

# STATE SUCCESSES: USING OUTREACH AND EDUCATION TO TRANSCEND BARRIERS TO WIND ENERGY

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## Abstract

Many states projected to contribute significantly to the United States' 20% wind energy by 2030 goal have not yet achieved a first wind farm, and many more have not yet hit the 100-MW mark. These states are struggling with basic barriers of the need for understanding of:

- The wind resource
- Wind energy benefits and impacts
- Relative economics
- Economic development, water, and carbon impacts
- Issues such as transmission, utility integration, siting, and wildlife
- Involvement of key constituents such as the electrical sector, the ag sector, and county commissioners
- Effective policy
- An educated public and an educated workforce.

Other states have partially transcended these barriers and are encountering:

- Organized pushback
- Land use
- Siting problems such as zoning, permitting, and environmental issues
- Interstate barriers such as transmission.

## Objectives

Effectively achieving the 20% wind energy by 2030 scenario will require states to:

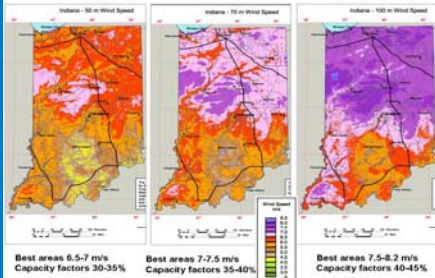
- Achieve public acceptance, education, understanding, policies, regulations, and behavior
- Understand how these changes will impact key stakeholders (e.g. utility, agricultural, educational, manufacturing, construction, and stakeholder groups including county commissioners, economic development specialists, PUCs, landowners, environmental groups, and the general public)
- Understand how these changes must be sustained over time and how new challenges must be met as markets, technologies, and policies evolve.

The U.S. Department of Energy's Wind Powering America (WPA) program works with State Wind Working Groups to:

- Educate stakeholders in wind energy benefits and issues
- Engender regional learning and collaboration
- Build public acceptance and a favorable market environment for wind energy development
- Assist states in working through barriers.

## Successes Achieved in WPA's Partner States Have Helped to Transcend Wind Energy Barriers

Indiana had no installed capacity as late as 2007. The WPA team educated stakeholders about the state's excellent wind resource at 80 meters, resulting in interest from developers and escalated project development. In 2010, the state is home to more than 1,000 MW of installed capacity.



One way to help address slow project development is to increase the level of public acceptance. The Utah Wind Working Group launched a wind outreach training course in 2009 to educate people who are interested in wind energy and want to communicate the benefits to their communities (especially local government officials). As a result, in 2010 32 new wind advocates from diverse backgrounds are working at the grassroots level to promote wind energy in the state, and more trainings are planned.

Lack of a trained workforce has been identified as a barrier to achieving 20% wind energy in the United States. WPA's Wind Applications Centers (WACs) at universities in 11 states ensure that students learn not only through classroom instruction but also by participating as "consultants in training" on projects. For example, 32 WAC students at Kansas State University completed 10 projects. Many students are immediately finding jobs in the wind industry after graduation.



PIX16751/Johnson



Anemometer data can provide an understanding of the wind resource that can make a crucial difference in development. A WPA anemometer loan led to Arizona's first utility-scale wind project, the 63-MW Dry Lake Wind Power Project near Holbrook that came online in 2009. The project contributed approximately \$110,000,000 to Arizona's economy and will result in annual tax payments of \$440,000.

PIX16702/Iberdrola Renewables

Montana addressed its transmission barrier by launching a transmission working group, which created a Montana transmission scenario brochure and commissioned and disseminated a wind integration study. Five major transmission projects are currently planned, and the Montana Alberta Tie Line is permitted and will be financed by a \$161 million loan from the Western Area Power Administration (the first project financed by WPA using the \$3.25 billion American Recovery & Reinvestment Act transmission appropriation budget to finance qualified projects). NaturEner USA plans to construct the 309-MW Rim Wind Farm to connect to the Montana Alberta Tie Line.



PIX10926/Warren Gretz

Communicating economic development benefits increases levels of public acceptance and builds a favorable market environment. After wind power capacity in Illinois grew from 50 MW in 2003 to 1,119 MW in 2009, the Center for Renewable Energy at Illinois State University prepared an analysis, *Economic Impact: Wind Energy Development in Illinois*, that showed that the 1,119 MW will result in \$1.9 billion in economic activity over the life of the projects, including 6,019 full-time jobs during construction periods and almost 292 permanent long-term jobs.



Zoning, permitting, and public acceptance are potential barriers. WPA has supported research in social acceptance, property values, and siting issues. Results are disseminated through national Webinars and Web sites, regional training, and state Wind Working Groups.



PIX17247/Saratoga Associates

Maintaining an adequate supply chain has been identified as a barrier to wind energy development. The Ohio Wind Working Group identified a plan and guided the Ohio Department of Development's implementation of a \$1.3 million project to identify, grow, support, and market the wind supply chain in Ohio. A "matchmaking" service allows turbine manufacturers with supply chain needs to connect with component manufacturers in the state. As a result, Ohio is transforming its steel and mining industry base to supply future energy needs and employing more workers.



PIX16213/Hodge Foundry



Photo credit: Dan McGuire.

An understanding and buy-in from key constituents transcends wind energy barriers. WPA has identified the agricultural and rural communities as key constituents and worked to actively engage them. As a result of a key partnership between WPA and the American Corn Growers Foundation (ACGF), ACGF executive director Dan McGuire has provided wind energy outreach to rural America for several years and in 2009 reached an estimated 400,000-plus ag community members by attending agricultural events, staffing exhibits, serving on panels, and providing interviews and presentations in states such as Nebraska, South Dakota, Illinois, Iowa, and Missouri.