

Wind Power Opens Door To Diverse Opportunities

The strong projected growth of wind power will require a stream of trained and qualified workers to manufacture, construct, operate, and maintain the wind energy facilities. In addition, the nation will continue to need skilled scientists and engineers to develop the next generation of wind energy technologies.

Opportunities Abound

The wind industry is helping to re-tool America's workforce and create the new generation of green collar workers. Careers in wind are ideal for workers with electrical and manufacturing competencies and skills, such as those gained by working in the telecommunications, semi-conductor, and automotive sectors. In addition, new talent with engineering, math, and science backgrounds will be in demand to accelerate innovation and speed progress in wind technology development and deployment. Throughout the wind supply chain, from manufacturing and construction to operations, a new workforce will be needed to deliver broad benefits to the American economy.

DOE Supports Wind Education

The U.S. Department of Energy's (DOE's) Wind Powering America Initiative is spearheading activities to stimulate wind power education and workforce development. Useful information on education, training, and other opportunities are available on their website: www.windpoweringamerica.gov/

Recognizing that many of the most challenging wind energy issues are regional in nature, Wind Powering America is developing **Regional Wind Energy Institutes** to help inform and train stakeholders. In addition, these institutes provide accurate and up-to-date information to members of state wind outreach teams



Modern, three-blade wind turbines are 50 to 90 meters in diameter and are mounted atop towers that stand 60 to 100 meters high. Typically, towers are installed in arrays of 30 to 150 machines.

that are actively fostering wind education programs in their regions. Some community college systems, for example, are developing stackable certificate programs to create career pathways in the wind industry.

DOE's **Wind for Schools** project is similarly raising awareness about the benefits of wind energy while also building a knowledge base for wind power in our leaders and workers of the future. Two of the program's primary goals are to educate college students in wind energy applications and prepare engineers for the growing U.S. wind industry. Toward this end, DOE issued a funding opportunity announcement in the summer of 2009 and subsequently awarded nearly \$3.5 million in workforce development grants to universities, community and technical colleges, and adult learning programs.

Skills for Wind Turbine Technicians

The growing wind industry offers diverse job opportunities, as listed on the reverse. Some desired qualifications for becoming a wind turbine technician are as follows:

- Degree in mechanical or electrical engineering
- Strong mechanical skills, similar to those of an auto repair technician
- Good basic math and communication skills
- No fear of heights (servicing tall wind towers in the field will be part of the job)

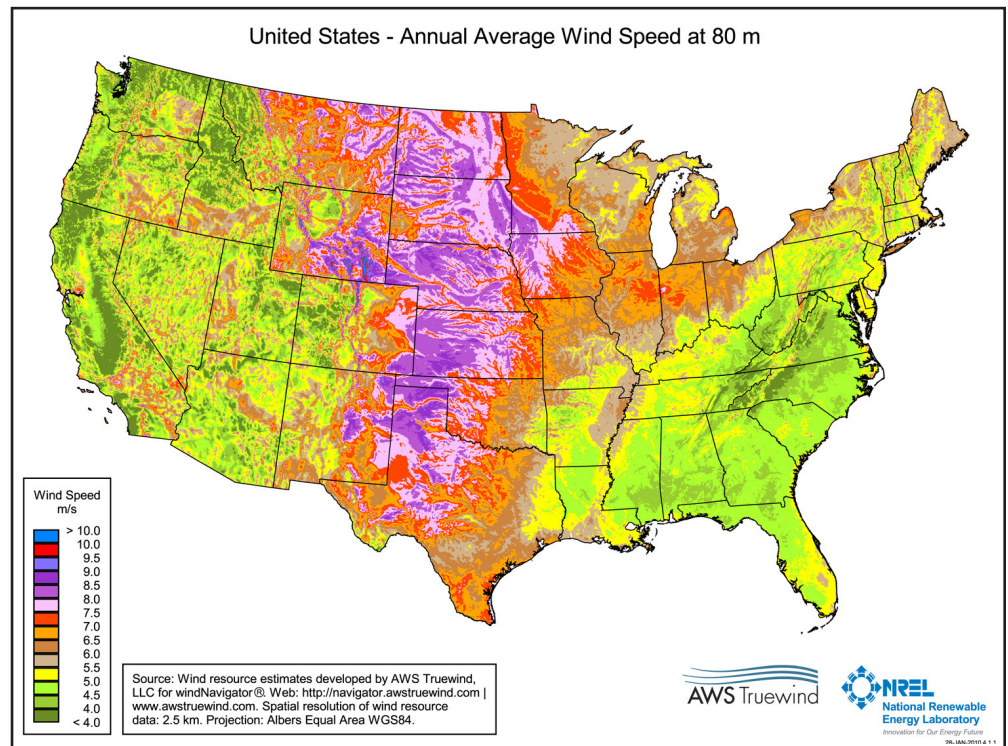
For more information on education and training in the wind energy sector, visit: www.eere.energy.gov/education/index.html

Tremendous Resource Potential

The United States has enough wind resources to generate electricity for every home and business in the nation, yet not all areas are suitable for wind energy development. DOE's Wind and Water Power Program measures the potential wind energy resources of areas across the United States to identify ideal areas for project development. As shown on the map, the resource is widely distributed, yet certain regions hold a strong advantage over others.

Jobs in the Wind Industry:

- Construction and project managers
- Road contractors
- Construction workers for power line and trenching
- Electricians
- Tower erectors, backhoe operators, foundation and excavation workers
- Crane operators
- Utility infrastructure builders
- Permitting and commission specialists
- Civil and electrical engineers
- Designers and resource planners
- Environmental specialists
- Construction material and service suppliers
 - Gravel (quarry) workers
 - Rebar manufacturers
 - Cement producers
 - Lumber and building materials clerks
 - Hardware and supply clerks
 - Metal fabricators and welders
- Operations and maintenance workers
 - Field technicians
 - Clerical and bookkeeping support staff
 - Site managers



- Turbine, blade, and tower suppliers
 - Bearing manufacturers
 - Speed changer/gear manufacturers
 - Transmission manufacturers
 - Nacelle assemblers (gearbox, generator, controls)
 - Glass fiber manufacturers
 - Wood products suppliers
 - Epoxy and resin manufacturers
 - Motor and generator manufacturers
 - Electronic controls manufacturers
 - Electronic equipment manufacturers
 - Electrical and high-voltage electrical equipment wholesalers
 - Process control manufacturers
 - Relay and industrial control operators
 - Switchgear/switchboard manufacturers
- Accountants
- Electrical and mechanical engineers
- Business development managers and project managers
- Wind turbine technicians

“Our rural educational system is a critical tie with the DOE Wind for Schools program, helping lay the groundwork for the next generation of electrical engineer and other careers needed to serve a vibrant and growing wind energy industry.”

Dan McGuire,
Chief Executive,
American Corn
Growers Foundation

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Derived from NREL's JEDI model