

# CASE

## National Wind Coordinating Committee

### Challenge:

Emerging scientific and policy issues have created uncertainty for the varied interests seeking to increase the use of wind power in the U.S. Few forums existed for these groups to come together to explore the issues objectively and map alternative approaches.

### Result:

The National Wind Coordinating Committee (NWCC), a consensus-based collaborative facilitated and staffed by RESOLVE, provides a forum for diverse stakeholders to identify and discuss issues critical to expanding the use of wind power in the U.S. NWCC conducts broad-based, objective research and policy analysis and disseminates its findings widely. Since its formation in 1994, NWCC has held dozens of workshops and generated more than 30 documents providing guidance useful to wind power developers, legislators, regulators, advocates, equipment makers, utilities, associations and others.

## Participants

Alliance of Energy Suppliers  
American Electric Power  
American Wind Energy Association  
Atlantic Renewable Energy Corporation  
Bonneville Power Administration  
Bureau of Land Management  
California Energy Commission  
Center for Resource Solutions  
City of Lake Benton, Lincoln County, MN  
Community Energy, Inc.  
CSG Services, Inc.  
EAPC Architects Engineers  
Ed Holt & Associates, Inc.  
Electric Power Research Institute  
Emissions Marketing Association  
Energy and Environmental Research Center  
Environmental and Energy Study Institute  
FPL Energy, Inc.  
Green Mountain Energy, Co.  
GE Wind Power  
Inter-Tribal Council on Utility Policy  
Iowa Utilities Board  
Kansas State Representative  
Kansas Corporation Commission  
Land & Water Fund of the Rockies  
Lincoln County Enterprise Development Corporation  
Massachusetts Technology Collaborative  
Minnesota Environmental Quality Board  
Minnesota Public Utilities Commission  
National Association of Regulatory Utility Commissioners  
National Association of State Energy Officials  
National Conference of State Legislatures  
National Renewable Energy Laboratory  
Natural Resources Defense Council  
NE Public Power District  
NEG Micon USA, Inc.  
North Dakota Office of Community Assistance  
North Dakota Resource Council

North Dakota State Representative  
One World Energy  
PacifiCorp  
Powair, The Wakan Way  
PPM Energy, Inc.  
Renewable Energy Consulting Services, Inc.  
South Dakota Governor's Office  
Union of Concerned Scientists  
U.S. Department of Energy, Wind Energy Program  
U.S. Environmental Protection Agency  
Utility Wind Interest Group, Inc.  
Vermont Environmental Research Associates, Inc.  
Vestas – American Wind Technology, Inc.  
Washington State Utilities and Transportation Commission  
Western Resources  
Wind Management, LLC  
Wind on the Wires  
Windpower, Inc.  
Windustry Project  
Wyoming Business Council, Energy Office  
Xcel Energy

### SECTORS:

Turbine Manufacturers  
Energy Generators  
Environmental Organizations  
Green Power Marketers  
Regulatory Agencies  
Economic Development Organizations  
Federal Agencies  
State Agencies/Officials  
Tribal Governments  
State Legislatures  
Wind Industry

### MEDIATORS

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## Issues

As the U.S. population grows, so do household and commercial demands for electricity produced from both traditional and renewable sources. Wind energy is now providing one of the most commercially competitive sources of renewable energy. Nationwide, wind power has begun to make a significant contribution to electricity production. Companies such as GE Wind,

BP Amoco, Shell and Florida Power and Light are all investing in wind technology. However, like other energy resources, wind power is not exempt from concerns that can be significant sources of conflict, including siting, environmental impacts, transmission, financing, regulation and market mechanisms.

## Process

The National Wind Coordinating Committee, a consensus-based collaborative, was formed in 1994. Supported under contract from the U.S. Department of Energy and served by RESOLVE's facilitation, management, and program integration services, the NWCC identifies issues that affect the greater use of wind power, establishes dialogue among key stakeholders, and analyzes appropriate activities to support the development of

an environmentally, economically and politically sustainable commercial market for wind power.

This collaborative model has been successful for a decade because it offers a legitimate forum in which different scientific, technical, and policy issues are raised, collaborative research is conducted and credible reports are developed by consensus.

# Results

The NWCC has addressed issues critical to the growth of wind-power in the U.S., providing forums for dialogue and generating more than 30 documents including educational materials, principles for use by decision makers and resource documents addressing permitting wind projects, economic impacts of wind development on communities in the US and market mechanisms such as green markets and exchange of pollution credits. Two examples are:

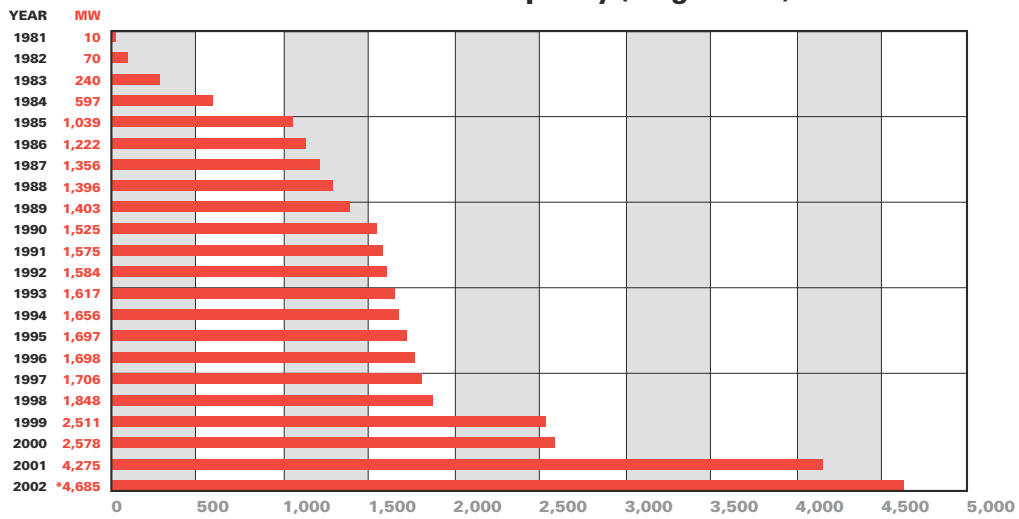
**Avian Wind Interaction.** In an area that has been charged with emotion, the NWCC is widely recognized for raising the level of the debate in the U.S. on avian mortality issues related to windpower. The Committee held a series of workshops and dialogues with stakeholders and produced written proceedings that provide a scientific basis for understanding avian-wind interactions. The information shared at each workshop has helped inform stakeholders about actual or potential impacts, has provided guidance for further research, and has produced information that contributes to the permitting and development of wind power sites in ways that minimize significant impacts to

birds. Capturing this learning, NWCC produced several consensus documents. One, a methods and metrics document, provides a standard set of questions and methods to address them. A fact sheet summarizes what is known about avian issues and the remaining questions that could be controversial if not adequately addressed.

**Development of Transmission Guidelines:** To address growing concerns about access for wind to the nation's electricity grid, the NWCC has sustained involvement in the transmission planning arena. The Committee has produced a set of principles regarding the development of Regional Transmission Organizations (RTOs) throughout the nation. These principles have influenced thought about transmission planning at the highest regulatory levels, and have been reflected in the Federal Energy Regulatory Commission's Standard Market Design Proposal. The NWCC has also had a significant impact on the inclusion of wind in the transmission-planning activities of the Midwest Independent System Operator (MISO).

Scientific/Technical Obstacles and Actions	
O B S T A C L E	A C T I O N
Insufficient information on uniqueness of avian issues at each wind power site	Organization of a facilitated public dialogue among researchers; design of standard research protocol, sharing and publishing of findings
Emerging issues, e.g. credit trading economic impacts, needed timely research and outreach	Joint development of questions to be researched, methodology, selection of researchers, publication of findings
Lack of experience about how to integrate intermittent renewable technologies into power grid	Development of case studies, lessons learned and consensus principles; review of principles by recognized experts

## Wind Power: U.S. Installed Capacity (Megawatts) 1981 – 2002



Sources: U.S. Department of Energy Wind Energy Program & American Wind Energy Association

\*AWEA total based on project completion data reported by developers