

WIND ENERGY & WILDLIFE:

Site it Right

Benefits for companies purchasing wind energy, wind energy developers and financiers, consumers, and wildlife.



The Nature Conservancy 
Protecting nature. Preserving life.

central great plains
grasslands
collaborating to conserve *America's most impacted habitat*

THE CHALLENGE

The Nature Conservancy supports the development of renewable energy, such as wind, as an emission-free source of electricity. Economically viable wind resources and ecologically important areas, however, show some overlap in the Central Great Plains. This overlap raises concerns that wildlife populations may be seriously impacted by commercial wind energy development. As a result, power purchasers should be aware of this overlap, and more importantly, know how to avoid wildlife impacts and the risks of procuring wind power from projects sited in sensitive habitat areas.

A REAL LIFE EXAMPLE:

Company XYZ was looking to purchase wind-generated electricity, both to meet forecasted energy needs, and to satisfy the company's own initiative for sustainability, which promotes the use of renewable energy, along with other sustainable practices. XYZ issued a request for proposals for 100 megawatts (MW) of wind energy, beginning in 2017. Several proposals were received and XYZ reviewed them, selecting company "ABC" as the lowest-cost provider. A power purchase agreement was signed, and XYZ's CEO was pleased.

Grasslands are an important part of the country's cultural, economic and natural history, and are the most altered and least conserved landscapes on earth. The results of this decline are staggering. Almost three-quarters of the breeding bird species in the United States survive in the prairies of the Great Plains. Historically, some of these birds were widely distributed and found in vast numbers. Today, grassland bird populations have declined more dramatically than any other group of North American birds.



A month later, a newspaper story was published saying that the ABC wind facility will be located in the middle of important habitat for a rare and declining species that will be negatively impacted by the development and operation of the wind farm. It is also in the migration path for golden eagles, which are protected by law and known to be killed by wind turbine blades. A letter to the editor was published a few days later, chiding XYZ for failing to abide by its own sustainability principles and for buying 'dirty green power.' The issues grew from there.

Soon thereafter, plans for the proposed wind facility were put on hold when a lawsuit was filed against ABC

for disregarding potential harm to eagles and rare species. If the wind farm is to be built, it will now be well after 2017 and the delays will make the cost much higher. XYZ may not have its power when needed and the company has now been branded in the media as a bad actor for the environment.

XYZ's CEO has a shareholder meeting tomorrow – what is he going to say to disappointed, angry shareholders? Was there something the company could have done to prevent this from happening?

Yes, there is a way...



Native grasslands are the least conserved and most altered landscapes on earth.

THE SOLUTION

Fortunately, information is now readily available to wind energy purchasers, whereby they can determine via detailed maps if the location of a proposed wind energy facility has a high or low risk for negative ecological impacts. A wind energy purchaser can see if a project under consideration is likely to have impacts to endangered species, species vulnerable to collisions with wind turbines, and/or habitats of species that are sensitive to the presence of wind turbines and associated infrastructure.

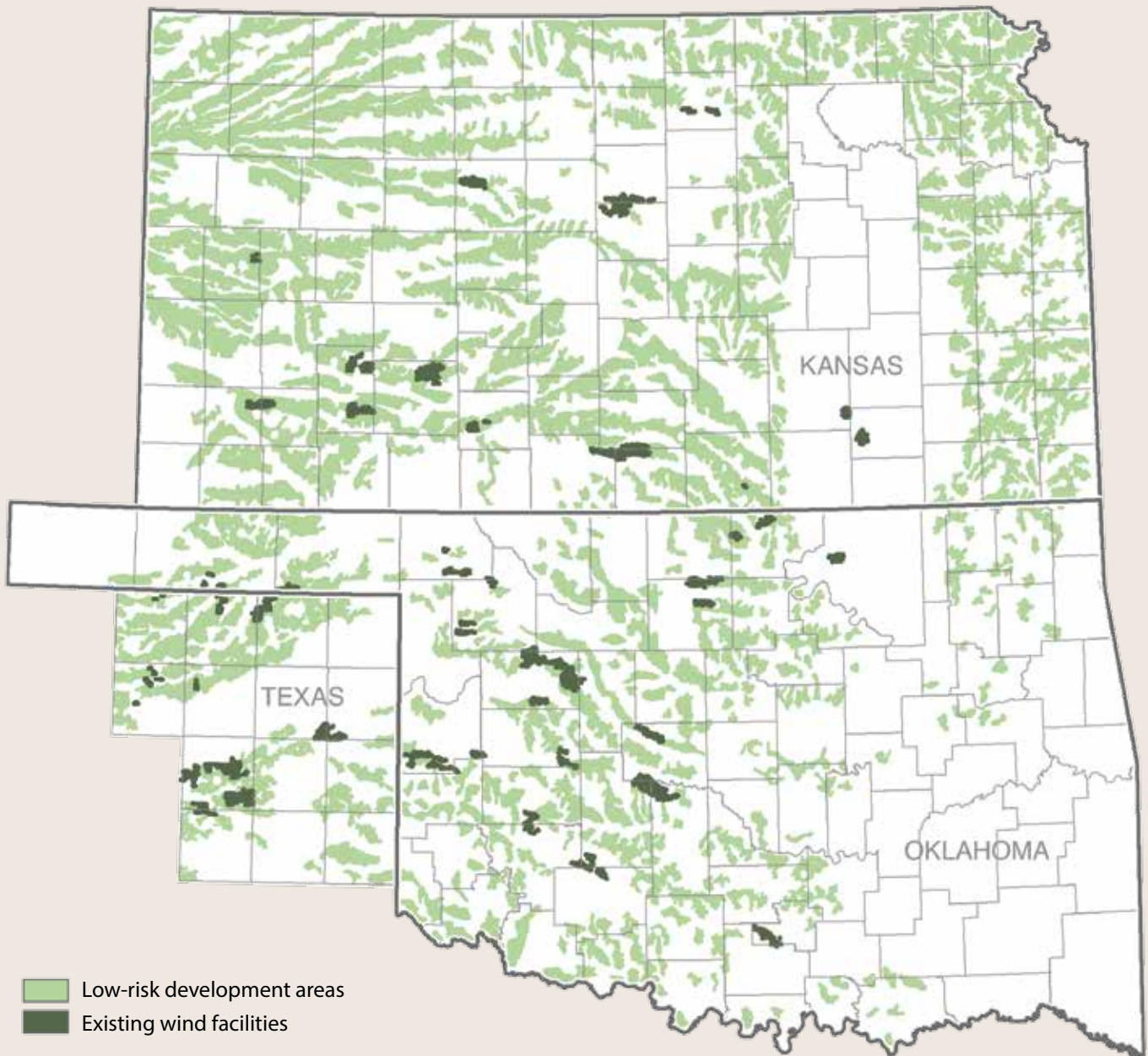
The Nature Conservancy recently undertook an extensive effort to identify areas with low risk of conflicts between wind energy development and important wildlife habitats in Kansas, Oklahoma, and Texas thereby reducing costs, delays and other potential liabilities to wind energy purchasers.

This information enables purchasers to better understand what wildlife-related questions to ask before making a decision. Is the proposed facility near bat caves? Is it near wetlands frequented by endangered whooping cranes during their annual migrations? Is this facility within important habitat areas for grassland birds like prairie chickens?

When undertaking the process of securing wind generated energy for their portfolio, incorporation of the low-risk development area approach provides power purchasers with several advantages, including reduced risk of bad publicity from poorly sited projects, added costs, project delays, lawsuits, and harm to wildlife. In addition, customers of electric power companies and other purchasers of wind energy are now asking: “Where does your wind energy come from? Are there significant negative impacts to species or habitat at that facility? Is this really sustainably produced renewable energy?”



Utility companies and other power purchasers acquiring wind-generated electricity from the Great Plains may meet their renewable energy objectives while protecting nature by **selecting projects sited in low-risk wind energy development areas.**



The figure illustrates the proposed low-risk wind development areas for Kansas, Oklahoma, and the Texas panhandle.

THE BENEFITS

The table below highlights The Nature Conservancy’s assessment of the comparative net advantages of the approach utilizing low-risk wind development areas over individual project siting and mitigation. It addresses many power purchasers’ considerations related to costs, delays, reputational risk, negative public relations, and sustainability implications.

This assessment of the factors indicates that power purchasers gain clear business benefits by obtaining wind energy resources from projects sited in low-risk development areas. Within the mapped area

of Kansas and Oklahoma, there are approximately 29 million acres that offer suitable wind resource for commercial wind development (based on terrain, wind speed, and distance to transmission infrastructure, excluding previously developed sites, statutory setbacks, unsuitable land use, and isolated areas < 20 km²). After removing sensitive wildlife habitats and other important ecological features, approximately 18 million acres remain as suitable for wind energy development. Collectively, this area is capable of yielding over 200 gigawatts (GW) of electrical capacity, more than 25 times greater than the combined state figures detailed in the U.S. Department of Energy’s 20% by 2030 Wind Vision Study Scenario.

Business Factors	Siting and Mitigation	Low-Risk Development Area Approach
Sustainability achievement	Moderate	High
Risk of unknown issues arising	Moderate	Low
Potential for negative public relations	High	Low
Clarity and confidence in successful outcomes	Moderate	High
Risk of "Bad actor" label from association with unscrupulous project developer	Moderate	Low
Risk of delayed energy delivery	Moderate	Low
Risk of increased costs dealing with negative consequences	Moderate	Low
Demonstration of support for low-impact energy facilities	Moderate	High
Use of available science	Low	High
Renewable energy goals able to be met - company, state	Yes, Yes	Yes, Yes
Risk that sensitive habitats and wildlife will be negatively impacted	Moderate - High	Low

HOW CAN COMPANIES PARTICIPATE?

Utilities and other power purchasers can facilitate development of emission free energy while avoiding potential corporate pitfalls such as lawsuits, project delays, bad public relations and association with ecologically unsustainable facilities, simply by utilizing low-risk wind development areas in plans for development or purchasing of renewable energy.

This can be accomplished by:

- Incorporating information in their RFPs and selection process indicating that ecological considerations will be taken into account when making selections
- Analyzing the locations of submitted/proposed facilities in comparison to the low-risk wind development areas map.

- Utilizing the detailed maps of potential wildlife conflicts to formulate questions to be asked of developers regarding submitted projects. Questions can be about awareness of issues, mitigation provided, agency agreements acquired, etc.
- Utilizing the low-risk wind development areas maps to discuss incorporation of these factors into approval processes for utility rates, company external communications, answering questions from customers or stakeholders, and sustainability reports.

There are no obligations or commitments associated with use of the low risk wind development areas maps. The information is simply made available for use by anyone interested – wind energy purchasers, wind project developers, wind energy project financiers, transmission planners, and the public. Use of this tool does not preclude any required coordination with relevant state and federal agencies.



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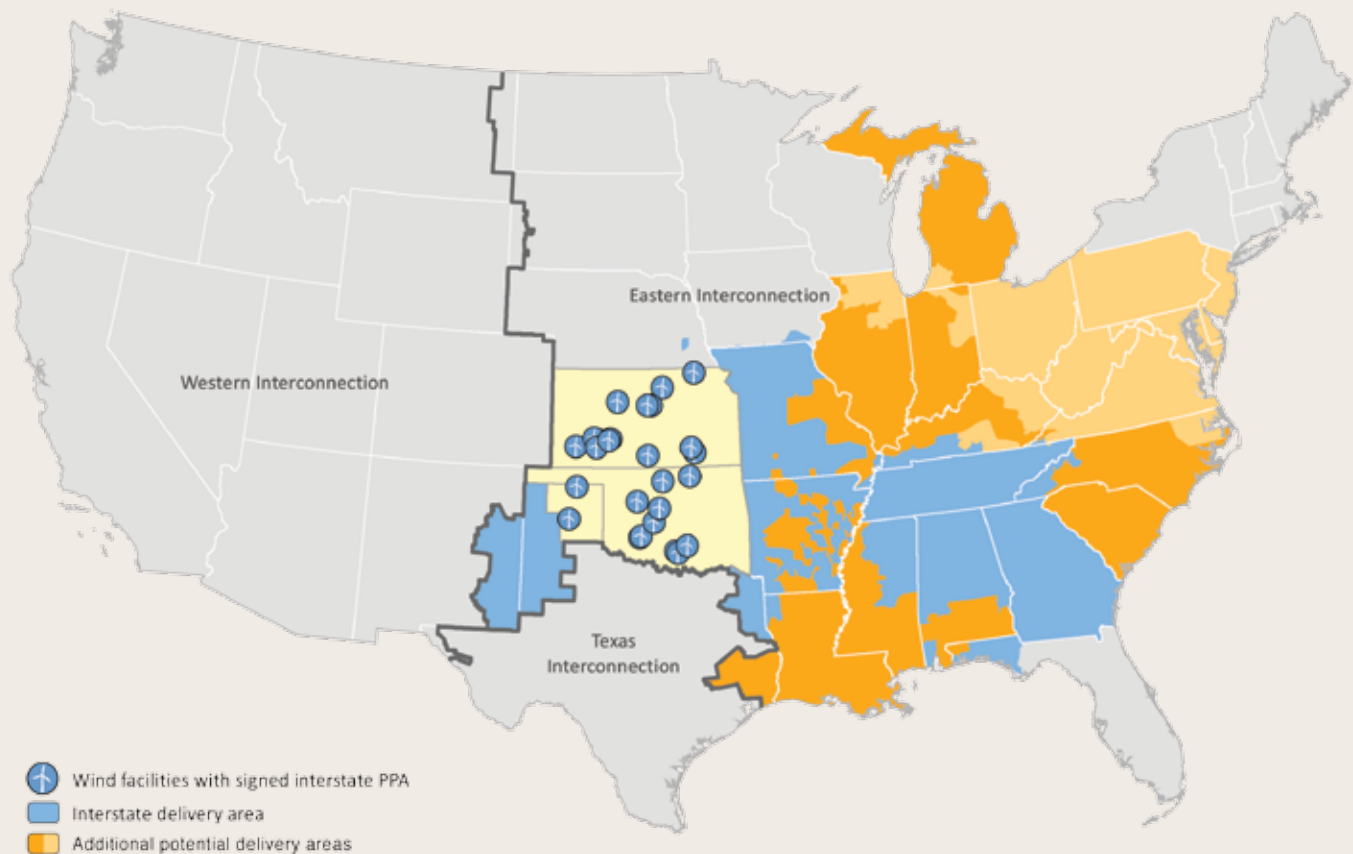
Stay up-to-date with the latest low-risk development area mapping tools at nature.org/greatplains.

COLLABORATING TO MEET DEMANDS FOR RENEWABLE ENERGY

State renewable energy goals and the abundant wind resources needed to meet them locally don't always coincide.

Thus, demand is increasing for wind energy to be exported from wind-rich to wind-poor states that need to meet state renewable energy goals. As seen in the map below, much of the wind-generated electricity from the central Great Plains states is going elsewhere, even as far away as the east coast.

Interstate Transfer of Wind Energy from the Central Great Plains



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