

Introduction to Wind Energy Leases

Land use agreements for wind energy can include language for a land lease, easement or a combination of leases and easements. These agreements are often called “wind leases” or “wind agreements,” the term used in this publication. This publication uses research-based information to provide considerations for landowners considering utility-scale wind energy agreements or “wind agreements.”

Each lease situation is unique, and this publication does not constitute professional or legal advice. You should seek the advice of experienced and qualified professionals (e.g., attorneys, accountants) to understand how the terms and conditions of wind lease proposals could affect your farmland, farm, family and community.

Growth of wind energy

Wind energy is a form of renewable energy. Missouri’s first wind farm came online in 2007. The state’s wind generation capacity increased from 1,196 megawatts (MW) in 2020 to 2,228 MW in 2021, according to the U.S. Energy Information Administration. This was about five percent of Missouri’s net electricity generation capacity, which is the amount of electricity generated minus electricity used during generation. Missouri was 18th in statewide utility-scale wind capacity in 2021.

Land requirements for wind turbines vary according to the site and equipment specifications (Figure 1). Each additional 300 MW of wind capacity requires around 130 wind turbines, according to published estimates for Missouri. Ameren’s High Prairie Renewable Energy Center in Adair and Schuyler counties has 175 turbines with a combined capacity of 400 MW across 50,000 acres.

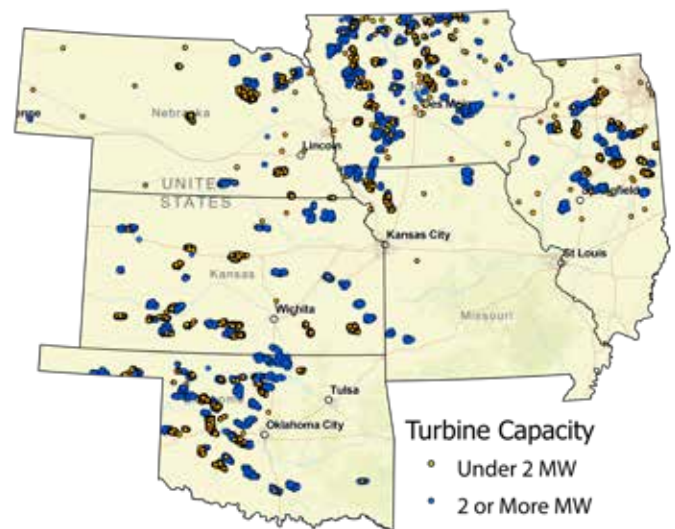
Site suitability

Energy developers look at a variety of factors for potential wind farm sites. Wind speed is very important. The first wind farms in Missouri were in northern and



Figure 1. Wind energy leases may place wind turbines on sites where agriculture may continue around the turbines.

western Missouri. Wind energy has developed more quickly to the north and west of Missouri. Figure 2 shows operating wind turbines in Missouri and



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Figure 2. Wind turbine locations in Missouri, Illinois, Iowa, Nebraska, Kansas and Oklahoma.

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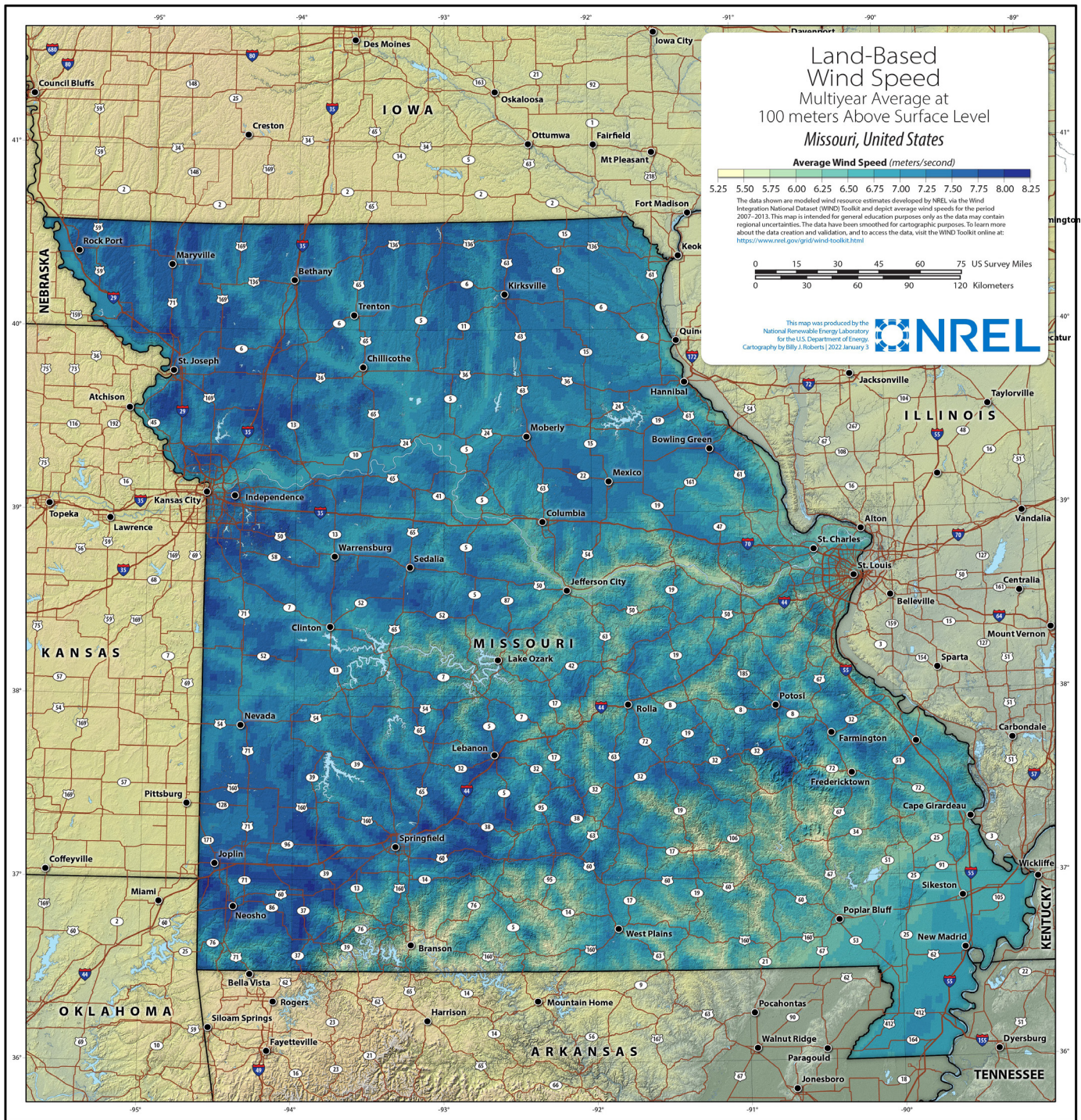


Figure 3. Missouri average wind speeds at height of 100 meters.

neighboring states as of May 2022. Smaller turbines tend to be older wind towers.

Taller wind turbine towers and other wind technology advances can make wind farms feasible in locations not previously considered. Figure 3 shows Missouri average wind speeds at a 100-meter height. This figure indicates future desirable locations for wind energy development.

Economic considerations

Landowners may find wind energy agreements to be attractive income sources. Row crops and other agricultural production can usually continue around wind turbines, and lease payments often far exceed cash rental rates for farmland. However, signing a wind energy agreement has potential implications for business planning, farm financial management and land use.

Business planning

Business planning charts long-term goals and develops a plan for meeting these goals. The process of developing a business plan helps the farm owner or operator to think about where the business has come from, where it is now and where it is headed in the future.

Wind energy leases may impact a business plan in at least two ways. First, the wind energy lease will generate new income and expenses. Wind agreement payments and changes in the landowner's property tax expense are two common ways a wind energy lease impacts landowner income and expenses. Second, wind energy leases could potentially impact land availability and access for different business purposes. These changes and how they impact business goals can be factored into the business planning process.

Farm financial management

Payments from a wind energy agreement create new cash flow for the landowner. Income from the agreement usually includes annual lease and/or easement payments. In addition, the agreement could stipulate one-time payments or other compensation for the use of the land. Types of payments in wind energy agreements in the Midwest include:

- Fixed payments, on a per-turbine or per-megawatt basis
- Royalty or revenue-based payments, where the landowner receives a percentage of the income earned from the wind energy produced
- Combination payments, which combine fixed payments with a percentage of revenues
- Wind rights payments
- One-time payments, when construction begins

- Payments for access roads, transmission line siting and other land use associated with wind turbines
- Payments made even if wind turbines are not located on your property.

Increased property taxes are the most common potential expense associated with wind energy agreements. Agreements typically stipulate that the wind turbine owner or operator is responsible for paying property taxes on the wind equipment.

Wind energy agreements can also limit the landowner's ability to use land for income during wind turbine construction. Most agreements will include language compensating for such interruptions as well as compensation for land disturbance and fence improvements.

A wind energy agreement could impact the landowner's borrowing capacity and relationship with farm lenders. The main impact is when the site proposed in the energy agreement is on land secured by a creditor, as in a mortgage. Creditor consent may be needed before the energy agreement is finalized.

The presence of a land use agreement could also impact the owner's ability to use that land as collateral in future borrowing. Open communication with your lender will help you identify farm financial issues that may arise from an energy agreement.

Land impacts

Landowners may be attracted to wind energy agreements because turbines occupy a relatively small land footprint while offering additional revenue streams. Turbines must be widely spaced apart. Exact spacing will vary according to the project, including the size and height of the wind turbine tower, and the surrounding geography. The U.S. Department of Energy estimates one to three acres of permanent land use per turbine with 25 to 125 additional acres of land needed between turbines.

Land use agreements may place different limitations on land use during and after construction of the wind turbine. Some examples of common activities that could be impacted by wind energy agreements:

- Row crop and livestock production
- Hunting and other recreational land use

Equipment removal

The agreement should specify the energy company's responsibility for removing the wind turbine and any additional equipment. Although wind energy agreements usually last 20 or more years, you should understand how the infrastructure will be removed and what might be required of you (the landowner) at the time of removal. This could be accomplished with a removal bond requirement in the lease.

Legal considerations

There are many legal considerations for farmland owners considering wind energy agreements.

Parts of the agreement

A *land lease* provides someone other than the landowner the right to possess and use the land. The lease language in a wind energy agreement is usually for the turbine site. The landowner receives a lease payment in exchange for letting another party use the land to construct and operate the wind turbine.

Land easements allow someone besides the landowner to use or access the land for a particular purpose. Transmission line easements and wind easements are common in wind agreements. These easements may have little interference with farming activities. Transmission lines pass over the land. The wind easement may restrict the owner from constructing things that might interfere with wind blowing across the land.

Options provide the wind company or energy developer with the right (option) to do something. Common options in wind energy agreements are the option to lease and/or develop the land, the option to operate on the land, and the option to extend the agreement for a certain period of time.

Title and ownership

You must have good (or “clean”) title to the land in order to negotiate a wind energy agreement. Other parties with ownership, easements or other rights to the land could be deterrents to the wind energy developer. Mortgages, farmland leases, hunting rights and land easements could all influence negotiations.

Joint ownership (joint tenants or tenants-in-common) of farmland is common. Joint owners may include multiple heirs of different ages with differing perspectives on how the land should be used. Joint ownership may create difficulties during negotiations with the energy developer because each legal owner must consent to the agreement.

Taxes

Wind turbines and associated equipment are taxable commercial property. Wind energy agreements usually specify the wind turbine operator is responsible for paying that tax. The assessment policy of wind energy facilities in Missouri is available in the State Tax Commission of Missouri Assessor Manual.

An accounting professional can help determine potential income tax implications from wind energy agreement payments. An attorney familiar with Missouri land use, taxes and zoning laws can review the agreement to determine if it may create additional land use and tax implications.



Figure 4. Wind agreements can define the landowner’s potential liability exposure during wind turbine construction or removal.

Liability and indemnification

Liability questions commonly addressed in wind energy agreements include:

- What happens if land use laws or local zoning regulations change after wind turbines are constructed?
- What is your liability exposure from the presence of wind turbines on your land?
- Who is liable for accidents that could occur during construction and maintenance of the wind energy equipment (Figure 4)?

Other potential liability issues relating to wind energy include endangered species (especially birds and bats), nuisance complaints and aesthetics. An attorney can help you understand who is responsible for potential liabilities under a wind energy agreement.

Government programs

A wind energy agreement will affect how leased land is treated in government programs. Consult with your local USDA personnel to determine possible impacts that a wind energy lease will have on conservation, crop and other government programs.

Property rights and land use

Energy agreements can impact the landowner's right to use the property. Common landowner concerns include prohibitions on building new structures, whether aerial pesticide applications are allowed nearby, and the use and maintenance of wind turbine access roads.

Agreements outline land use in very specific terms; these include what property rights the landowner may grant or retain. Specific land use issues unique to your property may require further negotiations from the initial wind energy agreement proposal.

Social and environmental considerations

Impact on environment and neighbors

Local opposition and “not-in-my-backyard” (NIMBY) sentiments may deter specific projects. Opponents to utility-scale energy projects often point out how the projects could change the appearance of the local landscape and raise objections about aesthetic impacts. Opponents also raise nuisance concerns about wind turbine noise, shadows and lights.

Objections to wind energy also include environmental and wildlife concerns, especially impacts upon endangered birds and bats. Endangered species issues have impacted existing and proposed Missouri wind projects.

Impact on family

Families operate most Missouri farms. Family business and succession plans should be factored when considering long-term impacts of a wind energy agreement. Different generations of the family may have different goals. Retirement and farm expansion are two areas where disagreement may frequently arise. Qualified professional advisors can help evaluate impacts of changes in land use upon the family's financial and business concerns (Figure 5).

Impact on land use and land value

Proponents of locating wind energy in farm country point out that crop and livestock farming can carry on around wind turbines. In terms of taking farmland out of production, the potential impact of a wind turbine is much less than a utility-scale solar farm.

A study published in 2020 by Kansas State University economists found no statistically significant impact upon farmland values, including nearby farmland values, from the presence of wind turbines on farmland. The same study found that wind turbines “have not produced statistically significant negative external effects for agricultural property values in Kansas.”



Figure 5. Changes in land use may impact the farm family's financial position and business planning concerns.

Conclusion

Wind energy has become an important electricity source in Missouri. Development of additional utility-scale wind energy farms could offer new opportunities for Missouri landowners. Landowners should have proposed wind energy agreements reviewed by qualified professionals to understand implications for land use, finances and liability.

Finally, farmland owners should be attentive to community, environmental and family impacts from negotiating and executing a wind energy land lease.

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Resources

[Missouri Renewable Energy Standard Compliance](#)

[Plans](#) (psc.mo.gov/Electric/Renewable_Energy_Standard_Compliance_Reports).

[A Landowner's Guide to Commercial Wind Energy](#)

[Contracts \(PDF\)](#) (extension.purdue.edu/extmedia/ABE/RE-5-W.pdf). Purdue Extension. 2012.

[Wind Energy Leasing Handbook](#)

(extension.okstate.edu/fact-sheets/wind-energy-leasing-handbook.html). Oklahoma Cooperative Extension Service. April 2017.

[Land Use Conflicts Between Wind and Solar](#)

[Renewable Energy and Agricultural Uses \(PDF\)](#)

(nationalaglawcenter.org/wp-content/uploads//assets/articles/Wind-Solar-Land-Use.pdf). The National Agricultural Law Center. 2022.