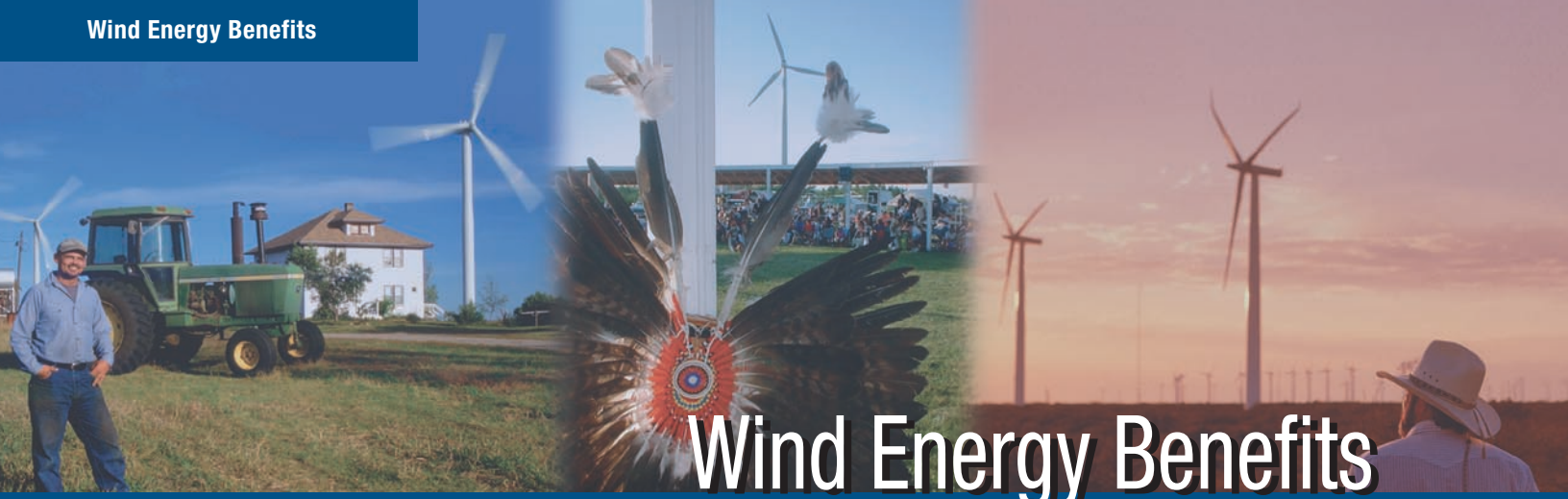


Wind Energy Benefits

Wind Powering America Fact Sheet Series

1 Wind energy is economically competitive. With today's rising coal and gas prices, new wind plants compete favorably against any new electricity generation source. In fact, when the Colorado Public Service Commission issued a ruling on the 161-megawatt (MW) wind project in Lamar, Colorado, the commission determined that wind energy provided the lowest cost of any generation resource submitted to a solicitation bid by Xcel Energy. The commission also noted that unlike the other generation resources considered, the Lamar project avoided a future risk of increased fuel prices.[1]

Wind turbines are compatible with rural land uses. Crops can be grown and livestock can be grazed up to the base of the turbine.

2 Wind energy is a valuable crop of the future for farmers and ranchers. Wind farms located in rural areas generate energy that can be transmitted to load centers in urban areas via the regional utility grid. The rural areas retain the jobs, as well as land lease revenue for farmers and ranchers (as much as $4000 per turbine per year). Wind turbines are compatible with rural land uses—crops can be grown and livestock can be grazed up to the base of the turbine.[2]

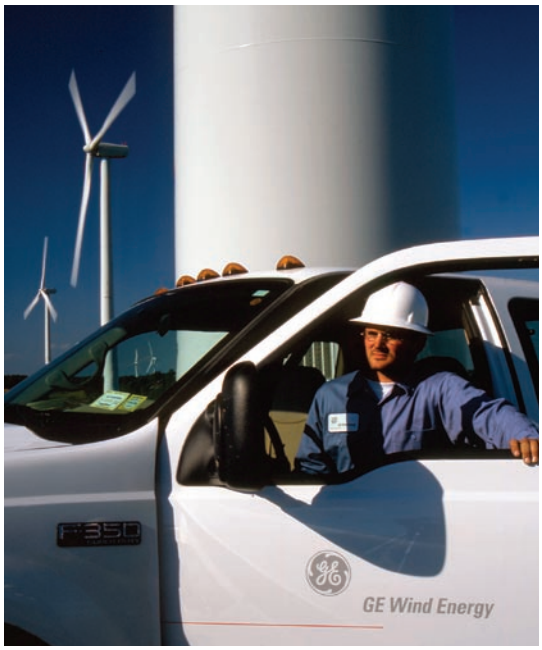
Wind energy also provides an increased local tax base for rural areas. Prowers County, home to the Lamar project, increased its local tax base by $32 million.[3] The 912 MW of new wind power installed in Texas in 2001 will deliver $13.3 million in tax revenue for schools and counties.[4]

3 Unlike most other electricity generation sources, wind turbines don't consume water. Irrigation and thermal electric generation account for approximately 77% of U.S. fresh water use. Conventional plants generating power from fossil and nuclear fuels use large amounts of water for cooling; wind turbines do not use water.[5] That makes wind energy a great choice for drought-stricken communities in rural America.

4 Wind energy is an indigenous, homegrown energy source that contributes to national security. The United States is the world's largest importer of oil and natural gas, which often originate in troubled areas of the world. The Great Plains region, which has been dubbed "the Saudi Arabia of wind" because of its tremendous untapped wind energy potential, offers homegrown energy, which increases national security. Reliance on indigenous resources also reduces the balance of payments that threatens our national economic security. Because of the distributed aspect of wind energy, it is less vulnerable than large liquefied natural gas (LNG) ports or large thermoelectric power plants.

5 Wind energy is inexhaustible and infinitely renewable. Unlike conventional fossil fuels, wind energy is renewable, abundant energy that will be available for future generations.

6 Wind energy has many environmental benefits. Wind energy is clean energy that produces no emissions, which means it doesn't contribute to acid rain and snow, global climate change, smog, regional haze, mercury contamination, water withdrawal, and particulate-related health effects.



Wind energy provides 40-160 construction jobs and 10-25 operations and maintenance jobs per 100 MW.

Wind farms, such as the Brazos Wind Ranch in Texas pictured here, provide new jobs, tax revenue, and landowner income.

7 Because wind energy's "fuel" is free, it reduces the risk associated with volatile fossil fuel prices. Wind displaces electricity that would otherwise be produced by burning natural gas, thus helping to reduce gas demand and limit gas price hikes. According to the American Wind Energy Association, the current U.S. gas shortage amounts to approximately 3 to 4 billion cubic feet (Bcf) per day. By the end of 2004, wind plants were generating about 17 billion kilowatt-hours (kWh) annually, or the equivalent of nearly 0.5 Bcf/day of natural gas.[6] In most areas of the country, every kilowatt-hour of electricity produced by wind power helps reduce the demand for natural gas used to generate electricity. Lower demand for natural gas helps mitigate rising costs of consumer heating and electricity, industrial processes, and chemical and agricultural feedstocks.

8 Wind energy is the fuel of today and tomorrow. Today, wind provides competitive electricity. Tomorrow, it is likely to be the cheapest source of electricity for the distributed generation of hydrogen.

9 Wind energy can be used in a variety of applications. Small wind turbines, alone or as part of a hybrid system, can power homes, businesses, and farms/ranches. Wind energy is perfect for remote applications, such as water pumping, ice making, powering telecommunications sites, and displacing diesel fuel in villages. Community wind projects include projects for schools, tribes, municipal utilities, and rural electric cooperatives.

10 The people want wind energy. Because of all the reasons listed above, along with concern over debilitating illnesses associated with air pollutants, wind has overwhelming public support. Many people express their support by purchasing blocks of wind energy to power their homes or businesses. Xcel Energy's Windsource, the largest customer-driven wind energy program in the nation (more than 30,000 participants), experienced 30% annual growth from 1998 to 2003. Deliberative public polling in Texas[7] and Nebraska[8] demonstrated overwhelming support of wind energy as an element of the generation portfolio. Because customers want wind as a portion of their electricity portfolio, more than 300 utilities currently offer green pricing programs that include wind energy.

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1 www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/xcel_wind_decision.pdf

2 www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/wpa/33590_econ_dev.pdf

3 Personal communication, John Stulp, Prowers County Commissioner, Jan. 10, 2005

4 www.citizen.org/documents/Tx%20Energy%20Powerhouse.pdf

5 www.catf.us/publications/reports/The_Last_Straw.pdf

6 www.awea.org/newsroom/Wind%20Energy%20Basics%20-%202005-0406.pdf

7 www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/33177_tx.pdf

8 www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=700

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WIND POWERING AMERICA

A Strong Energy Portfolio for a Strong America
Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

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