



# SITE RENEWABLES RIGHT

Accelerating a Clean and Green Energy Future

The Nature  
Conservancy 

## FREQUENTLY ASKED QUESTIONS

### What is Site Renewables Right?

Site Renewables Right is one of The Nature Conservancy's signature renewable energy initiatives. It was developed to accelerate the deployment renewable energy in the Central United States by promoting the siting of individual projects in the right places – areas that are low impact for conservation, such as previously disturbed lands.

One resource we have developed as part of this strategy is a **Site Renewables Right Map**. The map was designed to serve as an early screening tool for participants across the renewable energy market – such as buyers, developers, planners, and policy-makers – to identify areas where renewable energy development is unlikely to encounter wildlife-related conflict, project delays, and related cost overruns. The map has two distinct layers – one for utility-scale wind and the other for photovoltaic solar – each of which identifies key wildlife areas that should be investigated early in the project planning process.

In addition to the **Site Renewables Right Map**, The Nature Conservancy works to:

- Promote policies and incentives for low-impact renewable energy deployment;
- Advance the science of low-impact siting;
- Provide companies and communities with information to support low-impact siting; and
- Pursue opportunities to work with the renewable energy sector to advance good siting practices.

### Why has The Nature Conservancy developed a Site Renewables Right map?

The Nature Conservancy supports the rapid expansion of renewable energy in the U.S., which will be key to getting to net zero by 2050. Renewable energy sources, like wind and solar, provide a host of environmental benefits beyond climate. For example, they consume less water than traditional energy systems, and the avoided air and water pollution have significant public health benefits.

However, utility-scale wind and solar energy also requires a lot of land. Princeton University estimates that 228,000 square miles in the U.S. will be required to meet our clean energy goals – area larger than Colorado and Wyoming combined - even when maximizing energy efficiency, rooftop solar, and offshore wind.<sup>1</sup>

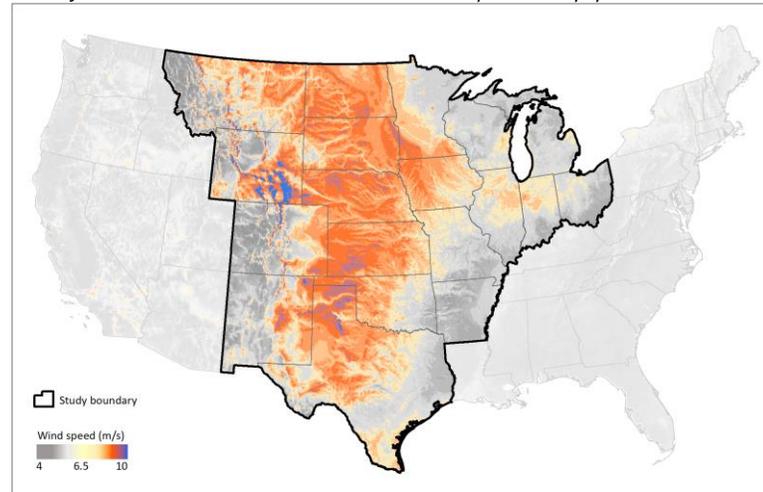
By directing renewable energy development to low-impact areas, we can take advantage of its climate and environmental benefits, while protecting our lands and waters for future generations.

The good news is that we can meet our climate and conservation goals through low conflict renewable energy. *Site Renewables Right* estimates at least 120,000 square miles, an area larger than Arizona, hold the potential for low-conflict renewable energy siting in the central United States. For example, the analysis suggests these areas could support approximately 1,000 GW of wind capacity — nearly 10 times the current U.S. wind capacity.<sup>2</sup>

## **I thought renewable energy was good for the environment. Why do renewables need to be sited right?**

Renewable energy provides tremendous benefits to people and nature – health benefits from cleaner air and water, economic benefits from jobs and local tax revenue – and supports community access to affordable and reliable electricity. But poorly sited wind and solar energy can negatively impact important ecosystems and wildlife. Between now and 2050, it is anticipated that the Central U.S. will host nearly 75% of the country’s onshore renewable energy.<sup>3</sup> The Great Plains is also home to our largest and most intact prairies – one of the most altered and least protected habitats – and wildlife found nowhere else on Earth.<sup>4</sup> By directing renewable energy development away from critical lands and waters, we can meet *both* our renewable energy and habitat conservation goals. *Site Renewables Right*, can help meet our climate goals while keeping important habitats – like tallgrass prairie – sunny, windy, and wild for future generations.

Figure 1. TNC’s Site Renewables Right Study Area  
*Utility-scale land-based 80-meter wind speed map for United States*



## **What does The Nature Conservancy mean by low-impact or “good” siting?**

The Nature Conservancy is focused on supporting the rapid buildout of renewable energy by steering development to previously disturbed lands. This could include the deployment of wind on conventional agricultural lands, transportation and transmission corridors, and other low-impact lands, and solar on existing infrastructure like rooftops and parking lots and disturbed sites, such as mine-lands, landfills, and brownfields. Developing on these sites can minimize the land use conflicts that cause delays and increased costs. We also support rigorous application of state and federal renewable energy development guidelines, like the U.S. Fish and Wildlife Service’s Wind Energy Guidelines.<sup>5</sup> Indeed, *Site Renewables Right Map* can serve as one important source of information to inform the application of these guidelines. TNC is committed to supporting further refinement of current siting practices and improvements to the science around the site-specific and cumulative effects of wind energy development on species and habitat.

## **How did The Nature Conservancy determine which areas are low impact for conservation?**

The conservation information used to develop the *Site Renewables Right Map* pulls together the best available science on high-quality wildlife habitat and intact landscapes. It is based on a review of the existing research and discussions with key partners, including local, state, and federal wildlife agencies, and other conservation professionals. Information on the data used in the analysis and the rationale for the assumptions reflected in the map are provided in the “methods” paper, which can be found on our *Site Renewables Right* web page.

## **How important is the Central U.S. for conservation? Much of the land seems to be farmland or cattle ranches. What’s special about this region?**

The Central U.S. is home to some of the largest remaining grassland habitats, which are among the most threatened and least protected habitat types in the world.<sup>6</sup> The region’s tallgrass prairies, for instance, currently occupy less than 5% of their historic expanse.<sup>7</sup> These and other wild places are essential to our cultural heritage and natural history. The Wind Belt encompasses many iconic landscapes – such as the Flint Hills, the Sandhills, and the Badlands – and supports important wildlife species, such as whooping cranes, prairie chickens, and eagles. Habitat fragmentation is a

significant threat to these species. In many parts of the Central U.S., so much of the natural habitat has already been converted that the remaining habitat is irreplaceable.

### **How does The Nature Conservancy intend for the Site Renewables Right map to be used?**

There is not a one-size-fits-all solution to “good” renewable energy siting. Site Renewables Right Map was designed to serve as an important source of information for early screening of potential sites and to support application of state and federal renewable energy siting guidelines.<sup>8</sup> The map is not intended to serve as a substitute for these applicable guidelines. It should not be the only source of information used during site screening, and it does not replace the need to consult with state, federal, or tribal governments or conduct detailed site-level analyses of impacts.

### **Will The Nature Conservancy update the Site Renewables Right map?**

Yes. We continue to update the Site Renewables Right Map to reflect new research on renewable energy, wildlife, habitat fragmentation, cumulative impacts, and specific direct impacts to at-risk species. We welcome input on the data and assumptions that support the Site Renewables Right Map.

### **Why should developers and energy purchasers use the Site Renewables Right map?**

Siting wind energy in areas that are low impact to important ecosystems and wildlife will reduce conflicts and help accelerate the transition to a clean energy future. Poorly sited utility-scale renewable energy projects can expect to face more environmental conflicts.<sup>9</sup> These conflicts are likely to stall projects, drive up prices, and even lead to project cancellation. Nature and the climate cannot afford this delay.

### **Why is The Nature Conservancy encouraging additional development?**

To avoid the most catastrophic impacts of climate change and related impacts to nature, we must achieve net zero greenhouse gas emissions by mid-century. We cannot succeed in getting to net zero without a rapid buildout of renewable energy. Our Site Renewables Right strategy demonstrates that we have ample lands of low conservation value available to meet our low-carbon energy goals – we can have our renewable energy and avoid significant impacts to high-priority conservation areas and at risk-wildlife.

### **What about prime farmland and renewable energy? Are we going to prime agricultural lands by avoiding natural areas?**

Planning projects holistically can help balance competing and complementary uses of lands. For example, 50% of all the land in the U.S. is in grazing and farming, with much of that land in the Central U.S. TNC recognizes the tremendous economic, food, and ecosystem benefits working lands provide. Using planning strategies like Site Renewables Right allows for the development of renewables to be balanced with the desires of the agricultural community so that farmers and ranchers can make informed decisions about development on their lands.

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<sup>1</sup> Larson, E., Greig, C., Jenkins, J., Mayfield, E., Pascale, A., Zhang, C., . . . Paustian, K. (2020). Net-Zero America: Potential Pathways, Infrastructure, and Impacts. Princeton: Princeton University.

<sup>2</sup> American Clean Power Association (ACP). 2021. ACP market report fourth quarter 2020. ACP, Washington, DC.

<sup>3</sup> Larson et al. 2020

<sup>4</sup> Hoekstra, J.M., T.M. Boucher, T.H. Ricketts, and C. Roberts. 2005. “Confronting a biome crisis: global disparities of habitat loss and protection.” *Ecology Letters* 8(1):23 – 29.

<sup>5</sup> U.S. Fish and Wildlife Service. 2012. “Land-Based Wind Energy Guidelines.”

<https://www.fws.gov/midwest/wind/resources/guidances.html>. Last visited November 15, 2018.

<sup>6</sup> Hoekstra, J.M., T.M. Boucher, T.H. Ricketts, and C. Roberts. 2005. “Confronting a biome crisis: global disparities of habitat loss and protection.” *Ecology Letters* 8(1):23 – 29.

<sup>7</sup> Sampson, F., Knopf, F. 1994. “Prairie conservation in North America.” *Other Publications in Wildlife Management*. 41.

<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1040&context=icwdmother>

<sup>8</sup> U.S. Fish and Wildlife Service. 2012. “Land-based wind energy guidelines.

<https://www.fws.gov/midwest/wind/resources/>.

<sup>9</sup> Tegan, Suzanne, Eric Lantz, Trieu Mai, Donna Heimiller, Maureen Hand, and Eduardo Ibanez. July 2016. “An Initial Evaluation of Siting Considerations on Current and Future Wind Deployment.” National Renewable Energy Laboratory. Technical Report NREL/TP-5000-61750. <https://www.nrel.gov/docs/fy16osti/61750.pdf>.