

# ARE YOU THINKING ABOUT LEASING YOUR FARMLAND FOR SOLAR DEVELOPMENT?

A GUIDE FOR LEASING LAND FOR SOLAR DEVELOPMENT



U.W. Madison Division of Extension gratefully acknowledges the Wisconsin Farm Bureau for its contribution and input on this Fact Sheet.



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# IS LEASING LAND TO A SOLAR DEVELOPER AN OPPORTUNITY FOR LANDOWNERS?

Interest in solar as a renewable energy resource is rapidly expanding across Wisconsin as our state moves towards replacing energy from fossil fuels like coal and natural gas with wind and solar. This energy conversion creates a significant opportunity for Wisconsin farmers and other rural landowners to lease portions of their property for solar facility development.

State law prioritizes renewable energy development. This can be seen in the language of Wis. Stat. Section 1.12(3)(b) which states as follows:

*[T]o the extent that it is cost-effective and technically feasible, all new installed capacity for electric generation in the state be based on renewable energy resources, including hydroelectric, wood, wind, solar, refuse, agricultural, and biomass energy resources.*

Large investor-owned utilities like We Energies, Alliant, Xcel, and Wisconsin Public Service, along with cooperatively-owned utilities like Dairyland Power Cooperative and private solar developers, are responding to state energy policy by developing solar arrays across the state for electric generation.

Solar arrays are a collection of multiple solar panels generating electricity as a system. See the photo below of a solar array installed by the University of Wisconsin – Platteville.

The U.S. Department of Energy estimates more than ten million acres, 80% of which is farmland, will be needed to scale up solar energy by 2050. American Farmland Trust argues solar projects should: (1) accelerate solar energy development, (2) strengthen farm viability, and (3) safeguard land well-suited for farming and ranching. See <https://farmland.org/solar/>



Photo Source: University of Wisconsin Platteville

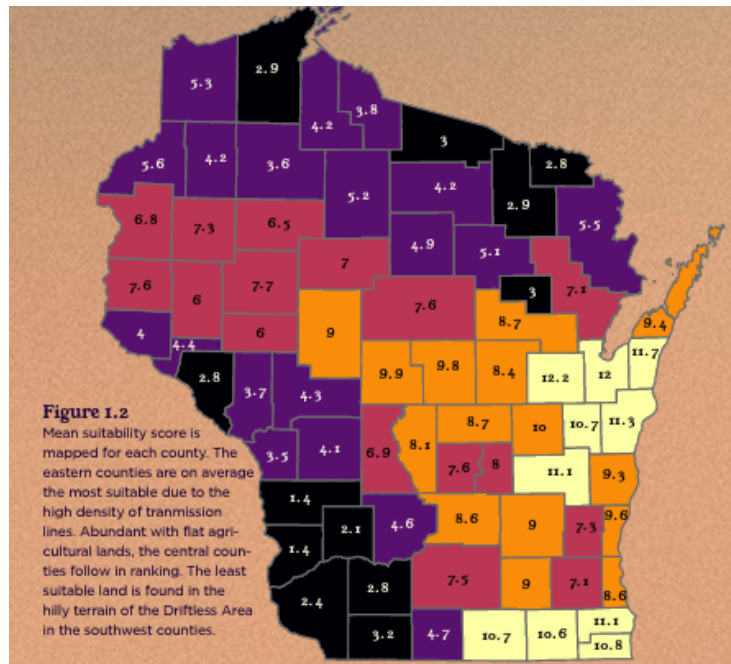
Solar array development sites range from a few acres generating under five megawatts of electricity to dozens of acres for solar arrays generating 20 megawatts or more of electricity. One megawatt of solar energy will power an average of 190 homes and requires five (5) to seven (7) acres of land. Solar energy facilities in Wisconsin have a current estimated value of \$1.4 billion.

According to the Solar Energy Industries Association (SEIA), Wisconsin ranks 23rd in the nation for solar installation, with

1.71% of the state’s electricity coming from solar as of December 31, 2022. See <https://dnr.wisconsin.gov/topic/Sectors/SolarInstallations> for more information. Renew Wisconsin’s website contains a current map of where the state’s more than 20 solar farms are located. See <https://www.renewwisconsin.org/solarfarms/>. SEIA reports that 185 solar companies are operating in Wisconsin, including 44 manufacturers, 83 installers/ developers, and 58 classified as “others.” This includes installers who are installing solar panels on residential homes. SEIA estimates Wisconsin will add 4,435 megawatts of energy over the next five years. This would move Wisconsin up to 11th place in the nation for solar energy output.

Wisconsin has 14.2 million acres of farmland. This makes our state attractive to solar developers. A recent U.W.-Wisconsin Stevens Point graduate, Ryan Michalesko, published a map of the Wisconsin counties most favorable to solar energy production based on terrain, primary land use type, and proximity to transmission lines, pictured above. The map is above (Figure 1.2). However, even if land is not located in the most favorable parts of the state indicated by the map, there may still be solar development potential depending on the local conditions. For example, ridgetop land in Southwest Wisconsin can create a favorable location for siting a solar array.

Solar developers seek level sites free of trees, buildings, and other obstructions to the sun. Solar developers also prefer farmland located near roads and needed power transmission facilities, including three-phase transmission hubs and power substations.



Source: Ryan Michalesko - UW Stevens Point





## WHAT IS THE POTENTIAL FOR LANDOWNER FINANCIAL RETURN?

Solar lease rates vary per acre, depending on the size of the land, soil quality (i.e., lower price if the ground is low and wet), location and distance to the electric grid, and the power purchase agreement price. The price solar developers are willing to pay for leased acreage varies across the country based in large part on the relative cost of producing electricity in the region. More expensive electricity markets like California and New York lead to relatively high lease rates being paid to the landowner. At the same time, solar developer profit margins likewise vary, with 10-20% being fairly typical.

Wisconsin electricity rates are 21% lower than the national average. Therefore, solar lease rates in the Badger State tend to be in the more modest \$500 to \$1,200 per acre range, with the main variable being how close the leased land is to a power substation.

## LANDOWNER CONSIDERATIONS BEFORE NEGOTIATING A SOLAR LEASE

Negotiating a lease with a solar developer may be challenging because the developer typically is advantaged by their longer experience researching, drafting, and negotiating lease agreements. This means the lease agreements often benefit the solar developer more than the landowner. Moreover, the agreements are often long and include complicated language that is hard to understand for most non-attorneys. To offset this advantage, landowners interested in leasing land to a solar developer should first do their homework. This includes retaining an experienced attorney before negotiating and signing a land lease.





## DO YOUR HOMEWORK

Solar leases are often a welcome new source of income for farmers and other rural landowners. However, a key mistake is solely focusing on the money being offered. Rather, landowners need to do homework upfront. There are often a number of solar companies seeking to sign up landowners for leases. The first offer received may not be the best. The information presented in the following numbered boxes provides important items to think about before negotiating with a solar developer.

## WHO PAYS THE PROPERTY TAXES?

According to the Wisconsin Department of Revenue, if the solar energy system qualifies as a utility, the utility pays an annual license fee to the state in lieu of property taxes. The payment is measured by the gross operating revenues from the prior year. See Wis. Stat. Chapter 76. If the solar energy system does not qualify as a utility and is therefore locally assessed, the taxable property is assessed based on market value and the solar operation would be subject to local taxation (continued to next page)

### 1. Pressure to Contract

First, is the solar developer using a “take it or leave it” attitude? Is pressure being applied right away to sign the agreement without the opportunity to read it first? If so, this is a warning sign the agreement might not be what it seems. Only negotiate with solar developers who patiently explain the terms of the lease agreement.

### 2. Promises Made Outside of the Agreement

Next, is the solar developer making promises not included in the written lease terms? If so, the promises are likely unenforceable. Lease agreements typically include a provision towards the end stating the written lease agreement “constitutes the sole and entire agreement of the parties and supersedes all prior and contemporaneous understandings, agreements, representations and warranties, both written and oral.” In short, anything promised outside of the written lease agreement is not actually included in the lease agreement. To ensure a promise is enforceable, include it in the written lease terms.

(from Governmental Taxation section)  
However, please note there is an exemption for solar energy systems that convert and transfer or store energy from the sun into usable forms of energy. See Wis. Stat. Section 70.111(18).

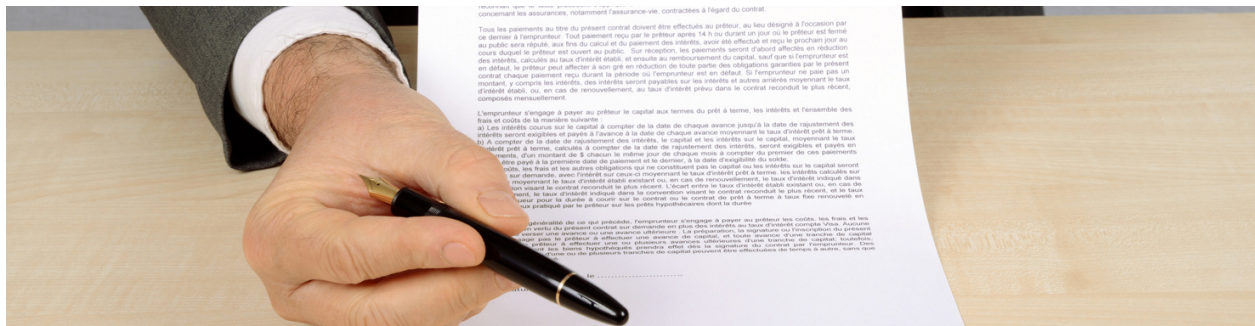
## USE VALUE TAXATION

Use Value taxation is a beneficial taxing system for qualifying agricultural land and usually results in a far lower property tax bill for the landowner. Qualifying agricultural property is generally assessed based on its income potential rather than market value. Be aware land in a solar facility may lose the benefit of Use Value Taxation because the local assessor may determine the land has been converted from primarily agricultural use to another use. This risk can be offset if an agricultural practice can be established beneath the solar array. Some farmers have converted the land -- if the lease agreement allows -- to pastureland for sheep, goats, or some other type of livestock. Research is being done to determine if there are other potential agricultural uses allowing land beneath a solar array to remain in production agriculture.

### 3. Lease Location

Third, before signing, have you thought about the best farm location for solar development? The developer will want the solar array to be placed closest to roads, near transmission facilities, and away from trees and buildings that could block the sunlight. However, this location may be the most productive farmland or be a potential building site. Think about potential issues in advance and make sure the right lease language is included.

You may own less productive lands that would also work for a solar array. However, here too, will this alternative land be needed if you decide to expand your farming operation in the future? Overall, how does this land fit into your future farm plan/transition? Also, how will your farming operation be disrupted by construction? Do local setbacks and other regulations apply? Make sure you have the correct property description and that the agreement is clear on how much of the parcel the solar developer is obligated to lease.



## 4. Use of Land and Local Regulations

Fourth, you should negotiate whether the leased land can still be used by you for another purpose and, if so, how the leased land might be used. For example, could you still use the leased land for other agricultural purposes such as cutting hay or raising livestock like sheep or goats which are good for maintaining the land beneath the solar panels? How high can the grass grow beneath the solar panels before it must be cut? Are you required to cut the grass or is that someone else's responsibility? If it is you, will you be compensated for your equipment, fuel, and time and can you use herbicides to control the grass? If it is someone else, who is responsible and how will they access the leased site? Will they be able to apply herbicides, particularly if your farm is organic? Can you spread manure from your dairy or livestock operation beneath the solar panels? Also, could you face potential liability for farm dust or farm chemicals falling on the solar panels?

If the project is delayed, do you have a right to use the land for agricultural purposes in the interim? Have you discussed ensuring a right of entry on the leased land to ensure you can access other lands you own or rent through it? If the land is near or includes woodlands you own, does the solar developer have a right to cut those trees? How deep will the electrical lines be buried? Will they obstruct any future development on your farm? Finally, is your land already leased to someone else?

Seventh, does the solar array comply with all county and town zoning ordinances? Will the local government allow the construction of access roads if needed? Are there any existing easements or other deed restrictions that might be impacted? Some farmers have converted the land -- if the lease agreement allows -- to pastureland for sheep, goats, or some other type of livestock. Research is being done to determine if there are other potential agricultural uses allowing land beneath a solar array to remain in production agriculture.

## FARMLAND PRESERVATION

If the potential farmland is enrolled in the Farmland Preservation Program, check with the Wisconsin Department of Agriculture, Trade & Consumer Protection to determine if the enrolled land is eligible for leasing. More information is available at [https://datcp.wi.gov/Pages/Programs\\_Services/FarmlandPreservation.aspx](https://datcp.wi.gov/Pages/Programs_Services/FarmlandPreservation.aspx).





## 5. Agreement Term, Termination, and Confidentiality

Next, how long does the lease agreement last? The minimum length is usually twenty (20) years and renewal provisions are often included. Who can renew the agreement and how is this done? Is renewal automatic or must all of the parties agree to the renewal? This is important to know up front and language addressing this should be included in the lease contract terms.

Can the agreement be terminated before it expires? If so, by whom and under what conditions? You will also want to understand what happens when the lease agreement ends. Is the solar developer responsible for restoring the leased property? If the lease developer sells the business or goes bankrupt, who will pay for de-commissioning? See boxed section 7 for more information.

Does a confidentiality clause apply to the parties to the agreement? If so, how does it apply to you, your family members and employees? Are you subject to any penalties if someone doesn't comply?

## 6. Payment Terms

Sixth, annual lease rents are typically based on the number of acres leased by the solar developer. However, some developers may tie lease payments to the amount of power that the system is expected to produce. If this is how the lease payment will be determined, ask the solar developer upfront before contracting what the minimum and maximum system sizes that can be installed are. Yet other developers tie payments to a base rent plus a percentage of the income that is generated by the solar array. The latter two rent calculations bring more risk, but also a greater potential financial reward.

When do the lease payments start? Is there a development or due diligence period when there are no payments? If so, how much time is allowed to the solar developer to determine the land's suitability before payments begin?

A final payment consideration: farm budgets are used to variability based on the quality and price of the commodity being produced. However, are you better off having an assured income stream or are you more comfortable with a variable income stream?

## 7. Land Restoration and Insurance

Seventh, landowners typically will want the solar array removed at the end of the lease. What happens when the lease agreement ends? Is the solar developer responsible for removing the solar array and restoring the leased property? If the lease developer sells the business or goes bankrupt, who will pay for de-commissioning? Landowners will want to consider requiring the solar developer to place funds in escrow or to obtain an irrevocable bond to finance land restoration.

## 8. Insurance

Eighth, who pays for liability insurance and what coverages should be required? If the solar developer obtains the insurance, you will want to be included on the certificate of insurance as an additional insured party.

# STANDARD SOLAR LEASE AGREEMENT TERMS AND CONDITIONS

Solar lease agreements are often long and complicated. Common contractual provisions (followed by a description) include:

- (1) Whether or not an option on the land is granted:** the solar developer may seek an option (i.e. a contract giving the buyer an exclusive right to purchase the property) on the land if the company is not planning to build a solar array right away
- (2) Description of the leased premises:** usually a legal description of the land being leased
- (3) Lease term:** often twenty years with automatic renewal periods thereafter
- (4) The rent to be paid:** often based on \$'s per megawatt produced and whether paid in advance or installments; may include different lease payments for renewal periods
- (5) Improvement of leased premises to be provided:** describes what is being constructed, site and construction plans, signage, fencing, and utility easements
- (6) Ingress, egress, utility, and solar easement:** includes the right to construct solar array and transmission facilities and related easements, and who may enter
- (7) Maintenance and security:** typically maintenance and security are the developer's responsibility
- (8) Title and quiet possession:** landowner warranties leased land is free and clear of liens and other restrictions that might interfere with the solar production facility

**(9) Title to site improvements and infrastructure:** title to site improvements typically remain with the solar company until lease expiration and require solar company to repair any damage to the land under lease

**(10) Uses and operations:** solar developer's activities on the leased land should be related to building and maintaining a solar array

**(11) Subordination, attornment, and non-disturbance:** the lease is subordinate to any mortgage on the land

**(12) Mortgage of leasehold interests:** protection of mortgages on property

**(13) Government approvals and compliance:** require solar company to obtain necessary licenses and government approvals for site improvements

**(14) Assignment:** developer may/may not assign lease to a company purchasing the solar developer without prior written consent

**(15) Notices:** notices to be placed in writing and sent to designated places

**(16) Insurance:** require solar company to maintain at least \$\_\_ million in commercial general liability coverage; \$1 million coverage is fairly typical

**(17) Operating expenses:** solar developer to pay for all water and energy used onsite

**(18) Taxes:** landowner pays property taxes, but solar developer pays for any increase attributed to the solar facility

**(19) Maintenance by property owner:** landowner will maintain adjacent leased property in good condition and without obstructions

**(20) Liabilities to third parties; risk of loss:** solar developer and landowner hold each other harmless for death or injury caused to third parties resulting from their own negligence or intentional acts

**(21) Tenant's performance and surrender:** solar developer shall pay rent as required by the agreement and surrender the leased land when required

**(22) Default and termination for default:** default if not cured within a specified time period after receiving notice of breach

## 9. Taxation

Finally, what are the tax implications? Will land beneath solar panels be eligible for preferential use value taxation? Your local assessor will determine whether the underlying land remains in agricultural production. If not, you will lose the property tax benefits of use-value taxation. Your local government may have ordinances determining how the land will be classified and it is possible the solar facility could be reclassified as industrial or commercial, leading to a higher valuation and overall tax bill. Also, if the land was originally zoned agricultural and the assessor determines it has been converted to non-agricultural use, will you have to pay a conversion penalty unless the land changed from agricultural (Class 4) to class 5, 5m, 6, or 7. If so, this change is not subject to a conversion charge.

Make certain you understand who is responsible for paying the property taxes and what happens if the taxes are not paid on time.



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**(23) Right to terminate:** solar developer has right to vacate if site is determined to be unsuitable; 30 days is a typical minimum notice period

**(24) Rights to site improvements and infrastructure upon termination:** defines what happens to the solar farm at lease termination, including whether solar company removes solar array or abandons it to the landowner

**(25) Binding on successors:** if the solar developer is sold or the landowner sells the land, the lease remains binding

**(26) Access to premises:** provides solar developer and its contractors access to the site

**(27) Governing Law:** landowner will want to ensure the agreement is governed by the laws of Wisconsin and that any dispute would be heard in the Wisconsin circuit courts

**(28) Entire agreement:** unless an oral commitment is included in the agreement, it is not part of the agreement

**(29) Survey and testing:** solar company has right to conduct surveys and soil tests

**(30) Oil, gas, and mineral rights:** landowner retains mineral rights, but developer may seek to prohibit drilling beneath solar array during the lease term

**(31) Hazardous waste:** landowner represents there is no hazardous waste on the leased site and the solar company is responsible for any release it or its contractors cause

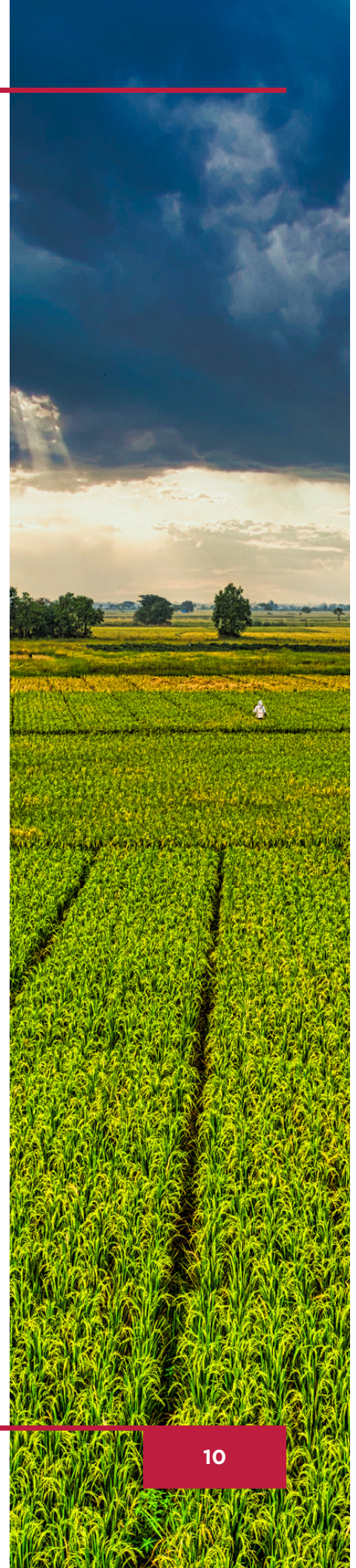
**(32) Mechanic's liens:** solar company agrees to ensure no liens are placed on the leased land

**(33) Time of essence:** an expression that the obligations under the lease should be completed in a timely manner

**(34) Severability:** if any part of the lease is unenforceable for any reason, the remainder remains in effect

**(35) Real estate broker:** addresses whether landowner has, or has not, signed a listing agreement and whether a broker's commission might need to be paid, and by whom

**(36) Dispute resolution:** provides for informal negotiations before arbitration or a court filing; landowner should keep open the route to the circuit courts if there is a dispute (Continued to next page)



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**(37) Right to record:** solar company is entitled to record the written lease with the county Registrar of Deeds

**(38) Interpretation:** applies rules of construction if there is a lease ambiguity; typically, ambiguities are construed against the party drafting the lease

**(39) Date of agreement:** solar developer and landowner agree the agreement takes effect when it is last signed

## LAND LEASES TO SOLAR DEVELOPERS CAN BE BENEFICIAL FOR LANDOWNERS

This Fact Sheet is not intended to encourage or discourage landowners from signing a solar lease, but has been prepared to provide landowners with the resources and questions to ask before signing a lease, all in an effort to ensure landowners are equipped to make the best possible decision for all involved, including family members and future generations. Negotiating and agreeing to a solar energy lease can be financially rewarding. However, the financial benefits of leasing land to a solar developer is maximized when the landowner diligently conducts their research and negotiates a lease agreement that primarily prioritizes their own interests over the interests of the solar developer.

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