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Energize Your Career: Explore the Development of Large Wind, Solar, and Battery Energy Storage Systems for Real Estate Lawyers to Consider Their Possible Roles

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Every year the winds turn more wind turbines, and our sun shines on more solar panels -- increasing the renewable-fueled electricity powering our lives, communities, and law practices. This paper educates about development stages of large-scale wind, solar, and battery storage projects. The lawyer's client might be a host landowner, project developer, permitting or regulatory body, investor or lender, project contractor/vendor/supplier, electricity buyer, local community member, or business.

Attachment: Checklist of Fundamental Terms in Lease and Easement Agreements with Private Landowners to Host Utility-Scale Solar, Wind, and BESS Projects

TAB 8

Energize Your Career: Explore the Development of Large Wind, Solar, and Battery Energy Storage Systems for Real Estate Lawyers to Consider Their Possible Roles

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"When the winds of change blow, some people build walls and others build windmills."
-Chinese proverb

Every year the winds turn more wind turbines, and our sun shines on more solar panels -- increasing the renewable-fueled electricity powering our lives, communities, and law practices. A real estate lawyer might pass by this infrastructure, or read or hear about this industry, and be curious – could my law practice include working with such projects? This paper educates readers about the development stages of large-scale wind, solar, and battery storage projects, so that a real estate lawyer can then explore renewable energy industry involvement.

I. Introduction to Projects, Development Stages, and Types of Clients and Legal Work

The projects discussed in this paper are large land-based wind turbine projects and solar panel array projects that generate enough electricity for that power to be purchased by public electrical utilities, although sometimes a private business that uses significant electricity buys part or all of a project's electricity. Utility-scale projects often generate over 100 megawatts ("MW") of electricity (100MWs might power 18,000 – 35,000 homes), and many wind or solar projects generate multiples of that – 200, 400, 800 or over 1000 MWs. The land needed to generate 100MWs from solar panels could be 200-1000+ acres. The land needed to generate 100MWs from wind turbines could be 200-4000 acres although only about 6% of those acres will be used for project infrastructure.

Project infrastructure includes the generating units (wind turbines, or solar panels and inverters) and their bases, underground lines connecting generators like a string of outdoor lights to a project substation (a private version of the electrical substations you typically see as part of the public utility grid), and an overhead (or underground if required) private high voltage line to transfer the project's electricity to the public electric grid. Other project components include private access drives, fencing, weather monitoring towers, an operations and maintenance ("O&M") building, lay-down yard, and possibly a battery energy storage system ("BESS"). A BESS looks like several shipping containers lined up next to inverters and an electrical substation, all surrounded by a fence. Roughly 5 acres of land might be needed for a 100 MW BESS. BESS projects can range from 100-1000+ MWs, but often a 10-50 acre site is sufficient for BESS projects.

BESS can also be developed and operated on their own, not connected to a particular wind or solar project. Typically, BESS are located along or near the electric grid so that any electricity from the grid can divert into the BESS to store until needed and then put back on the grid from the BESS.

This paper uses "project" to discuss wind, solar, and BESS, although some of the paper's topics might be less relevant to one or more of these types of projects.

This paper discussed many typical stages for a project to work through the development process until the point of a final decision to construct and operate the project. Many other topics and real estate lawyer roles occur after the development stage - during the construction, operations, and decommissioning stages of projects.

A real estate lawyer's client during the development stage of a wind, solar, or BESS project might be a (1) host landowner, (2) project developer, (3) permitting or regulatory body, (4) investor or lender, (5) project contractor/vendor/supplier, (6) electricity buyer, (7) local community member,

or (8) a business. The client might need real estate-related legal advice relevant to various project development stages:

- If the project is just an idea that might fit a proposed location, a project developer researches the capacity of power lines in the area, potential power buyers, whether local or state law prohibits the use, land features that might interfere with using the land for a project, and gauges the interest of landowners in hosting the project.
- As decisions are made whether the project will be constructed, the project developer conducts a broad range of diligence topics, prepares and negotiates site control agreements with landowners, meets with regulators to interpret regulations and confirm regulatory hurdles to clear, obtains information for the project's financial projections and proforma, and undertakes community engagement to determine any community support the project might offer. Local stakeholders might seek legal advice whether to support or challenge the proposal. Local or state governing bodies unfamiliar with renewable projects might seek out counsel to aid their permitting process or to negotiate contracts with the project. At this stage or at the next stage, power buyers and electric grid regulators will also negotiate with the project developer.
- If the project goes forward then as the development and pre-construction process occurs, the developer must negotiate and enter into a power purchase agreement with the energy purchaser, the rights to power grid access and use will be finalized, the project procures contractors, suppliers, and vendors. Financing may also commence at this time.
- The construction phase is a very active time with many people, vehicles, and equipment on the site, using local roads and other services. Contracts are performed and permitting requirements are met. Local complaints can occur, or contractual disputes over performance or payment. Often resolution occurs after-the-fact because rarely does the project construction timeline halt.
- Once a project can generate electricity in commercial quantities, it has reached its commercial operations date ("COD"). Construction completion, clean-up, and initial restoration, occur during this time. Sometimes the COD triggers investment or financing.

The rest of this paper shares in more detail many typical project development stages that may involve a real estate lawyer's expertise: site selection, site control, diligence, permitting, negotiating and executing development agreements, electric grid access issues, and sale of the electricity. A repeat theme of real estate lawyer roles during these stages is the prevalence of local and state laws, policies, norms and trends, highlighting the value of local real estate lawyers to give renewable industry legal advice.

II. Site Selection

What determines the location of a wind, solar, or BESS project? Five lead factors are considered during the site selection stage of project development: grid, buyer, allowed land use, land facts, and hosts. Those factors are introduced and discussed in this Section II. All five are considered (along with other factors) before the developer decides whether to build a project on a specific site.

A. Existing Grid: Distance to Access; Existing Capacity; Regulatory Control

As a project only exists to deliver electricity, the project site selected must be a location that allows the power to access the electric grid. One exception to this general rule is where the project is co-located with the business site that uses the electricity as that co-location allows the electricity to be delivered through private power lines rather than delivering the electricity through the shared electric grid. Co-location eliminates many of the costs and time necessary to navigate a project that accesses the grid. Co-location is rare for utility scale wind and solar projects, but is a realistic option for BESS.

The best site location is a site with an on-site or adjacent existing power line or substation with capacity for the project's new electricity. If the line or substation is already operating at maximum capacity or has granted the rest of its available capacity to another electricity generator, then a new project wanting to access the grid will first need to expand the available grid capacity at this location. Expansion of grid capacity typically includes significant costs to upgrade the grid infrastructure or relocate other power. As an example, land to host 200MWs of new solar electricity generation has a large 345kv overhead line running over the land, but all of the electrical capacity on that line is already allocated to others. For the new project to use that line, the developer must pay for the line to be upgraded or for an additional power line to be strung on the existing poles, plus any other grid updates necessary for the newly-generated solar-generated electricity to travel from the project to a grid location where upgrades are no longer needed to accommodate the additional electricity. Alternatively, the new solar project could negotiate (still at material cost) for the electricity on this line to be re-routed, or if part of the line's capacity has been allocated but is not being used, the new solar project could buy that unused capacity.

Often a project must have entirely new transmission corridors (poles, lines, and surrounding easement area) installed. One option is for a public transmission company to provide the lines, including use of eminent domain as needed or allocating some of the cost to the project. But if adding transmission to the area is not a public need, then private transmission must be installed (also known as "gen-tie lines" or "lead lines") to deliver the project electricity to an available point of interconnect to the public electric grid. If other private transmission lines exist along part of the route to reach the public grid, the new project might be able to pay to use those lines or poles rather than install an entire new transmission corridor. The new transmission corridor could be short, or

could run for hundreds of miles. A project's options to route its own private transmission lines include: (1) negotiating easements with landowners, and (2) any available rights to utility or public right-of-way or other land areas.

A potential project site without relatively inexpensive access to the grid is less desirable to the developer. Other site selection factors discussed in this paper would need to outweigh the grid access cost factor for such a site to be selected.

Further complicating the grid factor analysis is the United States electrical grid regulatory scheme (which at times is literally a tangled mess of wires). The continental United States' electric transmission system is divided into 10 geographic areas that are a mix of regional transmission organizations ("RTOs"), independent system operators ("ISOs"), and public utility areas.[1] [2] The applicable RTO and ISO controls a project's interconnection rights to the grid. In addition, RTO and ISO regulations and decisions may also be impacted by other jurisdictional regulatory rights that vary by state and region. Individual states vary widely on their public utilities, cooperatives, other public electric suppliers, and other options to access electricity and build transmission lines. These policies can affect whether projects and transmission lines are developed by independent power producers ("IPPs") or only by utilities, cooperatives, and ISOs with monopoly benefits. Example: The ERCOT ISO in Texas is perhaps the most favorable market in the United States for IPP projects; therefore, many IPPs start site selection in Texas before moving on to other states. Federal regulations also factor into grid access decisions, which federal authority is often exercised by the Federal Energy Regulatory Commission ("FERC"). The process to secure rights to access and use the public electric grid can be expensive and take years to complete the interconnection queue.

B. Power Market

A project only exists to deliver electricity, so, the project site selected must accommodate sale of that electricity to a buyer. Ideally all power is sold before project construction commences, and sold for a long enough contract period to amortize the project development and construction costs. Project electricity is often sold pursuant to a power purchase agreement ("PPA"). If the project developer finds a buyer that is a business rather than a public electric provider, the developer can explore co-location as explained in §II.A. above. Likewise, if the power buyer is a public electric provider, a site might be available nearby an existing delivery location for that buyer.

Unfortunately, the power buyer's point of delivery is not often located close to an available project site and instead the developer must factor in the electrical grid system cost and timing impacts

[1] https://www.ferc.gov/power-sales-and-markets/rtos-and-isos

[2] https://www.pcienergysolutions.com/2022/11/29/whats-the-difference-between-iso-and-rto/#:~:text=The%20Electric%20Reliability%20Council%20of,RTO%20regions%2C%20according%20to%20FERC.

discussed in §II.A. above into the options and cost to deliver to a prospective power buyer. Often the complexity of the grid system drives location of the project site to occur within the same RTO, ISO, or state as the location of the point of delivery to the power buyer. Power sale pricing factors are complex and can vary significantly between geographic areas and grid systems. Some areas have more population or more industry creating more demand for electricity, while some areas offer incentives for electricity renewably-sourced or dispatchable on unique schedules compared to historic electrical generation sources.

Project developers often choose to develop many or all their projects within one or certain RTOs or ISOs to take advantage of doing business, and managing power buyer relationships, within a geographic area. Another factor is the high cost to deliver electricity generated far away from the point of sale to the power buyer. While hundreds of miles of transmission can be used to deliver electricity, electricity is lost along the way so that less electricity is delivered to the end-point than was originally delivered into the grid. Also, the cost of lengthy transmission reduces profits, and at some point, not enough profit may be available to support a sale to a buyer too far from the project site.

A developer may elect to build a project with greater financial risk of being required to sell some of its power on the spot market or under shorter term contracts.

The project assets may be sold to a buyer (whether a public utility or other electric service provider, or if the buyer is a private business), rather than the project electricity sold to a buyer pursuant to a PPA.

C. Legally Allowed Uses

Even if a project has an advantageous site with good grid access, unfavorable land use restrictions may remove a project from the developer's list of possible project sites. Publicly-owned lands require additional steps to be used for renewables projects. Many private lands are also subject to land use restrictions and controls, although those vary widely by state. For example, unincorporated Texas land is not subject to zoning regulations, which added to Texas' favorable grid regulation makes Texas one of the most popular areas for project development. In contrast, some states manage project land use rights at the state level. Other states leave zoning decisions to the local jurisdiction, which can create disparity within a state for project viability . Some states have both local and state level land use regulations to consider.

Renewable project site selection can vary from real estate zoning and land use consideration given to other proposed new real estate uses. Renewable project proposals typically involve many more neighbors due to sheer size of the project land area, attract much more attention due to physical uniqueness of the infrastructure that trigger aesthetic, health, and safety concerns (including higher

occurrence of misinformation), raise social justice questions if the renewable energy is not available to the local community, and can be politicized.

D. Land Facts

Project site selection requires an earlier analysis of specific land facts than may be necessary for other proposed real estate uses. In addition to the factors discussed throughout this §II, as significant rural acres may be involved, the following topics need identified early: population density, land use trends, condition of existing access roads and bridges, protected habitat, waterways, cultural historic facts, existing pipelines or utility lines bisecting land, and competing uses such as for oil and gas production or hunting. Where the project site would be located close to a densely populated area, other significant factors can include setbacks from airports or other structures, and additional safety or screening efforts. A project site that redevelops a brownfield or other site that is not a greenfield, often includes additional environmental liability or other site preparation concerns.

E. Local Hosting Interest

Typically, a wind or solar project relies on lease or easements rights to locate and operate, rather than the project own the land where the project is located. BESS sites may also be leased or allowed by easement, although sometimes the BESS land is purchased. Therefore, the landowner must be interested in hosting a proposed project for the site to be viable. Even when BESS land is purchased, the seller may own adjacent land, which may require the seller to be a proponent of the BESS project for the project developer to acquire the BESS purchase option rights. Local law will govern whether eminent domain can be used to force a landowner to grant project rights. Federal law is presently developing over federal eminent domain rights to impose interstate electric transmission corridors.[3]

Unlike most other real estate uses, due to significant acreage needed to host a project, often many contiguous landowners must agree to host facilities on their land. Typically one of the first things a project developer completes is an assessment of host landowner interest. This stage involves significant time for one-on-one or group meetings to educate landowners who may have never been approached with such a proposal. Often in person meetings are more effective, which means the developer must spend significant time in the area to build relationships and trust and to be readily available for in-person meetings. Often third party contracted landmen hired by the developer serve in this role, but there are advantages for developer company staff to also be present. This first impression is pivotal to the project's viability.

[3] Federal Power Act, Section 216, as amended by the Infrastructure Investment and Jobs Act of 2021. FERC Order 1977.

Usually at such landowner meetings, the developer or land agent immediately offers host landowners a form option to lease or easement that includes the full set of lease and easement terms. This is the beginning and crux of project site control. Until the project has sufficient site control, it cannot elevate a prospective site on the developer's list of potential development sites. Typically, a small percentage of host landowners sign quickly, while most take more time to consider the proposal or hold out for a better offer. The timeline to vet host landowner interest varies widely. For a BESS or small solar project needing less land, or if the developer is sure it will get the power sold and delivered, or if the developer is under a short timeline to receive an incentive, the developer could complete vetting host landowner interest within months, although the developer usually gives the process a year or even several years. In some geographic areas, landowners receive multiple offers and landowners can compare opportunities (a Texas landowner received over 50 offers to use his land for a BESS site!), while others are lucky to receive one offer. In the latter case landowners might act quickly, viewing it as a rare opportunity to diversify income from the land.

If the developer receives an overall negative reaction to the proposal, the developer may decide to move on, or to invest time to see if more local education would be helpful. Many factors affect the priority of any particular site to a developer. Often prospective host landowners cannot know if a developer is willing to negotiate on terms without simply trying, or know in advance whether any day the developer will prioritize or de-prioritize the project. Until a landowner enters into a written agreement to host project facilities, the landowner is at risk of losing the offer. Even if a landowner decides to host, the project may never materialize, or the developer may cease making option payments at any time. This host agreement discussion segues into the paper's next project development stages topic – site control.

III. Site Control

While one might think the site control stage of project development would occur after the site selection stage is completed, because dozens or even hundreds of adjacent host landowners are necessary to form an entire project site, much of the site control stage actually occurs coterminous with the site selection stage.

Project site control occurs when the project developer has obtained all land property rights it needs to develop and operate the project site. As stated above in §II.E., at the crux of site control are the host landowner agreements for the wind turbines, solar panels, BESS, O&M building, private substation, and lines and roads connecting to that infrastructure on the host land. These agreement forms are real estate leases, easements, licenses, covenants, and waivers, and occasionally also real estate purchase contracts such as for the project substation area. Each agreement typically includes or is paired with a front-end option exercisable by the project before the project commences its

construction and operation. Included at the end of this paper is a key issues checklist for real estate lawyers advising on these host landowner agreements.

Other site control documents include easements for power and communication lines connecting turbines or panels to the substation, or to host lines transmitting electricity offsite the project to the point of interconnect with the public grid. Sometimes nearby landowners sign agreements to not obstruct the wind or solar resource, or waiving setbacks, or to support the project in exchange for receiving compensation or a benefit from the project. Sometimes agreements give the project rights to fortify roads, bridges or turning areas and confirm rights to use roads for construction activities.

IV. Site & Operations Diligence

The project development diligence stage will be familiar to real estate lawyers with experience diligencing contingencies for development, construction, and operations of other complex real estate uses. A differentiator of renewables projects from other real estate diligence undertakings can be the combination that the project land area is often a very large vacant/rural area type of property that for its most typical uses does not receive as much diligence attention, but, for a renewable energy project use will receive millions of dollars in investment and involve sophisticated planning, operations and financing. A renewables project could be the first time that a governmental body or regulator is asked to identify all possible requirements without working from a final written project design and operations plan communicating the specifics the regulator might find relevant (a you-don't-know-what-you-don't-know scenario).

Typical real estate project diligence includes analysis of all land title and survey facts, including host landowner rights to grant all of the site control agreement terms, and including any title or on-site land facts that might interfere with the design or operation of the project. The difference between a typical title reviewer's experience and a renewable project title reviewer's experience can be the increased volume of each factor. For example, rather than one or two lienholders that must provide SNDAs, there could be 50; and rather than three utility/pipeline easement rights to analyze there could be hundreds of crossings said infrastructure or rights to analyze. Sub-surface rights and unrecorded agriculture or hunting rights are topics that are often not prevalent with urban real estate development projects, but are prevalent in renewables projects. Unique survey products are available to reduce diligence time/cost if the project developer is comfortable with the limitations of these products. Selecting a title insurer with experience issuing title policies for renewables projects is very valuable since the underwriting solutions and unique title insurance coverages are different than other real estate developments.

Other typical real estate development diligence topics remain relevant in a renewables project, but also may occur on a much larger scale, including environmental liability and risk, soils analysis and construction planning, and all the topics discussed in §V.A. below regarding the permitting stage. Additionally, some diligence topics are unique to rural lands and might not be familiar to real estate lawyers only working with urban lands, and some are unique to a wind, solar or BESS operation.

Throughout the prior development stages the project developer was already preparing a project proforma estimating costs and income, including impacts to the proforma due to potential development timelines. As site diligence is completed the project financial proforma is updated and now the developer must decide whether to pursue the permitting stage.

V. Site & Operations Permitting

A. Permits

If site selection, site control and diligence results point to a high likelihood that the project will be built, then the developer pursues permits. The diligence stages discussed in §IV above would have already inventoried the permits required or desired and the steps, contingencies, and timelines to obtain them. The lead permits the developer will pursue are discretionary permits that could be denied and end pursuit of the project.

A proposed project site area could be subject to local and/or state discretionary permits and the permitting regime throughout the United States varies greatly. Some states allow mostly local control, while other states control these decisions at the state level, while other states require approvals at both levels of government. The most common discretionary permits are zoning or other land use rights for the entire project infrastructure, which infrastructure includes not only turbines or panels but also all ancillary infrastructure within the project main site or offsite such as private electric transmission lines. Common names for such permits include: conditional use permit or special use permit ("CUP" or "SUP") to allow the energy generation use in a land area not zoned to allow that use by right; site plan approval that focuses on the specific improvements and project layout and design occurring within the approved land area; and variances to regulations not written with these unique projects in mind.

The permitting process for a renewables project can attract significant public input and attention due to the uniqueness of the infrastructure and use, and large land area involved. Local or state governing bodies unfamiliar with these types of projects can benefit from some extra preparation so that the process occurs as smoothly as possible to minimize legal challenges. Types of extra preparation local authorities may do include: (1) advance review and perhaps update of permitting regulations, including because regulations are often written to fit single-structure or small-area

land use with a much shorter development and construction timeline; (2) obtaining legal advice on regulation interpretation and implementation; (3) obtaining unique education about key project topics relevant to permitting; (4) educating the public on the process, regulations, and permits potentially involved; (5) providing extra public education opportunities about the proposed project, including making written materials and answers to questions easily accessible before, during, and after the permit process; (6) creating the best advisable record to be prepared for any open records requests or legal challenges; and (7) making efforts to maintain community harmony.

The project developer might undertake a community engagement plan to help garner public support for the project. Local opinion and support consideration was introduced in §II.E. above. There could be opposition to the project – either stemming locally, or from individuals or groups online that do not have a specific connection to the site area but offer input and ideas based on an ongoing dedication to a topic that a local stakeholder might not have had a reason to previously adopt. Often this is the first time a local stakeholder participates in a land use permitting process and they might need to obtain their own advice in addition to information from the governing body and project developer, since the governing body is in a neutral decision-maker role.

No different than other land use permitting, the regulations might provide that if a permit application is denied then the project has to wait for a certain time period before re-applying. This potential for delay can be a reason for the project to take extra precautions before commencing the official permit application and decision process.

If a land use permit is approved, the permit terms can be uniquely challenging to interpret if the permit application process included voluminous information that was not all intended to be express exact requirements or terms of the permit. This is a chicken-and-egg issue not unique to renewables projects, but exacerbated by the fact that a project is so expensive and complex to construct that during the permit application stage some project design and plans are not final and the permit must allow flexibility as the conditions of the permit are pursued for months or even years after the permit is first granted.

Project permits might include significant or unique requirements before construction may start. Examples include: (1) coordinating use of public roads by regular and farming traffic with construction congestion –road closures, road fortification and repair, dust control, and other safety issues; (2) procuring project insurance and project financial assurance to fund all project construction obligations and project decommissioning and restoration obligations at the end of the project; (3) installing advanced lighting detection systems to eliminate constant red lights on all night; (4) avoidance of shadow flicker or noise above acceptable levels; (5) providing proof of protection of wildlife, species, and habitat concerns; (6) providing emergency and safety local training and equipment; (7) putting together a complaint resolution process and public local office;

(8) obtaining community support commitments; (9) providing an approved layout including minimum setbacks and maximum heights/sizes of infrastructure, and local jurisdiction approval of material new infrastructure; and (10) including reasonable remedies if permit terms are ignored or violated.

Beyond local or state discretionary permits, a project may need to obtain or consider many other permits or other forms of approvals or waivers. Examples of common local permitting topics include: road crossings, access points, and right-of-way use; drainage and stormwater plan; erosion control; setback waivers and building/construction permits for each turbine, panel, O&M building, substation, BESS, transmission line, and other infrastructure; and waste or materials storage and disposal. Additional permitting topics that might be more state, regional, or federal permits include: road crossings, access, and right-of-way use; addressing impacts to wildlife patterns, species habitat or species (water-, land- and air-based); power line and other high voltage safety; state or regional electric service generator, transmitter, provider or seller regulation; FAA permits for each turbine site, and allowance of lighting detection system use; Section 401 or 404 jurisdictional waters or wetlands certification or permit; flood zones; communications signal interference; interference with land enrolled in a conservation or hunting program; interference with an historical or cultural site; coordination with jurisdictional utilities' infrastructure and future rights; and topics unique to federal or tribal lands.

Project permits can be very unique -- meaning the permitting authority does not have experience or a pattern of practice for drafting or implementing them – because often a project is a first for the jurisdiction or the authority is a rural area without experience with such complex detailed expensive projects. This aspect increases the value of legal analysis of these types of permits compared to others or the pertinent regulations. Examples: Many other conditional use permits might only need one year to start and/or finish construction, while a renewables project might need three or more years between obtaining the land use rights and starting construction and another year or two for construction. Permits should be clear that changes to the regulations do not trigger non-conforming use status, including whether project modifications and re-powering remain allowed, and cessation of operations are allowed for multiple years as long as the project remains safe and paying all its financial obligations. Since interruption of project operations triggers significant damages, a reasonable notice, cure, and dispute resolution process should be provided.

B. Development Agreement and other Agreements

In addition to permitting, as part of the project's preparation or contingencies to move on to the construction stage, the project might enter into agreements with governing bodies, regulators, or others beyond the site control documents already discussed in §III above. Like permitting, typical

agreements vary greatly by jurisdiction. Sometimes these agreements supplement or contain some of the topics discussed in §V.A. above regarding permitting.

Often financial incentives are important towards the project's operating proforma, and incentives agreements may be negotiated or applied for prior to construction.

The permitting, additional agreements, and financial incentives likely were already analyzed during the project's initial diligence stages. As these stages are completed, the project's financial proforma is updated to reflect whether the project remains likely viable with enough net income to obtain permits, additional agreements, and financial incentives, along with sale of the electricity.

VI. Electricity Sale

As stated earlier in §II.B. above, before commencing construction, the project likely has most or all of its electricity sold to an offtaker, either through a PPA or through a plan to transfer ownership or operations to the power end user. However, locating a buyer and negotiating the income terms of the project often occurs later in the development process after more clarity exists both (1) that the project will actually be built and (2) of the timeline to achieve COD.

VII. Electric Grid – Development, Access, Use

The location of the point of delivery of the project's electricity sold to the buyer of the electricity will drive what rights the developer needs to interconnect with the public grid and any rights the developer needs to install or use private transmission infrastructure for the project. The timeline of when grid and transmission access can first occur must be coordinated with the COD and electricity sale terms, which in turn affect the project's construction start date.

VIII. Disclaimers:

- This paper limits discussion to the following types of renewables projects: (1) ground-mount photovoltaic solar cell panels; (2) ground-mount vertical wind turbines with nameplate capacity rated up to 4 MWs; and (3) lithium-ion BESS, technologies, and structures most prevalent in the United States. Wind, solar, and BESS technology already varies and continues to rapidly change as new technologies, infrastructure, methods, and inventions occur.
- This paper covers general United States renewable energy project legal concepts and topics, but does not cover any particular local, state, or federal jurisdiction's laws or regulations. Importantly, federal, tribal, and other public lands laws are not covered but do materially affect project development on those lands.

- Likewise, this paper is not a comprehensive checklist of every project development stage, topic, or component – others may occur that might create additional types of real estate clients and work, that vary based on developer, site facts, jurisdiction, and project facts.
- Projects discussed in this paper are land-based and do not include offshore or aerial projects.
- This paper only discusses preliminary project development stages necessary to determine whether the project should be constructed. Also, financing and investment stages are not included, but could occur during development, or post-development as large developers sometimes balance sheet finance development and wait to pursue financing or investors upon project construction completion.
- The development stages included in this paper can occur in a different order, and often occur simultaneously and may remain ongoing for much of the project's development phase prior to commencing construction.
- Information in this paper might become outdated after January 2025.

Attachment: Checklist of Fundamental Terms in Lease and Easement Agreements with Private Landowners to Host Utility-Scale Solar, Wind, and BESS Projects

Attachment One:

Fundamental Terms in Lease and Easement Agreements with Private Landowners
to Host Utility-Scale Solar, Wind, and BESS Projects

This is a checklist of common fundamental terms in agreements between host private landowners and wind or solar electric energy generation projects, or electrical storage projects. These agreements are necessary for a project to obtain site control to support the project's development and operation. For simplicity, this checklist uses "lease" or "easement" as the name of these types of agreements, even though an actual agreement document with a landowner might legally contain different legal rights and obligations (examples: licenses, covenants, waivers, purchase contracts, and options).

The purpose of this checklist is to help real estate lawyers be aware of unique provisions in these agreements (examples: no shadows over solar panels, project control over livestock or agricultural uses around solar panels), and aware that some topics already known to the lawyer need thought about differently due to unique aspects of developing these projects compared to other commercial or rural lands real estate development and use (examples: developer unilateral control over most siting decisions and unilateral rights to terminate part or all of the agreement). That improved lawyer understanding will add significant value when advising both developer clients and landowner clients in negotiation and drafting of these agreements. Project developers will invest substantial funds and time for years before deciding to build a project, and additional substantial funds and time until the project starts operating and generating revenue. That high investment level warrants that project leases and easements grant the project commensurate rights and legal protections of its investment. Also, these agreements often exist for more than two decades, and commonly even five or more decades, meaning a next generation of landowners are likely to inherit these agreements. This duration fact alone increases the importance of common language and knowledge base of agreement parties.

Thus, this checklist is not "pro-developer" or "pro-landowner;" instead it helps parties toward a more common language and knowledge base to expedite and improve agreement efforts.

A competent lawyer working on these agreements should thoroughly understand:

- Which terms, issues, concerns (and solutions) are unique to these agreements?
- Which are mandatory for either party, and what is negotiable?
- How does a landowner determine its comfort level of whether to host a project?
- How does a developer decide what flexibility it can offer or when it needs to cease negotiations?

I. Grants (and Duration and Payment) of Options, Lease, Easements, Licenses, Purchase, and Other Rights.

A. Exclusive option/rights to the contemplated use.

B. Non-exclusive diligence period: access; testing; weather testing equipment; crop damage; other use interference.

1. Duration of option period might not be coterminous with duration of non-exclusive period.

2. Typical duration until construction term starts.

3. Typical types and amounts of payments.

C. More exclusive use periods.

1. Construction term permitted uses.

2. Operations term permitted uses.

a. Electrical generation, collection, step-up, storage, and transmission. Typical infrastructure (electrical generation panels/inverters or turbines, underground lines, overhead lines, substation, storage). For one or more projects.
b. Related uses (including agrivoltaics).
c. Supporting rights: use of land's water rights or rock, grading/drainage change, access, construction areas, laydown/yard, O&M building, non-obstruction, noise, overhang, setback waivers, interference/effects, and rights to modify infrastructure and uses for duration; prohibition on host landowner or third party uses that might interfere from time to time.
d. Specific or broad technologies/infrastructure.
e. Broad unilateral rights for project to design, site, and use as if the fee owner.
f. Identify any landowner retained control over siting or retained co-use of the land.
g. Typical duration.
h. Typical types and amounts of payments.

3. Decommissioning/restoration period.

a. First date that decommissioning obligations exist. For less than all, or all, of the project.
b. Scope of work.
c. Typical duration of available period.
d. Typical payments.

e. Typical enforcement rights and financial security.

II. Actual Use or Duration. No project obligation to conduct a use, or continue the agreement as to any particular land. Impact of these project decisions on payments due.

III. Project Additional Obligations to Landowner.

A. Care for the leased land, and address offsite impacts.

B. Property tax increases due to the project.

C. Compliance with all applicable laws.

D. Liability for harm caused by or due to the project. Might include indemnity, or insurance.

E. Representations and warranties of project authority.

IV. Landowner Remedies if Project Fails an Obligation.

A. Project financial security to decommission and restore.

B. Project third party insurance to cover project-triggered damages and liability.

C. Some landowner remedies are limited to damages and interest accruing, because terminating the lease or interfering with income-producing operations might be unfair remedies.

D. Project (and lender, and third party) notice and cure period, and force majeure rights, before landowner remedies become available.

E. Court jurisdiction and venue; alternative dispute resolution; recovery of enforcement fees and costs incurred.

V. Landowner Additional Obligations to Project.

A. Project support: Permitting cooperation and non-disparagement; confidentiality; additional or replacement agreements to support investment or financing or operations; SNDAs and NDAs; estoppels; agriculture or hunting lease amendments; receipt of requests, notices or litigation from third parties. Potential new costs to landowner due to the agreement compared to income, and any project reimbursement of certain costs.

B. Liability for harm caused by or due to the landowner or who landowner allowed onsite. Might include indemnity, or insurance.

C. Representations and warranties over property facts – at time of signing, and ongoing changes (landowner authority, land title documents whether public record or not,

environmental, cultural/historical, protected habitat or species, other third-party rights or claims, future rights to co-use property for landowner other income).

VI. Project Remedies if Landowner Fails an Obligation.

A. Landowner third party insurance to cover landowner-triggered damages and liability.

B. See §IV.C., D., and E. above.

C. Self-help rights, and payment offset rights, for the project to eliminate or minimize its damages might be reasonable in some circumstances. These agreements reasonably treat the two parties differently as to their remedies because their respective rights are so different.

VII. Assignment. Projects need broad rights to assign and sublease and license their lease or easement rights and corresponding obligations to third parties (including utilities, or other owners of transmission lines or other projects), or split an agreement into two or more versions of the same agreement. A landowner's agreement enforcement rights might require complex drafting due to this topic. There might be limits on the landowner having that same scope of transfer rights as the project party, due to project management or enforcement concerns.

VIII. Local Law and Custom. State and local laws, regulations, and customs, need considered. These might be specific to the energy industry (example: minimum required terms to create a valid lease), or might require broader local law knowledge (examples: loss of water rights for non-use and restrictions on change of water use for solar project; limits on entities allowed to operate farming, grazing or other agrivoltaics business; minimum land parcel size.