As the United States dramatically expands wind energy deployment, the industry is challenged with developing a skilled workforce and addressing public resistance. Wind Powering America’s Wind for Schools project addresses these issues by:

- Developing Wind Application Centers (WACs) at universities; WAC students assist in implementing school wind turbines and participate in wind courses
- Installing small wind turbines at community “host” schools
- Implementing teacher training with interactive curricula at each host school.

This poster provides an overview of the first two years of the Wind for Schools project, primarily supporting activities in Colorado, Kansas, Nebraska, South Dakota, Montana, and Idaho.

### Abstract

The Wind for Schools project focuses on K-12 and university educators and students, understanding that developing a national workforce for a relatively new technology requires an approach that considers the whole educational system while countering the trend of reduced numbers of U.S. students entering science fields. Studies indicate that if women and minority students are not interested in math by the 6th grade, they are unlikely to pursue math or science-based careers.

### Workforce Development

- Build in-state capacity to provide technical assistance for community projects
- Develop college-level wind energy programs, incorporating wind curricula and small turbine installations at community schools
- Work with the American Wind Energy Association, the NEED Project, and others on K-12 curricula to incorporate wind energy education into the classroom
- Use a low-cost replicable system for installation at host K-12 schools
- Work collaboratively with communities and local utilities to implement cost-effective and community-supported school energy projects
- Provide technical assistance and training to universities by national laboratory staff
- Implement a low-cost data collection system with international accessibility
- Integrate information from a variety of school wind projects.

### Curricula Development

The Wind for Schools project addresses educational concerns by engaging with and fostering relationships between universities and K-12 schools and recognizing the mutual benefits gained as university students learn not only through classroom instruction but also by participating as “consultants in training” on projects that involve analysis, planning, design, and implementation of small wind systems. Likewise, the relationships between university and K-12 schools provide young students and their teachers the opportunity to mine university resources for ideas and assistance and to apply context to principles of mathematics, science, and other applicable subjects. Activities include:

- Develop and implement standards-based curricula at the K-12 level using hands-on methodologies
- Work with the NEED Project, WindWise, Kidwind, and Wind for Educators (all leaders in K-12 wind education)
- Focus on bringing the turbine into the classroom.

### Data Capture and Analysis

The project brings together wind installations and data acquisition technologies that allow schools and educators to collect electricity production and weather data to use in research, analysis, and expanded class curricula. The data from the wind turbine will be stored and made available so that schools can access their own turbine data from any Web-connected computer and other schools can access it for educational purposes.

This will greatly increase the impact of the turbine installations and allow schools that don’t have a viable wind resource to become activity involved in wind energy education.

### Affiliate Program

To accommodate the many stakeholders who are interested in the Wind for Schools concept but do not participate in the official project, a Wind for Schools affiliate program allows individual K-12 schools or states to join the network. Affiliate organizations will not receive financial support from DOE and NREL, but they will receive access to technical assistance, program Web sites, and information. The program is designed to support schools that wish to implement wind-related educational curricula and install a Wind for Schools wind turbine system or states that intend to implement a statewide program.

### Results

- Active programs in six states (Colorado, Idaho, Kansas, Montana, Nebraska, and South Dakota)
- Five additional states added in 2010 (Alaska, Arizona, North Carolina, Pennsylvania, and Virginia)
- At the university level, more than 60 students graduated in 2008, more than 125 students took wind-related classes in 2009, and almost 70 students were involved in the WACs in 2009
- Turbines installed in 42 schools with 20 more in progress (March 2010)
- Teacher-training programs implemented in participating states
- Strong interest in many other states
- Several states and schools interested in the affiliate program.

### References

More information on the Wind for Schools project:


### Acknowledgements

This work is one activity in the workforce development area supported by the U.S. Department of Energy, Wind and Hydropower Technologies Program. Success in the program is also largely driven by the professors and students of the Wind Application Centers with the support of the state project facilitators. Work on this activity is conducted by staff of the National Renewable Energy Laboratory and Idaho National Laboratory.

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NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.