

WIND ENERGY



LUBBOCK
ECONOMIC
DEVELOPMENT
ALLIANCE

1 = Texas' rank among U.S. states in wind power generated
9,728 = Megawatts generated by wind power in Texas
6,000+ = Number of wind turbines in operation

"Lubbock is a natural fit for a wind energy company to locate because of its strategic location within the developing wind resource, complemented with access to industry-leading wind research at Texas Tech University, fueled, in part, by an \$8.4 million dollar grant from the State of Texas."

John Schroeder, Ph.D.

Director

*Associate Professor of Atmospheric Science
Texas Tech University, Wind Science & Engineering Research Center*

Wind is the dominant renewable energy source and is projected by the Department of Energy to grow to 20 percent of the nation's energy utilization by 2030. Despite being the number one state in the nation in wind generation, Texas has capacity to grow its capability by 17 times and is aligning with other key research and development leaders throughout the United States to address and resolve key engineering issues facing the industry.

Lubbock, located on the high plains of West Texas, is home to the National Institute for Renewable Energy and Texas Tech University. Texas Tech has been a leader in wind research for nearly 40 years and offers the only Ph.D. program in wind science and engineering in the U.S. Lubbock also offers easy access to wind generation farms, research facilities and turbine manufacturing plants located throughout Texas.

Combining this with a low-cost, high quality, pro-business environment and an integrated approach to addressing workforce issues, Lubbock is an excellent place to grow your business.

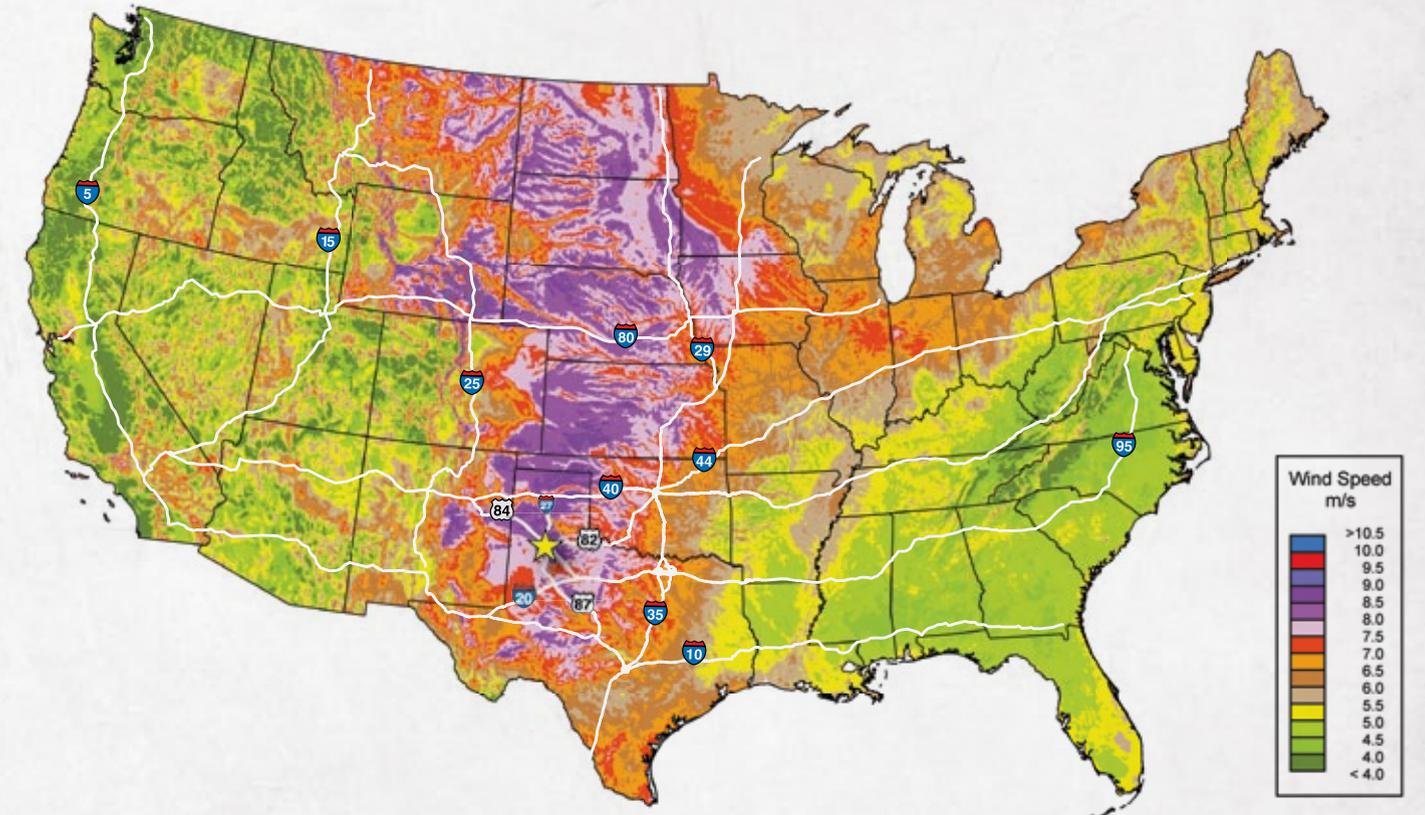




STRATEGIC LOCATION

Wind Resource Map

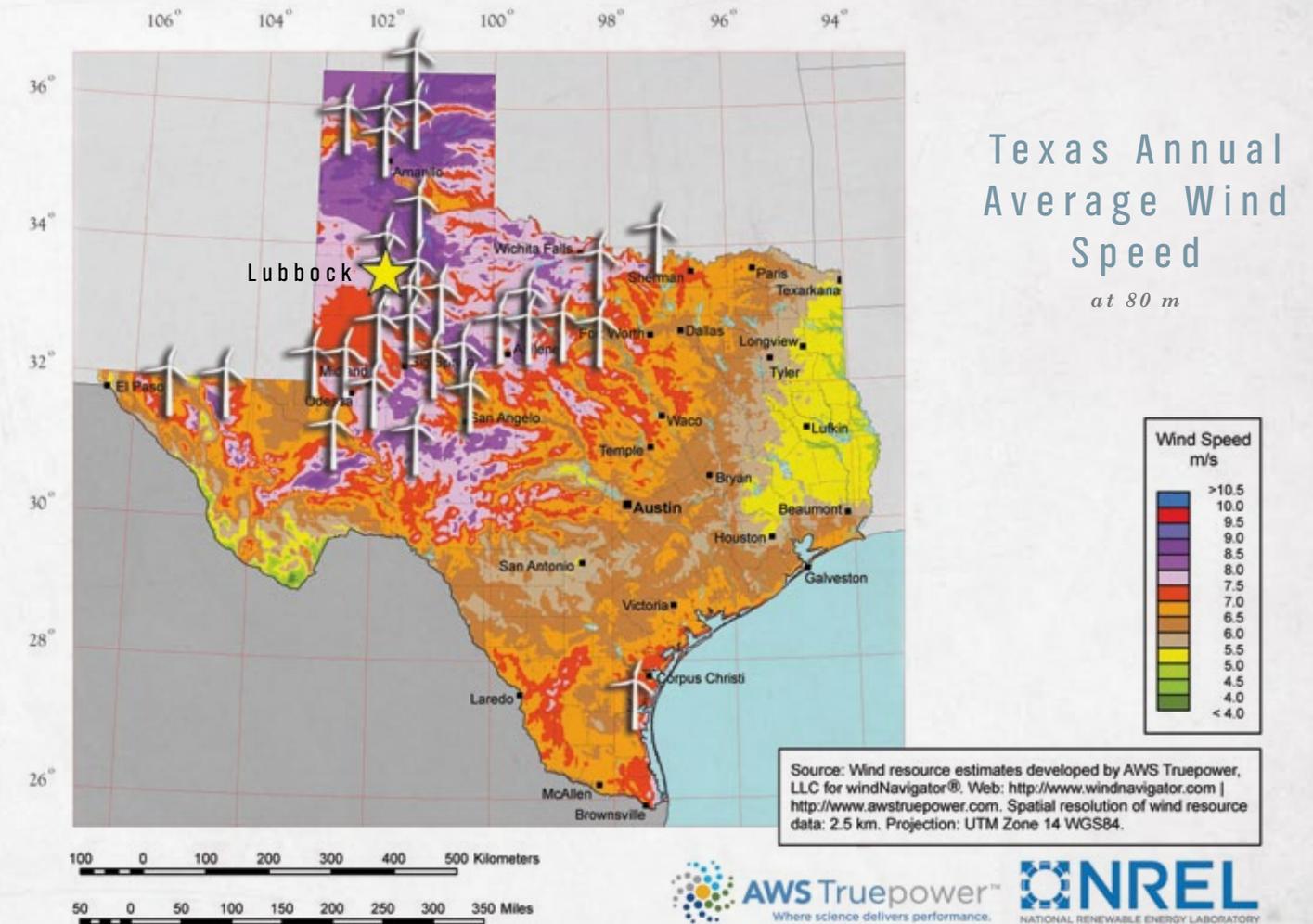
The transportation infrastructure that converges in Lubbock establishes it as a “Hub City.” Lubbock is home to an international airport, with major carrier service across the country and around the world. More than 60 commercial arrivals and departures take place each day serving 1.2 million travelers annually. Major interstates and highways, including I-27, connect the city to two major East-West Interstate systems: I-20 and I-40. Lubbock is located on the main line of the Burlington Northern Santa Fe railroad that connects the city to major metropolitan areas of the Central and Western United States.



STRATEGIC LOCATION

Texas is the national leader in overall wind installations and is the first state to reach 10,000 MW of wind energy installations. According to a resource assessment from the National Renewable Energy Lab, Texas' wind resource could provide 19 times the state's current electricity needs. Texas is home to three of the 2008 top wind Congressional districts. Lubbock is number one.

National Institute for Renewable Energy (NIRE) and Texas Tech University will soon power up the first of several planned renewable energy test production facilities to help resolve key issues. The first wind turbines will be placed at Reese Technology Center in Lubbock, Texas.



Counties with Installed Wind Projects

STRATEGIC LOCATION

Competitive Renewable Energy Zones



Within Texas, the Panhandle region possesses the top four proposed Competitive Renewable Energy Zones (CREZs), otherwise known as “hot spots” for renewable resources. By connecting these CREZs to the Electric Reliability of Texas (ERCOT) grid, Lubbock, in conjunction with the entire West Texas region, has the opportunity to transmit more than 18,000-MW of wind power to metropolitan areas connected to the ERCOT grid due to recent legislation. In addition, to further take advantage of the Panhandle’s capability to supply large amounts of wind energy, approximately 5,650 miles of electrical transmission lines will be installed throughout Texas, allowing for even more transmission opportunities.

STRATEGIC LOCATION

Wind Power Installation



Texas continues to lead the nation in the number of installed wind turbines, totaling 6,485 wind turbines with a gross capacity of 9,728-megawatts (MW) for 2010. This effort has been made possible through the cooperative attitude of land and business owners, in both the public and private sectors, who understand the importance of renewable energy. Together, many have already taken advantage of the ideal climate, open space, and significant research by Texas Tech University all offered here in Lubbock. Texas Tech University recently recognized the potentially far-reaching impact of wind energy and responded by developing an undergraduate program and initiated research to better understand and utilize the available wind resources at hand. As wind technology rapidly advances, so does the opportunity to play a major roll in the emerging market of wind energy.

*Wind Science and Engineering Research Center
at Texas Tech University*



Texas Tech University is internationally known for its study of the wind. For more than 40 years, scientists have looked at how the wind affects buildings and human lives. Now Texas Tech is positioning itself to become a world leader in wind energy.

The Wind Science and Engineering Research Center (WiSE) is a collaborative center that bridges multiple disciplines including atmospheric science; economics; mathematics and civil, mechanical and electrical engineering.

WiSe has pioneered above-ground storm shelters and developed FEMA adopted regulations on household and community storm shelters; helped to establish stronger building codes for cities in hurricane and tornado prone areas and led the effort to develop the Enhanced Fujita Scale. WiSE scientists also deploy mobile instrumentation in the path of landfalling hurricanes to better understand the behavior of the winds along the coastline.



Texas Tech offers a variety of education opportunities to meet the workforce demands of the rapidly expanding wind energy industry. Opportunities range from a bachelors of science in wind energy to the only wind engineering Ph.D. program in the nation.

A new agreement announced in August 2011 with Sandia National Laboratories to move a wind energy test facility to the university will create a state-of-the-art facility to study turbine to turbine interaction and conduct sub-scale blade testing.

The National Wind Research Center (NWRC) was formed in 2010 to position Texas Tech a national leader in wind energy and engineering research and development, education, economic development and innovation.

“From a research standpoint, Lubbock is the ideal destination to refine your existing technology or build it from scratch. Texas Tech University is using its unique observational facilities to study everything from large-scale atmospheric phenomena to small-scale turbulence in an effort to optimize turbine performance and minimize loads.”

John Schroeder, Ph.D.

Director

Associate Professor of Atmospheric Science

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EDUCATION & TRAINING

Texas Tech University - only Division 1 university that offers a doctoral program in Wind Engineering in the country.

Lubbock Christian University - private university seeking a certification ranking from the U.S. Green Building Council under its Leadership in Energy and Environmental Design Green Building Rating System for new construction buildings. At this time, there are no higher education institutions in Texas that have received certification.

Wayland Baptist University - private university offering programs in 13 distance learning campuses world-wide.

South Plains College - 14th largest college among Texas' 50 public community college districts and 31st largest among the state's 89 public colleges and universities.

Advanced Technology Center - 140,000 sq. ft., high-tech, industrial facility offers Lubbock ISD students and South Plains College the very best in technology courses.



EDUCATION & TRAINING

Manufacturing Certification Program

In Lubbock we have a proven successful career pathway program for the Manufacturing Skills Standards Council that is driven by a National Certification Industry Certification. Currently the Byron Martin Center is the first high school in the nation to have this pathway to higher education with cultivated partnerships amongst high school, community college, and higher education.

MSSC certification is designed to validate that any individual with the certification has both the technical as well as employability and academic skills needed to work in modern manufacturing. Rigorous assessment is part of the fabric of MSSC to ensure the integrity of the certification. Certification covers MSSC's four core competency areas: Manufacturing Processes and Production, Maintenance Awareness, Quality and Continuous Improvement, and Safety. Each area is addressed with a separate assessment. MSSC training and assessment address the need for employability and academic skills as well as technical skills.

The assessments require mastery of core knowledge and skills that are essential to high performance manufacturing.

MSSC Assessment 4 Modules

- Safety
- Maintenance Awareness
- Quality and Continuous Improvement
- Manufacturing Process and Production

LABOR MARKET DATA

MSA Information

Population	274,425
Labor Force	146,000
Avg Unemployment	6.0%

Average Wage Rate for All Occupations

Local Area	\$17.18
State	\$19.76
National	\$20.90

LUBBOCK

TEXAS

POSITION TITLE

	NO. EMPLOYED	ENTRY WAGES	MEAN WAGES	EXPERIENCE WAGES	ENTRY WAGES	MEAN WAGES	EXPERIENCE WAGES
Team Assemblers	380	\$8.41	\$12.40	\$14.40	\$7.97	\$11.81	\$13.73
Machinists	140	\$11.85	\$14.81	\$16.29	\$11.66	\$17.61	\$20.59
Helpers - Production Workers	200	\$8.16	\$10.14	\$11.14	\$7.74	\$10.24	\$11.48
Welders, Cutters, Solderers, and Brazers	310	\$11.45	\$11.45	\$15.93	\$11.73	\$17.74	\$20.75
Inspectors, Testers, Sorters, Samplers, and Weighers	100	\$8.03	\$8.03	\$13.33	\$9.41	\$15.94	\$19.21
Sales Representatives, Wholesale and Manufacturing	250	\$11.47	\$24.12	\$30.45	\$19.98	\$41.74	\$52.62
First-Line Supervisors/Managers of Production and Operating Workers	320	\$15.37	\$23.27	\$27.22	\$16.45	\$26.67	\$31.77
Industrial Engineers	30	\$24.38	\$32.12	\$35.99	\$28.21	\$40.21	\$46.21
Structural Metal Fabricators and Fitters		\$10.41	\$14.18	\$16.06	\$10.39	\$14.88	\$17.12
Industrial Machinery Mechanics	130	\$10.34	\$15.36	\$17.87	\$14.40	\$21.45	\$24.97
Shipping, Receiving, and Traffic Clerks	490	\$8.55	\$12.40	\$14.32	\$9.18	\$13.33	\$15.41
Electricians	350	\$13.00	\$17.68	\$20.03	\$13.96	\$19.99	\$23.00
Industrial Production Managers	40	\$22.82	\$46.65	\$58.56	\$31.79	\$54.85	\$66.38
Purchasing Agents, Except Wholesale, Retail, and Farm Products	110	\$14.63	\$21.87	\$25.49	\$17.58	\$27.61	\$32.63
Laborers and Freight, Stock, and Material Movers, Hand	1,920	\$7.68	\$10.28	\$11.58	\$7.87	\$11.07	\$12.66
Mechanical Engineers	70	\$21.94	\$36.88	\$44.35	\$27.51	\$43.31	\$51.22
Mechanical Drafters	40	\$8.79	\$14.02	\$16.64	\$15.70	\$24.73	\$29.24
Maintenance and Repair Workers, General	1,100	\$9.62	\$14.47	\$16.89	\$9.36	\$14.82	\$17.56
General and Operations Manager	1,750	\$18.35	\$44.74	\$57.93	\$24.36	\$53.32	\$67.80
Cost Estimators	130	\$12.13	\$19.85	\$23.71	\$17.68	\$29.11	\$34.83



LUBBOCK BUSINESS PARK

Overview

The Lubbock Business Park is a 586-acre tract of land and is located off of Interstate 27, approximately one-mile south of Lubbock Preston Smith International Airport. Currently, O'Reilly Auto Parts Distribution Center, WesTX Packaging Company/Standard Bag Manufacturing, Monsanto and Standard Sales reside in the Park. A new Verizon data center is under construction and soon the Texas Department of Public Safety will break ground in the Park.

The completion of the Lubbock Business Park Boulevard Extension and North Elm and East Hunter roads has recently added another entrance into the Park and more infrastructure to future tenants. These two road projects have made available approximately 10 lots for new construction.

LEDA has invested over \$22 million dollars in the Lubbock Business Park and is working hard to attract more distribution centers, manufacturing businesses, high-tech companies and research and development companies. With the immediate access to the interstate and a strong local economy, the Park has been able to attract new activity for the city of Lubbock.



- O'Reilly Auto Parts
- WesTx Packaging
- Standard Sales
- Monsanto
- Verizon
- Department of Public Safety
- Existing road and utilities



LUBBOCK BUSINESS PARK

586 Acres



LUBBOCK RAIL PORT

Overview

The Lubbock Rail Port, located on over 526 acres, only a few miles north of the Lubbock Preston Smith International Airport, provides companies with convenient access to the airport and the Burlington Northern Santa Fe (BNSF) rail system. Mexico-based Molinos Anahuac (MACSA) currently has its flour mill and laboratory in the Lubbock Rail Port.

With the recently acquired 200 additional acres and the \$1.5 million U.S. Department of Commerce Economic Development Administration Grant to extend additional rail into the Park, the Rail Port is soon to have more activity in its future. LEDA strives to attract food processors, light manufacturing, and heavy industrial companies to the Rail Port.



LUBBOCK RAIL PORT

526 Acres

- Molinos Anahuac (Macsa)
- Existing Rail
- Future Rail Construction



LUBBOCK'S COMPETITIVE ADVANTAGE

Statewide Award-Winning Workforce Programs



- Community Workforce Partnership
- Manufacturing Skills Standards Council
 - Manufacturing Certification beginning in high school; emphasis on manufacturing systems
- Career Pathway Tracks
 - Beginning in high school and articulating with higher education
- Industry Certifications
- Labor Market Customized Surveys:
 - Regional Labor Market Survey
 - Regional Underemployment Survey
 - Job Location Preference Survey
 - Higher Education Student Survey
- Local Workforce Board
 - Business Services Unit
- Local and State Grant Funds
- Lubbock EDA
 - Creative programs and processes that are shaping education policy and legislation for the state of Texas
- Texas Tech University



QUALITY OF LIFE

With beautiful landscapes, great weather, excellent schools and the friendliest people you will ever meet, Lubbock is the Texas you dream of with a rich and diverse cultural heritage that makes it unique.

From cowboys to nationally-recognized wineries and Big XII sports, there is a lot to do and see in Lubbock. Explore western traditions at the National Ranching Heritage Center, enjoy a night on the town in the Depot Entertainment District, or relax with a glass of wine from a local vineyard.

Long known for its musical talents, Lubbock has a sound for all tastes – Classical, Country & Western, Bluegrass, Tejano and Rock n' Roll. The city also has its share of live theatrical performances and galleries.

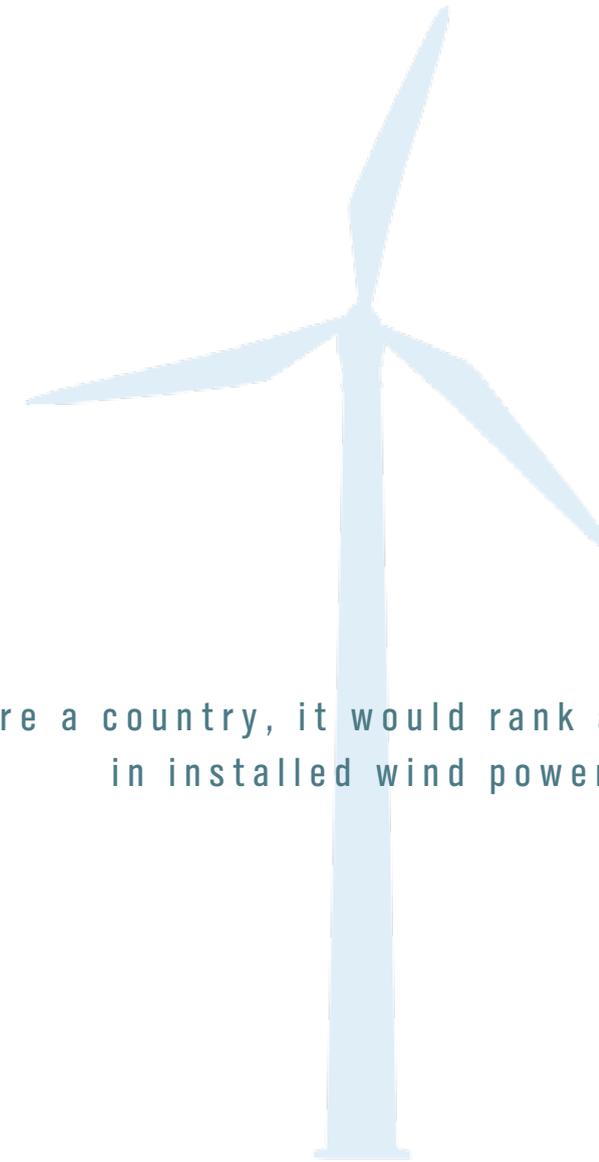
Lubbock offers the sixth lowest cost of living in the state of Texas and 35th lowest in the nation. The median value for a single family home in Lubbock is \$89,600 below the national average. The city's competitive cost of doing business, talented workforce and quality of life are a few reasons why innovative companies choose Lubbock.



CONTACT

The Lubbock Economic Development Alliance staff is ready to put our unlimited resources to work for your business. Please contact us to get started.

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If Texas were a country, it would rank sixth in the world
in installed wind power.



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