

**LEX HELIUS: THE LAW OF SOLAR ENERGY**  
**—Solar Project Property Rights: Securing Your Place in the Sun—**

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Developing and operating a successful solar energy project requires more than having the latest solar technologies. Low-maintenance, high-return projects start with leases and easements that ensure long-term site rights, undisturbed access, exposure to solar rays, and offer flexibility for project modifications based on rapidly emerging technologies. The form and substance of solar leases and easements vary based on the type of system (Photovoltaic (“PV”) or concentrated solar power (“CSP”), for example), the type of installation (rooftop or ground-mount), and the type of landowner or host (not-for-profit, commercial, residential, or utility scale). In light of these and other variables, this chapter focuses on a few common but key issues: establishing the scope of rights and property under a site lease, easement, or government right-of-way; addressing critical title problems; and addressing water rights, statutory solar easement requirements, and other property matters.

**I. Distinguishing Land Rights and Identifying Project Needs.** Among the first steps in developing a solar project is securing rights to construct, operate, and maintain the project. Typically, site rights are established through a lease or easement agreement. In order to maintain the deductibility of land cost for federal income tax purposes it is usually best not to acquire the fee for the project entity. For large, utility-scale CSP projects, however, purchasing fee title to a parcel may have economic and water rights advantages. Project counsel should also be mindful of the relative advantages and disadvantages of leases and easements in various states. These issues can range from differences in tax treatment to nonrecognition of easements for possessory uses. For rooftop PV systems and small-scale ground-mounted systems, an easement agreement offers secure use rights to property or buildings that are also occupied and used by others. Large-scale PV and CSP projects may be better served by leases that secure exclusive occupancy for the project. Project developers should examine their project needs in terms of spatial requirements; exclusivity; the distribution, transmission, or use of the power generated by the project; energy storage; and resource demand (such as water, surplus power supply, and thermal energy storage).

**A. The Solar Project Property Agreement.**

**1. The Purpose and Scope of the Interest.** Lease agreements provide the broadest occupancy and use rights for a project site because they give the developer the right to possess and use the property undisturbed by the landowner or third parties. Typically the developer does not share the property with any other occupant, and the developer has unrestricted access to and from the property. Lease agreements are ideal for CSP projects and ground-mounted PV systems when the landowner conducts only minimal activities on the property, such as grazing or minor agriculture, or when the property is unoccupied. On the other hand, leases may be less suitable for certain rooftop PV systems or shared spaces (*e.g.*, garages and parking lots), because the developer/project entity is not the only occupant of the space. In these situations, a lease that gives the developer control of the site, and the coextensive responsibility for the site, may exceed the needs and comfort level of many developers.

Easements can be ideal agreements for rooftop and smaller-scale PV projects when the project developer and the project share a larger space with the landowner or third parties. An easement is a real property interest whereby the landowner grants to the developer a right to use the property in a form which cannot be revoked and which can be pledged as security for financing. An easement secures to the developer a right to the property and is defined by a scope of use, exclusivity (or nonexclusivity), a term, and certain responsibilities and rights of each party to the easement. As it lacks these characteristics, a license or revocable permission to conduct an activity on the property is unsuitable for confirming project site rights.

Easements are well-suited for rooftop or shared-space installations because they enable the developer to use a portion of a larger piece of property or building, and limit the developer's responsibility for areas outside of its use.

2. **The Scope of Property Subject to a Solar Project Property Agreement.** A developer of an expensive and sensitive solar power system will typically seek to maximize the amount of land subject to a lease to protect the system from dust, dirt, debris, and vandalism and to provide flexibility in selecting the precise location for the system and any ancillary facilities. However, unlike wind projects and some ocean and tidal projects, solar projects are land-intensive. A typical wind project uses, on average, one acre to produce one megawatt of energy. A wind developer might lease a 50-acre parcel, use 10 percent of it, and assure the landowner that it may freely use the remaining portion for agriculture while profiting from the wind power produced on the land. On the other hand, solar projects can require up to five acres for every megawatt produced, leaving the landowner with less open space for its own use and, consequently, greater motivation to limit the amount of land subject to the lease agreement and a greater expectation of rents from the project.

3. **Potential Resolutions to the Scope of Land Requirements.** In utility-scale solar projects, there are few alternatives to leasing large amounts of land and retaining exclusive control over those lands for the life of the project. Unlike wind development projects, in which the landowner retains the right to farm and use the property not occupied by wind facilities, solar projects may take large amounts of land out of agricultural or other active use. To ensure the cost-effectiveness of large-scale projects, developers will want to seek out lands with low agricultural or mineral value, and research the value of the land and its potential uses to negotiate a lease that provides income to the landowner while maintaining profit margin for the prospective project.

When it is not possible to select land with low alternative-use value, resolving the possible conflict regarding the amount of land subject to a lease agreement will likely involve structuring payment terms under a scheme that ties lease payments to the amount of land used and the amount of energy produced by the project. In addition, other devices may give the landowner comfort that the developer will minimize the project's impact on the land and make available any unused space for other uses by the landowner. For example, a lease may provide:

- A minimum annual rent payment based on the amount of acreage under the lease. In an agricultural area, this rent may be based on the land's agricultural value.
- A megawatt-based payment if the energy produced by the project exceeds the minimum annual rent payment, so that the landowner reaps the rewards of the sun but is not penalized if it is cloudy for months.
- A provision whereby the developer consults with the landowner during the scoping stage regarding the location of the project and its related facilities. Consulting with landowners goes a long way toward assuring them that their land will be used efficiently and in the least intrusive manner possible.
- A phased approach to development in which the developer leases a large amount of land but then releases lands that are not necessary for the project.

4. **Easements: Project-wide and Ancillary Rights.** The benefits of an easement for a rooftop or ground-mounted system project may be the same as its drawbacks because the developer does not

exclusively possess the right to the property. An exclusive easement will give a developer the sole right to use a portion of the landowner's property, but when a project is located on a roof or over a parking garage, in order to protect the developer's investment, the easement must also ensure that the landowner and third parties will not interfere with the developer's use. Key components of a solar project easement include, among others:

*A Specific Term.* Traditionally, easements are perpetual in nature (for so long as the allowed use continues), whereas leases are established for a set period of time. Developers using an easement will want to incorporate a term of 20 to 30 years, as they would under a lease.

*A Right to Install Fixtures and System Equipment.* As with a solar project lease, an easement should include explicit rights to install system equipment and related fixtures that remain at all times the property of the developer. The right to use a rooftop or a portion of land is not worth much without the right to install the necessary equipment on that property.

*A Clearly Delineated Scope.* Rooftop projects and projects sharing common boundaries with unrelated facilities (for example, box stores, parking lots, and garages) may require only portions of the building for the actual project, but the developer and its installer will need access to and from the project area, construction equipment areas, and utility rights. These rights should be clearly delineated in the agreement to protect the developer's investment and put others on notice that even if the store is closed or a stairwell is off-limits to the public, the developer's rights to access and use those areas are secured.

As part of the scoping of a project in a shared-use situation, developers will want to give careful consideration to the myriad uses and needs they may have throughout the periods of resource assessment, construction, operation, and maintenance of a project. Construction, ongoing access, and the right to move, repair, and replace equipment are just a few of the considerations to take into account when crafting an easement for the life of a project.

For projects using a lease agreement, that agreement should also include access, transmission, and other rights to use the property. Developers should work with the landowners to create mutual non-interference provisions and establish access and use rights that protect the developer's project while accounting for other ongoing uses or needs of the property.

Finally, with rooftop and parking structure installations come certain considerations not applicable to isolated and secured system installations. Project site agreements should account for damage to systems from vandalism or from the landowner's invitees or others; responsibility for roof or parking lot maintenance, including any costs associated with resultant system shutdowns; and ongoing access to sunlight. (See also, [Section III.B](#) below.) These and other considerations should be part of the early scoping and project planning stage of development.

**B. Alternative Land Rights: Fee Interests; Federal and State Lands.** Utility scale CSP and PV systems are uniquely suited for large swaths of flat land. In fact, with current technology, the slope of most project sites should not exceed 1 percent. Relatively flat, wide open spaces in areas with plentiful sunshine call to mind the American Southwest and the plains states (western Kansas, eastern Colorado, Nevada, Arizona, New Mexico, and western Texas). These lands are frequently owned by private landowners, but more often they are owned by the federal or state government, or they are Native American tribal lands.

State and federal lands are the jurisdiction of the departments of state lands and the Bureau of Land Management, respectively. Each state and the federal government has a unique scheme for leasing or licensing its public lands. Many of these departments are well-acquainted with granting grazing or mineral rights, but the installation of

large-scale solar projects is, at present, foreign to many of them. Developers should explore the various schemes available from the state or federal government for the land at issue.

The Bureau of Land Management has adopted regulations specifying procedures for obtaining site rights, called Right of Way Grants. The regulations allow resource assessment, construction, and project operations. They provide for project specific rent (based on appraisal, with a phase-in period during project development) and terms of the grants (generally not to exceed 30 years). Applications are processed on a “first-come-first-served” basis, with the possible exception of applications for sites within areas subject to study as best suited for solar energy development (which may be allocated competitively). The process includes BLM consideration and approval of a detailed Plan of Development for each project and full environmental review in compliance with the National Environmental Policy Act. BLM’s informational memorandum on Solar ROW grants may be found at: [http://solareis.anl.gov/documents/docs/BLM\\_Solar\\_IM2007\\_097.pdf](http://solareis.anl.gov/documents/docs/BLM_Solar_IM2007_097.pdf).

Each option for securing site rights on public lands should be examined, and any potential drawbacks based on time, lack of exclusivity, and costs should be evaluated to ensure that the project’s long-term value is maintained and that the investment is protected from vandalism, potentially disruptive uses (shading!), or other interference during the life of the project.

Leasing or obtaining a right-of-way on Native American tribal land is an attractive possibility in the American Southwest where wide open spaces with a steady supply of solar radiation are the norm. Developers should be aware that leases and rights-of-way on Native American tribal land require approval by the Bureau of Indian Affairs (“BIA”), and any agreement that encumbers tribal land for a term of seven years or more also triggers BIA review. Projects sited on Native American tribal land are also subject to federal environmental and other statutory review requirements. For example, projects on Native American tribal land will almost always require an environmental assessment under the National Environmental Policy Act. Thus as part of the initial siting evaluation of a project, developers should assess sacred sites (including burial grounds, native plant harvesting areas, and ceremonial locations). Developers should consult with the tribe itself regarding unique or archaeological resources on the proposed site because each tribe is in the best position to evaluate and determine which sites have cultural relevance and to weigh the potential issues associated with leasing such lands for solar projects.

When exploring potential projects on Native American tribal land, as with federal lands, developers should account for the time that likely will be involved for federal agency review and approval, plus any associated environmental and cultural resource studies. These may add significant cost and time to a project’s development period and construction. Attorneys, local staff, and tribal contacts who are knowledgeable in tribal land leasing requirements and the intricacies of permitting and siting projects on particular tribal land are invaluable resources for navigating the statutory requirements and any review or permits that are specific to the land at issue.

**II. Overcoming Title Roadblocks.** Securing an interest in property for a solar project requires more than just a signed agreement. If a rooftop or utility scale project site is encumbered by existing leases, easements, mineral rights, or other exceptions to title, the project developer takes its interest in the land or site subject to those existing rights. If title to the land were to fail after construction of the project, a developer could face significant losses and defense costs. Consequently, the savvy developer should request and obtain a search and examination of the title to the lands on which a solar energy project will be sited, and purchase a policy of title insurance representing the amount of its investment in the project. A survey of the land is also advisable. These principles apply equally to a new acquisition or the financing of an existing solar energy facility.

**A. Title Reviews.** It is always necessary to obtain all documents in the public record relating to the proposed project lands to (1) determine the person or entity vested with title, (2) determine whether the title is subject to liens or mortgages that create unacceptable risks to the solar project, and (3) discover all defects or other encumbrances, such as easements for utilities, road rights-of-way, mineral and timber rights, or other interests held by people or entities other than the landowner that might prevent construction or operation of the project as planned. It is critical to obtain the title information as soon as possible and review it thoroughly to make certain that all interests of record are discovered, disclosed, and analyzed carefully. Insurable title to the lease or easement is a key factor in project financeability.

**B. Determining Whether to Undertake Curative Measures.** Once all of the information contained in the preliminary commitments for title insurance have been reviewed, it is necessary to cull those title issues that must be corrected or cured from those that will not impair the vitality of the project and therefore may be permitted to remain on the title. If a leasehold or easement interest is obtained from someone claiming to own the land, when, in fact, the fee simple title of record is vested in another, the title company will require correction of the title before a policy can be issued. Most often mortgages must be addressed in some manner that will permit the lender's interest to coexist with the project. Easements or rights-of-way can also be problematic for on-the-ground solar projects—some must be adjusted to allow construction of the proposed project, whereas others may not create a risk to the project at all.

**C. Curing Title Defects.** The best start to the curative process requires selecting and preparing documents based on each type of title issue. For existing mortgages on the property, developers should work with their attorneys to evaluate whether a subordination agreement is required, or if a nondisturbance agreement will suffice. For existing easements, the developer should evaluate whether a consent and crossing agreement is necessary, or if the easement holder will modify its easement to allow the solar project or related facilities to cross or overlap its easement area.

A utility, a lender, another landowner, or some other person or business with an interest in the title to the project property may not always be interested in helping to solve the developer's title problem. Some may just as soon not return a call and may avoid dealing with the matter entirely. Nevertheless it is critical to secure their attention to the issue in the most nonthreatening manner possible. Parties with a legal interest in a project site may affect or be affected by the project for the long term. Initiation and maintenance of good relationships with such parties may solve and avoid problems during development and throughout the project's life.

**D. Mineral Rights.** Mineral rights may be uniquely challenging for developers of utility-scale projects. Projects that require large areas of land or several different lots may share those lands with existing mineral rights holders, such as oil and gas companies, railroads or their successors, or other persons or entities, including governmental bodies.

Broadly speaking, the term "mineral rights" refers to the privilege of earning income from the sale of oil, gas, and other valuable resources found under the surface of the land. Note that mineral rights are rights to whatever is below the surface of the land, and do not indicate that the mineral owner also owns the surface of the land. Indeed, the mineral rights owner has the superior right to use as much of the surface as is reasonably necessary to extract the minerals ("surface rights"). Absent release, waiver, subordination of mineral rights by its holder or an agreement not to interfere with the solar project operations, the presence of mineral rights is an obstacle to project financing. It is often possible, however, to insure title around mineral rights which are shown to be ancient, untraceable, or otherwise abandoned.

On occasion, the holder of mineral rights may be willing to relinquish its surface rights for compensation. One option is to enter into a long-term lease under which the mineral owner waives surface rights in exchange for a royalty based on project revenue, similar to leaseholder rent.

### III. Other Potential Property and Land Issues.

**A. Water Rights for Concentrated Solar Power Projects.** Water requirements for CSP projects require careful consideration and planning. When a project is located in a semidesert or desert environment, the solar radiation is plentiful, but water may be scarce or severely limited. Savvy project developers should give early and careful consideration to potential sources of water. A few of the critical questions to ask include:

- Is there a source of water currently in place on the property—a surface source (such as a river or canal), a municipal source, or a groundwater well?
- If there is no surface source, is water available from an aquifer or from a local source?
- What water laws and restrictions will affect the ability to obtain water for the project?
- If a well or surface diversion is required to bring water to the project, what water rights or licenses are needed and how much time is needed to obtain those rights?
- What are the ramifications of water use for permitting and environmental review of the project?

A clear understanding of a project's water needs, the availability of water at a project site, and the time and cost involved in obtaining water is essential to establishing a project's construction and operation timeline, budget, output, and, ultimately, its feasibility.

**B. Access to Sunlight: State and Local Government Laws.** Approximately 34 states have presently passed laws or taken measures to promote the installation and use of solar energy systems. The states have two primary mechanisms for ensuring that the “green” property owner can access sunlight to operate the system:

1. Allowing neighboring property owners to voluntarily grant solar easements that, like any other property right, must be documented and recorded in accordance with local requirements; and
2. Outlawing the imposition of prohibitions on the placement of a system in a community, and of unreasonable restrictions on the placement of facilities such that their installation, operation, or functionality is adversely impacted.

Any grant of a property right must contain certain legal elements no matter where the property is situated. Many states require the grant of easement to describe the dimensions of the easement, the estimated amount of sunlight directed to the system, any permitted shading by vegetation and other plantings, the corresponding reduction in access to sunlight, and any proposed compensation to the grantor of the easement. The solar easement must also contain any state-specific requirements. A state's focus may be affected by weather, terrain, or the character of the area. Some states and/or local governing bodies can be height- or design-sensitive (California, Colorado) or locale-sensitive (Hawaii), or may focus on visibility and placement (North Carolina), orientation (Wisconsin), zoning (Rhode Island), or setback issues (Oregon). Any terms or conditions for revising or terminating the easement should be included as well. The contracting parties may include their own remedies for breach of the easement,

allowing a court to order any interference with the system to stop, and awarding damages for the capital cost of the system, any additional energy charges caused by the breach, and attorneys' fees and costs.