



Anatomy of a Solar Lease: Key Differences from Wind

By Eugene Lerman

Solar leases are sometimes described as simpler versions of wind leases. The comparison is understandable. Both involve long term site control, rights to develop, construct, and operate project facilities, noninterference provisions, lender protections, and other terms required for project financing. In our practice, we see developers adapt wind lease forms for solar, and vice versa, sometimes without fully accounting for the operational and economic differences between the two project types.

Despite those similarities, solar projects often require a different approach to land use, compensation structures, and surface control than wind projects. Those differences reflect the physical realities of how solar facilities are designed, financed, constructed, and operated.

Some of the most important distinctions involve how landowners are compensated, the degree of surface control solar projects require, and how the agreements address mineral development and other activities that could interfere with the project. Solar lease forms also need to satisfy the requirements of lenders, tax equity investors, title companies, and prospective purchasers, whose review may occur years after the original agreement is signed.

These distinctions matter when developers work across technologies or adapt forms for a different project type. A form that worked well for a wind project may need changes to its payment terms, surface rights,



and mineral provisions before it is suitable for solar.

Adapting Forms for a Different Technology

Forms developed for one technology are sometimes adapted for another without fully revising the provisions that reflect how the original project uses the land. Changing facility names and definitions in a wind lease does not necessarily produce a suitable solar lease. The developer also needs to review the payment provisions, the surface rights granted, and the terms that buyers and lenders will rely on when the project is sold or financed.

Wind and solar projects share many development needs, but their land use and payment arrangements often differ. A form that retains wind payment provisions, grants insufficient control over solar surface uses, or leaves mineral issues unaddressed may appear acceptable during initial negotiations. Those problems may become apparent only when the layout is finalized or the agreements are reviewed for financing, acquisition, or construction.

The lease needs to reflect how the particular project will use the property and what rights it will need. Including familiar renewable energy provisions is not enough if those provisions do not fit the proposed facilities and operations.

The Basic Structure of a Solar Lease

Most solar lease structures follow a familiar progression consisting of an option or development period, a construction period, and a long term operations period.

The option or development phase allows the developer to secure site control while evaluating project feasibility. During this stage, the developer typically conducts environmental reviews, geotechnical testing, title analysis, interconnection studies, survey work, permitting diligence, and other development activities necessary to determine whether the project will move forward. Solar lease forms commonly grant access rights during this phase to allow for testing, engineering, and preliminary site planning.

If the project advances, the lease transitions into a construction term during which the developer constructs the project and associated infrastructure. That infrastructure may include solar arrays, transmission facilities, roads, substations, and operations and maintenance buildings.



The operations term then governs the long term operation of the project, often for thirty to forty years with extension rights in favor of the developer.

Many of these structural concepts, with variations based on facility type such as wind turbines versus solar arrays, are shared with wind leases. The more meaningful differences arise from how solar projects physically interact with the land itself.

Solar Projects Typically Use Simpler Payment Structures Than Wind Projects

One of the clearest differences between solar and wind leases involves compensation structure.

Wind leases frequently provide separate payments for particular facilities or amounts based on project production. Depending on the market and project structure, wind agreements may include production royalties, turbine payments, transmission line payments, road payments, meteorological tower fees, substation payments, and payments for other project uses.

This complexity largely reflects the dispersed nature of wind projects. Wind turbines occupy relatively small portions of large tracts, and individual turbines can have materially different production profiles or operational significance. Wind projects also frequently preserve ongoing agricultural use across much of the project area, which can lead parties to compensate particular facilities, corridors, and impacts separately.

Solar projects generally function differently.

Most solar facilities occupy large, contiguous fenced areas containing panels, collection facilities, roads, and related equipment. The lease generally needs to secure use of that area as a whole, rather than compensate separately for each panel or facility. Solar payment provisions are therefore often simpler than those in wind leases.

Solar leases more commonly provide fixed annual rent based on leased acreage, fenced acreage, or another designated project area, rather than production royalties or separate payments for individual facilities. During operations, rent is often calculated as an annual amount per acre, with periodic increases specified in the lease.

Fixed rent is easier to administer because the developer does not need to calculate payments from production or revenue figures. Landowners can also determine what they will receive under the lease irrespective of changes in generation or electricity prices, subject to any acreage adjustments and other



terms in the agreement.

Fixed lease payments also give investors and lenders a known expense to include in their financial models. Royalty payments require assumptions about production and, where applicable, electricity prices. The payment structure therefore affects both day to day lease administration and how the project's land costs are evaluated during financing.

Wind leases often compensate for the placement and performance of particular facilities, while solar leases more often compensate for dedicating a designated surface area to project use over a long period.

Surface Control Is Often More Critical in Solar Projects

Although both wind and solar projects require resource protection, solar projects require more intensive control over surface conditions and competing land uses.

A wind project can frequently coexist with significant agricultural activity because the primary operational infrastructure is relatively concentrated around turbine sites, roads, and transmission facilities. Large portions of a wind project area remain available for farming, ranching, or other surface uses.

Solar projects operate differently. Solar facilities often require extensive contiguous surface areas of exclusive use with unobstructed solar access, controlled vegetation, and managed drainage conditions. As a result, solar developers frequently require broader operational control over the leased premises than wind developers.

Solar leases therefore often restrict competing surface uses, shading, vegetation growth, future structures, and other activities that could reduce production or interfere with maintenance and operations.

These provisions are important because even relatively minor interference can materially affect project economics. A future structure, tree line, elevation change, or incompatible surface use may create shading impacts, maintenance complications, or operational impairments that reduce energy production or increase operating costs across a large portion of the facility.

Financing and acquisition models rely on assumptions about the project's expected production and operating costs. The lease needs to protect the site conditions underlying those assumptions, including solar access, drainage, vegetation, and the ability to maintain and replace facilities throughout the term.



Surface Waivers, Mineral Risk, and Financeability

In many active development regions, particularly in Texas and portions of the Midwest, solar lease negotiations increasingly focus on mineral development and surface interference risk.

Solar facilities are often located on large rural tracts where mineral rights may be severed, held by multiple owners, or subject to existing oil and gas development. Mineral operations can interfere with construction, damage facilities, restrict access, impair subsurface support, or create safety concerns. Even where no mineral activity is occurring, rights to future surface use may need to be addressed to satisfy title insurance and financing requirements.

As a result, solar projects frequently require some combination of surface waivers, accommodation agreements, or designated drill site areas to meet title company and financing party requirements. Where mineral coverage is available and applicable, surface waivers or other mineral risk mitigation arrangements may also be important to obtaining acceptable title insurance coverage.

Lenders, tax equity investors, and project purchasers generally expect developers to demonstrate that mineral risks have been sufficiently mitigated before financing or acquiring a project. In many transactions, unresolved mineral risk may become a financing condition or a diligence issue affecting transaction timing. This issue is particularly important in jurisdictions where the mineral estate may be dominant over the surface estate. In those markets, developers often seek affirmative contractual protections designed to reduce the likelihood that future mineral operations will impair project operations or infrastructure.

Solar lease forms therefore frequently include accommodation provisions addressing surface restrictions, directional drilling, subsurface support, and future activities that could interfere with project facilities. Those provisions need to reflect the rights the signing parties actually control and the protections required by the intended buyers and financing parties.

Conclusion

Solar and wind leases share many structural features, but often need different payment terms and land use provisions. Solar projects typically rely on simpler fixed payments, broader control over the leased surface, and more extensive restrictions on uses that could interfere with the facilities. Surface waivers and mineral accommodation agreements may also be needed to satisfy financing and title insurance requirements and protect construction and operations.



Before adapting a wind form for solar, the developer should review how the proposed facilities will use the property, how rent will be calculated, and what surface and mineral rights are needed. Addressing those questions in the initial form can avoid amendments and additional negotiations when the project reaches financing, acquisition diligence, or construction planning.

If you are drafting, reviewing, or negotiating solar leases, evaluating key differences between solar and wind lease structures, or addressing payment, exclusivity, surface waiver, mineral, or financeability issues in connection with renewable energy leases, we would be happy to discuss.

Disclaimer

The information contained in this article is provided for general informational purposes only and does not constitute legal advice. This information is not intended to create, and receipt or use of it does not establish, an attorney-client relationship. Nacelle, PLLC disclaims all liability for damages of any kind arising from the use of, reference to, or reliance upon any information contained herein. You should consult a qualified attorney regarding any matter affecting your legal rights.

Copyright Notice

© 2026 Nacelle, PLLC. All rights reserved. This article and its contents are the intellectual property of Nacelle, PLLC and may not be reproduced, distributed, transmitted, or otherwise used, in whole or in part, without the prior written consent of Nacelle, PLLC, except as permitted by applicable law.