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## Wind Energy and Economic Development: Building Sustainable Jobs and Communities

### *What does the U.S. wind industry contribute to the economy?*

Wind power supplies affordable, inexhaustible energy to the economy. It also provides jobs and other sources of income. Best of all, wind powers the economy without causing pollution, generating hazardous wastes, or depleting natural resources. The income from electricity generated with wind can revitalize economically depressed rural communities in America's Great Plains.

### *Affordable, inexhaustible energy . . .*

The cost of wind-generated electricity has dropped by more than 80% since the early 1980s. A modern, state-of-the-art utility-scale wind turbine can generate electricity for 4 cents per kilowatt-hour, which is nearly competitive with fossil fuels.

Since wind energy is a form of solar energy (created when the sun heats air masses at different rates), it cannot be depleted like coal or oil.

### *Wind energy provides jobs . . .*

The U.S. wind industry currently directly employs more than 2,000 people. The wind industry contributes directly to the economies of 46 states, with power plants and manufacturing facilities that produce wind turbines, blades, electronic components, gearboxes, generators, and a wide range of other equipment.

The European Wind Energy Association (EWEA) estimates that every megawatt (MW) of installed wind capacity creates about 60 person-years of employment and 15-19 jobs, directly and indirectly. A typical 50-MW wind farm, therefore, creates some 3,000 person-years of employment. The rate of job creation will decline as the industry grows and becomes able to make more use of efficiencies of volume, but wind and solar energy are still likely to furnish one of the largest sources of new manufacturing jobs worldwide during the 21st Century.

### *Environmentally preferred . . .*

Wind energy is also a key potential source of **sustainable** jobs, that are created without adding to air pollution, greenhouse gases, or other types of pollution and environmental damage such as strip mining or oil spills. The human health costs of air pollution (rising rates of asthma in many urban areas) and the cleanup costs of pollution are part of the hidden price tag of fossil fuels that reduce economic growth.

### *Revitalizing economically depressed rural communities . . .*

Communities in rural parts of Texas, Minnesota, Iowa, and other Great Plains states are finding today that wind can be a good neighbor, providing a source of skilled jobs and income to sometimes hard-pressed farmers. Also, wind helps keep dollars spent on electricity in local communities, instead of them being spent to buy fuel from elsewhere.

Wind farms can revitalize the economy of rural communities, providing steady income through lease or royalty payments to farmers and other landowners. Although leasing arrangements can vary widely, a reasonable estimate for income to a landowner from a single utility-scale turbine is about \$2,000 a year. For a 250-acre farm, with income from wind at about \$55 an acre, the annual income from a wind lease would be \$14,000, with no more than two acres. Farmers can grow crops or raise cattle next to the towers. Wind farms may extend over a large geographical area, but their actual "footprint" covers only a very small portion of the land, making wind development an ideal way for farmers to earn additional income. In west Texas, for example, farmers are welcoming wind, as lease payments from this new clean energy source replace declining payments from oil wells that have been depleted.

Additional income is generated from one-time payments to construction contractors during installation, and from payments to turbine maintenance personnel on a long-term basis. Wind farms also expand the local tax base, and keep energy dollars in the local community instead of spending them to pay for coal or gas produced elsewhere.

### ***Wind Energy's Economic Benefits: Fast Facts***

- Alameda (Calif.) County, for example, collected \$725,000 in property taxes during 1998 from wind turbine installations valued at \$66 million.
- A recent study (January, 2000) found Iowa's electric utility customers could save over \$300 million over a 25-year period if a proposal to meet 10% of the state's electric demand through wind energy is adopted. The savings result because the cost of fossil fuels is expected to rise over time, while wind's costs decline.
- The 240 MW of wind capacity installed in Iowa in 1998 and 1999 produced: 200 six-month long construction jobs and 40 permanent maintenance and operations jobs; \$2 million per year in tax payments to counties and school districts; \$640,000 per year in direct lease payments to landowners.
- LM Glasfiber, a Danish wind turbine blade manufacturer, became one of North Dakota's largest employers at a single stroke in March, 1999, when it opened a new factory in Grand Forks, N.D., that will employ 130 workers.
- At Lake Benton [Minn.], the 143 wind turbines in the Lake Benton I project, installed in early 1998, brought \$250 million in investment and 10 full-time good-paying jobs to Lincoln and Pipestone counties, the poorest in Minnesota. Lake Benton's director of economic development says that each 100 MW of wind development generates about \$1 million annually in property tax revenue.

### ***The Bottom Line***

About three-fourths of the states in the U.S. (and particularly those in the Great Plains) have wind resources that could be used for commercial generation of electricity. Using wind power creates local jobs and boosts farm incomes without polluting the air and water, protecting our health and our environment. Wind can provide the electricity we need for sustainable, long-term economic growth.