

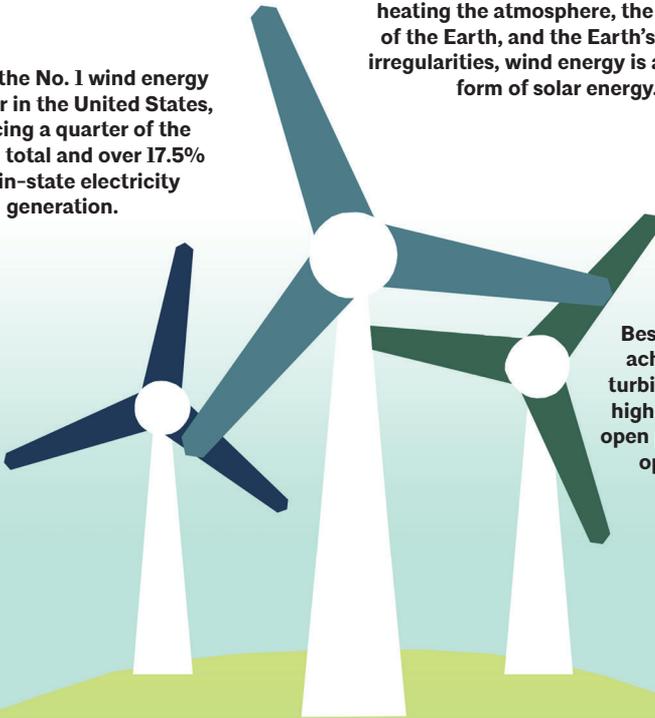
# WIND ENERGY

When the wind turns the blades on a turbine, it feeds power to an electric generator. The best results are achieved from high altitudes, open plains, or over open water.

Texas is the No. 1 wind energy generator in the United States, producing a quarter of the national total and over 17.5% of all in-state electricity generation.

Since wind is caused by the sun heating the atmosphere, the rotation of the Earth, and the Earth's surface irregularities, wind energy is actually a form of solar energy.

Best results are achieved from turbines placed at high altitudes, on open plains, or over open water.



## PROS & CONS

**PRO:**

No atmospheric emissions

**PRO:**

Fuel to operate is self-generated

**PRO:**

Expected to support more than 600,000 jobs by 2050

**PRO:**

One of the lowest-priced energy sources

**CON:**

Need an open, flat site for best results

**CON:**

Difficult to succeed in small or urban settings

**CON:**

Development and demand are outpacing production

# WIND ENERGY EXAMPLES

**Renewable energy is a great solution for structures with a life span of 50+ years where the owner will see a return on utility savings. These structures can range from a suburb home, to a school, to a large commercial space.**



## LADY BIRD JOHNSON MIDDLE SCHOOL

This school in Irving, Texas, makes about 1% of its energy with a dozen wind turbines along the western edge of the campus. The turbines also serve as a visual educational tool for kids and visitors on renewable energy practices.

## SUSTAINABLE RESIDENCE

The first LEED Platinum home in the Kansas City metropolitan area, this house is a combination of passive strategies and active systems. The house's total energy needs are reduced by the use of renewable energy sources, including a wind turbine.



## ROSCOE WIND COMPLEX

Generating at its full capacity of 781.5 megawatts, the Roscoe Wind Complex earns its ranking as the world's largest wind farm. The wind power from this complex is enough to power about 230,000 homes.

## Resources

City of Dallas Climate Action Plan:  
[dallasclimateaction.com](http://dallasclimateaction.com)

American Institute of Architects 2030 Commitment:  
[aia.org/resources/202041-the-2030-commitment](http://aia.org/resources/202041-the-2030-commitment)

ASHRAE Advanced Energy Design Guides:  
[ashrae.org/technical-resources/aedgs](http://ashrae.org/technical-resources/aedgs)

National Renewable Energy Laboratory:  
[nrel.gov/research/re-wind.html](http://nrel.gov/research/re-wind.html)

State Energy Conservation Office:  
[comptroller.texas.gov/programs/seco](http://comptroller.texas.gov/programs/seco)

US Energy Information Administration:  
[eia.gov/energyexplained/wind](http://eia.gov/energyexplained/wind)

Powering Texas:  
[poweringtexas.com](http://poweringtexas.com)

Examples:  
[archdaily.com/224079/lady-bird-johnson-middle-school-corgan-associates?ad\\_source=search&ad\\_medium=projects\\_tab](http://archdaily.com/224079/lady-bird-johnson-middle-school-corgan-associates?ad_source=search&ad_medium=projects_tab)

[archdaily.com/109267/sustainable-residence-studio-804](http://archdaily.com/109267/sustainable-residence-studio-804)

[solaripedia.com/13/163/roscoe\\_wind\\_complex\\_largest\\_in\\_world\\_\(texas\).html](http://solaripedia.com/13/163/roscoe_wind_complex_largest_in_world_(texas).html)

Connecting sustainable design and community leadership



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