



THE FUTURE IS OURS TO GROW

SHEDDING LIGHT ON SOLAR

A Landowner's Guide to Solar Leasing





OUR STANCE ON SOLAR

The Indiana Soybean Alliance (ISA) and Indiana Corn Marketing Council (ICMC) proactively work with partners to improve opportunities for Indiana soybean and corn farmers.

ISA and ICMC do this through education, promotion and building demand. In accordance with this mission, ICMC and ISA's role on this particular subject is not to encroach upon a farmer's choice involving the use of a his or her land, but to serve as an educational resource when making complicated decisions for a landowner's property.

ISA and ICMC neither support nor oppose the investment of solar facilities for energy production on farmland.

Legal Disclaimer

The following is not intended to be used in place of any legal or financial advice from a licensed professional but rather a reference before beginning the process. It is important to note that a solar energy agreement is a complex and legally binding contract that may have significant, long-term environmental and economic impacts.

Please contact your attorney and any financial advisors before signing any document.

The following information was assembled with the assistance of reputable sources such as the National Agricultural Law Center, the Clean Grid Alliance, Janzen Ag Law, and neighboring state agricultural organizations.



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CHAPTER 1 Introduction to Solar Leasing

As greater emphasis is placed upon finding renewable energy options, farmers may capitalize on these opportunities by entering into utility-scale solar energy lease agreements with renewable energy developers. However, it is important to realize that these agreements present both benefit and risk to Indiana farmers and landowners alike.

The purpose of this guide is to provide an unbiased resource for farmers so they may consider both the pros and cons of these agreements.

1.1 Solar Power Generation 101

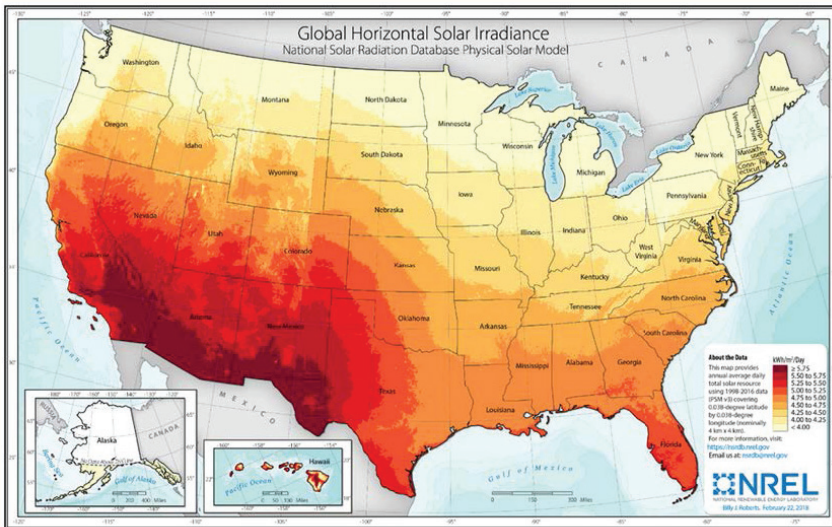
Solar projects are typically categorized as one of two classes, photovoltaic (PV) or concentrating solar power (CSP). These classifications are based on how they leverage the sun to create electrical power. PV cells directly translate sunlight into electricity while CSP first converts the sun into heat before generating power.

PV systems are the most commonly found in utility-scale agreements and are designed to generate more than five megawatts of electricity. The systems then connect to a substation so that the voltage may be raised before sending the energy directly to the transmission grid. The development of utility-scale PV solar consumes approximately five acres per megawatt generated and averages at least 25 acres per project.

1.2 Site Selection & Land Needs

While Indiana is not known for its long sunny days like other states, such as California and Florida, the variety in its geography offers many opportunities for solar expansion. There are many considerations that developers must look at when finding a new site for solar energy development. The three most important factors being solar potential, proximity to transmission lines, and the physical terrain.

- **Solar potential** – Areas that have continuous access to bright and abundant sunlight are the most attractive to solar developers. Solar potential is measured by the PV solar industry using Global Horizontal Irradiance (GHI). By referring to the National Renewable Energy Laboratory's Global Horizontal Irradiance map below, you can see Indiana has an annual average total daily solar value of 4.00-4.50 kWh/m²/Day.



zoning ordinances. It is important to encourage landowners to assert their private property rights and the ability to make business decisions that fits their needs, instead of one size fits all government mandates. To that end, as business partners, developers typically offer opportunities to answer questions from landowners and community members, and seek open lines of communication throughout not only the development process, but also the construction and operations stages of a project.

1.4 Advantages of Entering into Solar Agreements

- **Proximity to Transmission Lines** – Current and future infrastructural investments are also a limiting factor. Therefore, developers seek land that is near already existing, higher voltage transmission lines and substations. If transmission lines are not close by, more land and monetary investment will be needed for further development.
- **Terrain** – For ease of construction, flat areas with less than three percent slope and minimal obstructions (trees, hills, wetlands, etc.) are preferred.
- **Financial Benefits** – Solar is a cash crop that helps farmers and landowners diversify their income portfolio and ensure the reliability of their livelihood. Unlike many agricultural crops in the Midwest, renewables can be harvested all year long. Plus, wind and solar are drought-proof, high-yield land outputs that can produce for decades at a time without expenses on fertilizers, pesticides and irrigation.
- **Community Economic Benefits** – Solar farms stimulate the economy. According to the Solar Energy Industries Association, as of the 3rd quarter of 2023, total solar investment in the State of Indiana was \$2.7 billion as of the third quarter of 2023. Indiana ranks 16th for total installed solar capacity. The American Clean Power Association reports that clean power projects provided \$29.7 million in lease payments to landowners in 2022. As the industry grows, this source of revenue will increase, supporting local programs and infrastructure for decades to come.

1.3 Community Relations and Developer Expectations

A developer typically involves willing landowners during the permitting process to ensure the local permitting authority understands the support for the project. In Indiana, this usually means the developer will invite landowners to attend meetings with the local Board of Zoning Appeals, Plan Commission, and the County Board of Commissioners, depending on that county's

Spotlight on Land Use

An average of between 7 and 10 acres of land is required to produce one megawatt (MW) of electricity from solar energy. Indiana has 2,299 MW of solar installed, occupying approximately 16,000 to 23,000 acres of land. This accounts for less than 1% of the state's 14.8 million acres of farmland.



- **Renewables** also create good-paying jobs for community members, helping local economies thrive. Solar photovoltaic installers are among the top five fastest growing occupations in the United States, according to the U.S. Bureau of Labor Statistics. These jobs can also bring families together, drawing younger generations back to rural communities or family farms as opportunities and local amenities increase.

1.5 Land Use Tradeoffs & Opportunity Costs

Restriction of Land Use

Utility-scale solar projects generally will restrict the landowner's ability to use the property where panels are installed. However, many projects are seeking out and incorporating agrivoltaics, meaning the dual use of the sun for panels and some kind of agriculture. This could be anything from encouraging pollinators with native plants, to herds of sheep grazing on grasses around the panels, to growing crops between and under the panels. Any agrivoltaics project will require negotiation with the solar operator to ensure the panels remain secure, but it presents a way to retain the traditional agricultural nature of the property while providing a possible second stream of income for the operator and landowner.

Large scale solar projects are typically surrounded by fencing to maintain security and prevent unauthorized access. However, landowners can negotiate for access to the land to pursue agrivoltaics or to inspect the property. Hunting, however, will not likely be allowed on a solar project.

Liability Risk

- Liability insurance requirements for landowners and lessees vary based on contract language and situation. Solar leases typically provide that the solar operator will maintain insurance which names the landowner as an additional insured.
- These are some common liability concerns for landowners considering solar energy leases:
- Who is responsible for damages or injuries during solar array construction? Most contracts include language explaining

that the solar company will indemnify the landowner from any claims arising out of the solar company's negligence or willful actions. Some contracts will also include an indemnification agreement for any claims related to the solar project itself, with exceptions for claims based on landowner's negligence or willful actions.

- Is the landowner liable for injuries to solar energy company employees maintaining the equipment? Generally, no—the solar company will protect the landowner from this type of injury unless it was caused by something the landowner did, but landowners should review the solar agreement language regarding liability and indemnification.
- Who is liable if damage to the solar equipment occurs from other property users (hunters, custom equipment operators, loggers, agency personnel, farm employees, etc.)? Generally, the landowner will be responsible for damages caused by his or her own agents (tenant farmers, employees, etc.). The solar company will be responsible for any damages caused by its agents (employees, subcontractors, etc.). Third parties unaffiliated with landowner or solar company should be responsible for their acts.
- How could indemnification clauses in the lease expose the landowner to future liability? Landowners are usually asked to indemnify the solar company against any damages caused by the landowner's own negligence and for any conditions occurring on the land prior to the lease beginning.

Landowners should consult with attorneys, insurance professionals and other experts to measure potential liability risks from a solar energy lease.

1.6 Varied Long-term Effects on Land

Due to the long-term nature of the agreements, entering into a utility-scale lease agreement may have either a net benefit or cost to your soil and water quality depending on the pre-existing practices on your operation.



CHAPTER 2 Initial Considerations

Farmers earn their living from their land. Consequentially, they are very good stewards. Renewable energy provides a variety of benefits to the landowner, the community and the environment as well. These considerations are all important when deciding to lease land for solar.



2.1 Personal Considerations

It's no secret that the way land is used has an impact on all aspects of life for those that own it. That's why it is vital to recognize that farmers and landowners that lease their land for solar developments are making a personal choice. Regardless of whether the decision is based on the desire to diversify their personal income stream, fulfill the renewable energy demands of utilities, corporate purchasers and their customers, or even help meet the carbon reduction goals of a local community, a landowner has the right to make decisions about how their land is used.

2.2 Legal Considerations

Before entering into a utility-scale solar energy agreement, a landowner should look at the entire scope of their operation and make sure the proper documentation is in order. Solar agreements may be presented as a lease or an easement, but the details are generally the same.

- **Title and Ownership** – A clean land title is required before signing a solar agreement. Since joint ownership of land is common with farmland, each legal owner of the land must consent to the agreement before beginning the project. The solar company will conduct a title search to ensure the correct names are placed on the contract.
- **Letter of intent** – A letter of intent may be required at the beginning of the project. Reserving the land for a particular developer's use, the document typically limits the landowner's right to negotiate with other developers in exchange for a payment. Therefore, it is important to thoroughly research the company and review the details of the letter before signing. These letters are not always used in solar developments.

- **Structure** – Most solar development agreements include several phases: an initial investigation phase, a period of construction, the operations period (with potential extensions), and then a decommissioning timeframe. The landowner generally can continue to farm the land during the initial investigation period and will receive a small annual payment during the initial period from the solar company. There are different ways to achieve this common phased approach. Sometimes, a landowner will be asked to sign an option agreement. The option term gives the solar company time (usually 1-5 years) to research and study the land to determine whether it is appropriate for solar development (and line up adjacent acres, if possible). The option may attach the actual lease or easement as an exhibit, meaning the landowner should review both the option and the agreement at the same time. The other typical arrangement is for this initial investigation period to be a part of the lease or easement itself. Thus, all the phases of the project can be included in one agreement. The solar company is not obligated to construct the solar development on landowner's property, but the agreement gives the company the right to build the solar farm if the investigation confirms the land fits the solar developer's requirements.

Landowners should feel empowered to negotiate at each step of the process while recognizing that negotiating parties are each looking out for their own interests. Farmers should work closely with their lawyers to understand their rights throughout and to negotiate for the agreement terms most important to the landowners.

2.3 Tax, Policy & Government Program Considerations

Changing land uses may impact property tax assessment rates. Generally, the land underneath a solar farm does not qualify for the agricultural land use tax rate, so it will be assessed as something other than agricultural (i.e., commercial, industrial, or it may fall into a new local category such as solar). This may change if a solar farm adopts large-scale agrivoltaics (the dual use of land for solar energy production and agricultural pursuits, such as sheep grazing or modified row crops).

Local assessors are given latitude when assessing land under Indiana Code § 6-1.1. Changes in tax rates are related to state and local land use laws and zoning. Attorneys and accountants familiar with state and local land use and tax laws can help landowners understand possible impacts of solar energy leases upon property tax rates and allowable land use. Landowners should include language in their contract that the solar company will be responsible for any increase in property taxes due to the construction or use of the solar farm. The landowner therefore may remain responsible for the underlying property tax assessment for agricultural ground, but any increase or re-assessment will be the responsibility of the solar company. The Indiana legislature could also change laws which impact property tax assessment of utility-scale solar energy installations.

Solar energy development could potentially impact land conservation program contracts. Discussions with local or regional United States Department of Agriculture (USDA) personnel can provide landowners with additional information and insights about these potential impacts.





!! ATTENTION !!

The following information highlights the BEST practices used by “good players” in the solar industry. A landowner should ensure that the below concepts are addressed in the lease or contract presented to them by the developer and consult their lawyer and financial advisors before signing anything.



3.1 Compensation

On agricultural land, there are four stages of compensation in most solar agreements - the initial development term, the construction term, the operating term, and the decommissioning term. The initial development term is generally for a lower dollar amount because the landowner can continue to farm or use the land while the solar company investigates the property for possible solar development. The terms of the solar agreement, including monetary compensation, remain in force regardless of who owns the solar facility or who owns the land (e.g. if the facility owner sells the facility to another solar operator or the landowner's children inherit the land). The agreement should include an escalator clause so annual payments increase with inflation.

Crop Compensation

Most developers agree to pay compensation for crops on any portion of the property that are either taken out of commercial production for a season because of the construction of the solar facilities, or that are removed or damaged as a direct result of construction of the solar facilities. The compensation should be equal to the fair market value of the specific crop. If the landowner has a farmer tenant, the compensation should be enough to compensate the tenant for early termination prior to harvest. The equation to calculate crop damages should be specified in the solar agreement so there can be no dispute later on about how lost crops are compensated. Some developers will also agree to pay for inputs the landowner paid for and used while getting the ground ready to farm, depending on the timing of the commencement of construction.



3.2 Lease Length

A lease period must be of sufficient length to recapture the project's costs and return an acceptable profit to project investors. A developer will likely insist on a lease term that is equal to the contract they have with the utility (sometimes called a "power purchase agreement" or "PPA") to ensure access to the site for the length of the PPA.

Leases typically last between 20 and 50 years, often consisting of an "initial" or "primary" term (about 20-30 years) followed by options to renew the lease for additional years at the developer's discretion. While it may be difficult to get initial terms in smaller increments, there may be opportunity for negotiating the terms of lease renewals. Landowners should analyze the duration of the agreement carefully, accounting for not only the primary term but also for any renewal periods as well. Assume for the sake of discussion that the developer will execute any and all renewals to which they may be entitled.

Due to lease length, entering into a solar energy agreement may impact estate plans. Landowners may need to involve successors in discussions about the agreement as part of their succession planning efforts.

3.3 Operations & Maintenance

In almost all instances, the solar developer will be responsible for the operations and maintenance of onsite infrastructure during the project term. The solar developer may hire subcontractors to mow, spray, and maintain the premises. Some developers are willing to entertain bids from the landowner to conduct this maintenance. Developers may also subcontract for agrivoltaics projects such as solar sheep grazing, maintaining pollinator fields, or caring for bee hives. Responsibility for the upkeep of the property included under the panels and surrounding the fenced-in area should be clearly laid out in the contract.

3.4 Taxes

As noted above, the developer should be responsible for property taxes assessed on the project infrastructure itself, as well as any rollback taxes or increases in taxes due to change in land type. These taxes provide economic stability for communities

that host solar projects, creating opportunities to improve local infrastructure or invest in other county projects. Counties may enter into economic agreements with solar developments for tax abatement or road use maintenance. These agreements usually do not impact the landowners, but rather are negotiated between the local municipality government and the solar company. Landowners involved in the project may, however, want to familiarize themselves with the government's agreements.

3.5 Decommissioning - Solar at End of Project Term

A solar agreement should detail a decommissioning plan for the solar project. Some county ordinances also require decommissioning plans to ensure the land is left in good condition at the end agreement. Decommissioning plans should also include a financial assurance in the form of a bond or escrow account in an amount sufficient to cover the costs of decommissioning the project. This bond should be required to be in place at the beginning of construction. The amount, like compensation, should increase over time to keep pace with inflation. Landowners should ensure that decommissioning plans include what happens if the developer experiences financial hardship such as bankruptcy, or if the project were to end prematurely for any reason.

The decommissioning plan should require the solar company to restore the land at the end of the agreement. This includes removing infrastructure to a certain depth, repairing or replacing damaged drainage tiles, restoring topsoil, and planting groundcover to prevent erosion. The decommissioning activities should restore the property to a condition reasonably similar to its condition at the time the agreement is signed. The agreement should provide that if the facility owner fails to remove the panels and restore the land as provided in the decommissioning plan, the landowner (or the county) has the right to use the security bond funds to remove the panels and restore the land.

The solar agreement should include rental payments during the decommissioning period since the landowner will not be able to farm or otherwise use the property while decommissioning activities are occurring.



CHAPTER 4 Frequently Asked Questions

Farmers earn their living from their land. Consequently, they are very good stewards of it. Renewable energy provides a variety of benefits to the landowner, the community, and the environment. These considerations are all important when deciding to lease land for solar.

4.1 Impacts on Current Property Use

How much land will a solar installation occupy?

To maximize efficiency, a developer will likely seek to install as many solar panels in an area as possible so long as they do not cast shadows on each other and thus reduce their efficiencies. While solar energy projects may have a smaller overall “footprint” than a wind energy project, they occupy a greater percentage of that footprint than a wind energy project.

Landowners should work closely with the project developer in the design of the project. After the development phase, the solar company may decide to move forward with panels and other infrastructure on only part of the landowner’s property. The solar agreement should specify how much of their land will be considered “inside the fence,” and therefore receive the per acre rental payment. Many landowners want to set a minimum number of acres to be included and/or a requirement that any acres not selected for the project be accessible with farming equipment.

Landowners should reserve the right to use the property for agricultural, recreational and other uses to the extent possible. From the landowner’s perspective, such a reservation should be broad while still allowing the developer the rights necessary to construct, operate, and maintain the project. Similarly, landowners should be careful not to grant away access to other resources on the property without fair compensation. Some solar agreements may attempt to give developers free access to water, rock, and other materials without any additional payment to the landowner. Landowners also should be compensated for granting of access easements across other parcels not included in the bounds of the project.

What if my land is contracted under a governmental program?

The landowner’s participation in governmental programs can have an impact on the use of the property for solar energy development. Several USDA programs such as the Conservation Reserve Program (“CRP”), Environmental Quality Incentives

Program (“EQIP”), the Grassland Reserve Program (“GRP”) and other common programs for landowners require participants to have multi-year contracts and plans for the use and maintenance of the land under contract. Constructing solar power equipment on such lands in violation of those contracts or plans could cause landowners to forfeit future payments, return of past payments, or even pay penalties.

If project lands are any under USDA program contracts, the appropriate agencies should be contacted to discuss integration of the project under the contract plans or an amendment of the government program agreement before execution of the solar energy agreement. Landowners should negotiate agreement language providing that the developer will compensate any loss of revenues from such programs caused by the solar power project and pay any penalties assessed.

4.2 Solar in Our Surroundings

Does solar reflect light onto neighboring properties?

Even though they look somewhat shiny, PV solar modules must absorb light rather than reflect it. Any reflected light cannot be converted into electricity, so solar panels are designed to ensure minimal reflection.

Does solar make noise?

Though tracking motors and inverters may make a soft humming sound, this noise is inaudible from 50-150 feet outside the solar enclosure. Noise associated with solar panels is limited to their construction and removal.

Does solar impact property values?

Large solar projects often have no negative impact on property values. In some cases, they may even have tangible positive effects. Proximity to solar farms does not negatively impact the sales of agricultural or residential land or deter its purchase.







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