity.

Midwest Transmission Operations

Beth Soholt, Wind on the Wires, updated the NWCC members on Translink's proposal to create a larger control area that would combine 23 current control areas and include 25,000 MW. It would create something similar to an RTO or ISO.

Lunch with Invited Oklahoma Wind Guests: Wind Energy Activities in Oklahoma

During lunch, the meeting participants heard from several state representatives on the development of wind energy in Oklahoma. State Representative Jim Covey spoke about the need for more information from groups like the NWCC to combat perceptions among utilities and the general public about high costs of wind energy and questionable technology. Ken Zimmerman of the Oklahoma Corporation Commission noted that utilities need solid data on wind availability to help move the case for wind forward. He noted that the predictability of wind and the ability of utilities to schedule wind facilities is critical to expanding the use of wind to produce electricity. Tim Hughes, executive director of OWPI, provided a presentation highlighting his group's efforts to document wind availability. He spoke about using meteorological data sites to create wind resource assessments for the state. These sites can be used to gauge the best locations for wind development. Representative Covey said that this tool has helped the state promote wind development.

Report on DOE Wind Program – New Developments

Stan Calvert, DOE Wind Program Leader, outlined the multiyear plan and the goals of the department to improve systems integration. The program has two components, technology viability (turbine construction) and application (interconnection and social barriers). Program highlights include looking at possible wind/hydro integration, offshore wind power, using wind for hydrogen and desalination, promoting renewables on federal lands, and using allocations in the farm bill.

Work Group Updates

Staff reviewed work group plans for the coming year including priority documents and meetings.

Wildlife

Abby Arnold, RESOLVE, discussed the recent activities of the Wildlife Work Group. The work group is considering a proposal to the California Energy Commission (CEC) to fund a portion of the proposed work group activities. The work group will follow up with CEC officials during the summer months to pursue this opportunity.

A planning group has been organized to develop a meeting on modeling methods for biological impacts and environmental significance of wind farms. This group will set an agenda and select a date and location for the meeting in July 2003. Further information will be passed to NWCC members as it becomes available.

The work group has followed the development of the US Fish and Wildlife Service (USFWS) voluntary siting guidelines. These guidelines will be published in the federal register in July. Because the guidelines may have a significant on wind facility development, the work group has developed an interest in the guidelines. Staff will convene a briefing for NWCC members on the new guidelines once they are published, and US FWS officials will be available to answer questions about the proposed guidelines.

Economic Development

The Economic Development workgroup has reviewed the first drafts of fact sheets based on the NWCC report *Assessing the Economic Impacts of Wind Power Development*. The work group made suggestions for changes in format and content. Staff will compile these comments and discuss the next draft with the consultants for the report, Northwest Economic Associates. The group hopes to have the fact sheets completed by fall 2003.

In the meantime the work group will begin to track on-going development projects with the help of AWEA and WPA in order to conduct similar studies in the future. One member voiced concern about data quality. The workgroup will try to address this issue in the future. The work group will work with AWEA and individual developers in the near term to develop formats to provide business data that will help demonstrate the economic benefits of wind development to a broad audience.

The work group is also interested in creating detailed case studies to show more definitive economic impacts from wind power development. The aforementioned data will be necessary to complete those studies. The group will begin planning how to develop a detailed case study. The members decided to postpone an economic development workshop for now. Meeting participants asked staff to look into finding more economic development groups to join the workgroup.

Siting

Staff is preparing for the second NWCC Offshore Wind Development meeting to be held July 1-2, 2003 at the RESOLVE offices in Washington, DC. As with the past meeting, this discussion will focus on the broad issues surrounding offshore wind development in the US and will not focus on location-specific projects. Details of the workshop, including the summary and presentations, will be available on the NWCC website. Continued work in this area will be determined by the outcomes of the meeting.

The work group has two possible projects in the Strategic Plan. The first project is a meeting for local officials and constituents on siting and permitting issues for wind development. The other proposed activity for the work group is a best practices document. The group will convene a call soon to discuss pursuance of both projects.

Transmission

Kevin Bryan led a discussion of several recent Transmission Work Group activities. He announced that the Midwest Independent System Operator (MISO) Board will approve the Midwest Transmission Expansion Plan, which included the wind scenario. NWCC forums were important to provide an opportunity for wind community to engage MISO planners to include wind in scenario development. Beth Soholt discussed the formation of the Organization of Midwest States (OMS). Fifteen states, spearheaded by North Dakota, Iowa, and Minnesota, are moving forward with the creation of a Midwest multi-state committee. A task list was created and each state was assigned to one of the tasks. The first meeting was held in Omaha on June 11, 2003 for a formal incorporation of the OMS and to discuss organizational structure. One committee of particular importance to the NWCC is focused on resource adequacy (specifically transmission). The NWCC should consider engaging this group as a part of any future Midwest transmission activities.

The work group is currently planning to convene the fourth Midwest Transmission Workshop in fall 2003. This workshop will cover a summary of the MTEP plan, as well as next steps for MISO planning and the development of the OMS. Members wanted to make sure that the Southwest Power Pool is included in planning for the Midwest Transmission Workshop now that the proposed merger between SPP and MISO appears unlikely. Government offices, large customer service organizations, and environmental and natural resource agencies should attend the workshop.

Roger Hamilton provided an update from the Western Transmission Planning Principles Meeting, which was held on June 3-4, 2003 in Portland. The meeting included representatives from transmission planning groups in the Western US, as well as wind developers, local and regional utility representatives, and non-governmental organizations interested in electricity issues. The purpose of the meeting was to develop a draft set of principles to guide planners in designing transmission that promotes open and fair access for all energy sources. The principles, while being designed with the Western US in mind, would provide a model for other regions to follow. As a result of the discussion at the meeting, a set of draft set of principles were agreed upon. These principles will be further deliberated with transmission planners and other interested parties over the summer and early fall. The NWCC will need to approve a set of transmission planning principles. These approved principles will serve as a "living document" that will then be shared with planning organizations to gain their support and action.

Other transmission updates included:

RTO Briefings: Mr. Bryan reported that Steve Wiese will continue to produce the RTO briefings. While he had previously indicated that he may not be able to continue to produce the popular bi-monthly reports, Mr. Wiese has agreed to continue to produce the briefings and lead the bi-monthly conference calls to review the documents for the NWCC.

Transmission Issue Briefs: Three of the four proposed Transmission Issue Briefs – scheduling, congestion management, and interconnection – have been drafted and will be sent to the Transmission Work Group for review and agreement. The work groups hope to reach consensus on the documents by mid-July.

Invitation to Join New England Wind Barriers Project as a Formal Participant: Charlie Smith discussed the NWCC's involvement in the New England Wind Barriers Project. The Project aims to identify and address wholesale market barriers to wind power and other intermittent sources in the New England states. Project organizers want to coordinate with other regional and national efforts, such as the NWCC, to address such issues. Recently, the Project invited the NWCC to formally join as a Participant. Participant status would be similar to member status with the NWCC, where members are expected to join in consensus-building efforts on documents. Because of the need for NWCC members to reach consensus on documents that may need quick approval for the Project; the members agreed that the NWCC would best help as a resource for Project efforts.

Credit Trading

Status of Issue Briefs on REC Tracking Activities: Ed Holt discussed the status of the REC Issue Brief. The issue brief is intended to promote ideas included in the NWCC report Credit Trading and Wind Power: Barriers and Opportunities that promote the establishment of REC tracking systems. The Center for Resource Solutions has agreed to prepare the brief on behalf of the NWCC, as CRS has already done significant background work in this area. The issue brief will be recognized as a NWCC document, and CRS' effort to prepare the document would be noted. CRS understands that the document may not represent all of its own viewpoints. An outline for the issue brief is under development, and the document itself should be ready by fall 2003.

Development of Principles for Inclusion of RECs in Pollution Credit Markets: The work group will develop principles to guide inclusion of RECs in Pollution credit markets. The document would be used as an education piece for legislators, a "how-to" for inclusion of RECs in NO_x and SO_x markets for federal, state, and county officials. Some work group members questioned if RECs could be used in emission credits markets or whether they were only appropriate for use in set-aside programs. Before the next steps with the principles can be made, the work group needs to come to consensus on this issue. A drafting committee is being developed and will begin discussing the issue during the summer months.

Invitation for NWCC Participation in Emission Marketing Association Annual Conference: Mr. Bryan announced that the Emissions Marketing Association (EMA) has invited the NWCC to join their annual conference in September as a Supporting Organization. EMA will be holding their national conference on September 21-23 in Miami, FL. EMA offered the NWCC an opportunity participate in the conference by becoming a co-sponsor for the workshop as a supporting organization, which would entail lending its logo to promotional materials and promoting the conference. Participation as a supporting organization would entitle the NWCC to send a member to attend the meeting, help create the program, participate on the selection committee for speakers and possibly serve as a moderator for the RECs session. The participants felt that participation in the conference would be a good opportunity for the NWCC to reach a new constituency for credit trading activities and approved NWCC participation in the event.

Management/Administrative Update

Budget

Staff created a budget for the next three years and the proposal was sent to the Department of Energy and is currently under negotiation. The current funding from DOE ended June 30, 2003 and NREL funding ends July 31, 2003. Staff will file for a no-cost extension for any left over funds to be used through August 31, 2003 when the new budget vehicle is predicted to begin. Because of the new budget system which will have NCSL, NASEO, and NARUC functioning as sub-contractors for participation in the NWCC, staff will be developing a travel protocol to ensure fairness in coverage and reimbursement.

NWCC Meetings

Members with the support of staff will be planning for four full workshops on wildlife, siting, Midwest and Western transmission issues. There are three business meetings scheduled. The members suggested dates and locations for each meeting. Other smaller meetings will happen on an as needed basis for each workgroup. At this point the proposed economic development workshop will happen in the FY'05 fiscal year. See attached chart for schedule.

Magic Moments

Staff will consult with members to determine which events staff or members should attend, and which materials should be sent to instead of just listing on the website. See attached schedule for conferences and dates.

Communications/Outreach

Rachel Permut presented the members with the communications results for FY' 02. The NWCC hotline and nwcc@nationalwind.org email have both been used by the public. The website has receives around 5,000 hits a month. The new membership categories will be put in to place officially on July 1, 2003 and staff will be utilizing the new database. Ms. Permut notified meeting participants that around 200 people had responded to solicitations for continued involvement in NWCC activities.