CORPORATE PPAs

Market Trends and Opportunities

Giji M. John
Rohit Sachdev
Les Sherman
David Spielberg

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Table of Contents

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A report by Giji M. John, Rohit Sachdev, Les Sherman and David Spielberg
Orrick Herrington & Sutcliffe LLP[1]

I. Introduction

Corporations have dramatically increased their purchases of renewable energy in recent years. This trend has shifted the traditional power purchase market away from reliance upon utilities, and presents a tremendous growth opportunity for renewable energy project developers.[2]

From 2012 to 2015, contracted capacity under corporate power purchase agreements (PPAs) has doubled year-over-year. In 2015, corporate PPAs achieved an important milestone by exceeding 50% of the overall PPA market — more than their traditional utility counterparts. Corporate buyers (including Google, Facebook, Amazon, Dow, Owens Corning, Apple and many others) contracted for almost 3.5 gigawatts of new renewable energy PPA capacity in 2015. Corporate PPAs have historically

favored wind energy, but solar energy PPAs are increasingly entering the mix.

Corporate sustainability goals and a desire to control and manage the costs of electricity drive the corporate PPA market. Given those demand drivers and the extensions of federal production and investment tax credits at the end of 2015, the path is clear for a substantial increase in the number of corporate PPAs over the next few years. As of the beginning of 2016, only about 20% of the Fortune 100 companies (and less than 5% of the remaining Fortune 500 companies) with sustainability targets have executed corporate PPAs, suggesting tremendous untapped corporate buying potential.

This article provides an overview of (1) contract structures for corporate PPAs, (2) key issues that arise in negotiating corporate PPAs and (3) issues and trends in corporate PPAs in certain individual U.S. markets.

[1] This report was completed with substantial contributions from partners and attorneys in several Orrick offices, including Adam Wenner, Christopher Gladbach and Cory Lankford in Washington, D.C., George Humphrey in Houston and Nik Mathews in New York.

[2] The statistics and figures included in this introduction are derived from the "State of the Market", 2016, issued by the Business Renewables Center of the Rocky Mountain Institute.

II. Corporate PPA Contract Structures

Corporate PPAs generally include the purchase and sale of bundled electricity and renewable energy credits (RECs).[3] These PPAs can be grouped into two categories: (1) "physical" PPAs, which provide for physical delivery of electricity, and (2) "virtual" or "synthetic" PPAs, which are based on the concept of financially settling differences between floating prices in the local electricity market and contracted prices under the PPAs based on a volume of electricity. Both forms of PPA support the principle of "additionality," resulting in an increase in the amount of renewable energy that is being generated. Regulatory factors, in addition to buyers' preferences, drive choices between which of the two types of PPAs is used in any given transaction.

Physical PPAs

Physical PPAs require that renewable energy be physically delivered to buyers. On site generation, also referred to as "behind the meter" generation, is the most direct form of physical PPA, and entails the generation and the use of renewable energy on the same site. In most states, these physical PPAs qualify as "self-generation" and are generally permitted. However, while on-site generation can provide a significant portion of the energy needed for normal business uses, they cannot supply the largest loads.

Corporate buyers with larger energy needs, such as data centers, manufacturing facilities or warehouse facilities, can enter into physical PPAs with owners of offsite energy projects. Those projects typically provide much larger amounts of renewable energy (up to several hundred MWs). An offsite project delivers energy to buyer at a particular point on the electric transmission system (often, but not always, the project's point of interconnection), title to the energy is transferred from seller to buyer at that point, and the energy is then transmitted by (or on behalf of) buyer to its actual load. Seller will also transfer RECs associated with this energy to buyer through the applicable REC tracking system for the region in which the project is located. This type of PPA most closely resembles traditional PPAs between renewable energy generators and utilities. However, unlike sales to utilities, this type of transaction – a direct retail sale by a seller that is not a regulated utility – is only permitted in a handful of states. In some cases, sellers and corporate buyers can structure a "sleeved transaction" to work around direct retail access regulations. In these transactions, sellers and buyers add a third party entity that serves as the retail entity that will (and is authorized to) purchase power directly from the non-utility generator and sell to the corporate buyer.

Virtual PPAs

When presented with the regulatory limitations inherent in physical PPAs, corporate buyers are increasingly choosing to contract through virtual PPAs. A corporate buyer might choose a virtual PPA if it has multiple distributed loads (such as a number of data centers, stores or offices) or if direct retail access is not permitted in the state where the corporate buyer's facilities are located. Although these PPAs do not involve the direct physical delivery from seller to buyer of energy, these PPAs enable the construction of new renewable energy facilities and the injection of additional renewable energy into the electric grid.[4] And, if the project is located in the same energy market as the buyer's facilities, the benefits of additional renewable energy (such as reduced air emissions) will be felt in the same region in which the energy was generated.

Importantly, virtual PPAs need an appropriate market environment that facilitates selling and purchasing of electricity. Virtual PPAs can be contracted for those projects located in regional transmission organizations (RTOs) or independent system operators (ISOs) which allow for the active trading of electricity and which have a highly liquid market for trading energy.

Virtual PPAs can take several forms, all of which are intended to enable the construction of new renewable energy projects. In a "contract for differences," (1) the buyer agrees to purchase renewable energy and RECs from a project for a fixed price, (2) the seller sells the project's electricity

[3] "Unbundled" transactions, in which RECs are sold separately from electricity, although sometimes seen in corporate transactions, are not discussed in this article.

[4] Increasing the total amount of renewable energy produced is in keeping with the generally recognized sustainability principle of additionality.

(without the associated RECs) into the market (keeping the proceeds from that sale), (3) the seller transfers RECs generated by the project to the buyer, (4) the buyer purchases electricity from its local utility, and (5) the buyer and seller settle the difference between the PPA (fixed) price and the applicable real-time market (floating) price on a periodic basis based on the brown power sold. Financial settlements typically require the buyer to pay the seller the difference between the two prices if the market price is less than the fixed price, and the seller to pay the buyer the difference between the two prices if the market price is greater than the fixed price. Contracts for differences generally do not specify a fixed "notional" amount of energy that is required to be delivered by seller to buyer.

Virtual PPAs can also take the form of hedging agreements, such as a fixed for floating swap, in which the buyer pays a fixed (PPA) rate and receives a floating (market) rate for the energy produced by the project. The seller also transfers title to the RECs associated with that energy to the buyer. The swap can apply to all or a portion of the energy produced by the project or to a notional amount. In either case, the agreement provides for a fixed price arrangement that the seller can use to finance construction of its project. A virtual PPA can also be structured as a "collared" transaction, in which the buyer guarantees a floor price for the renewable energy, and the seller provides a ceiling on the energy price, so the price to the buyer and the revenue to the seller are assured of being within a defined range.

III. Key Commercial and Contractual Issues in Corporate PPAs

Corporate PPAs present a number of commercial and contractual issues that need to be resolved in the negotiation and documentation process. Key issues include: market price risk, basis risk, use of an energy manager, the sale of RECs, credit risk and credit support, fractional sales, Dodd Frank reporting, derivative accounting treatment, curtailment and change of law.

A. Market Price Risk

One of the primary goals for sellers and buyers in entering into virtual PPAs is to limit their respective exposure to market prices for energy. In a virtual PPA, the seller will shield the buyer from energy prices in excess of the fixed PPA price, and the buyer will protect the seller from energy prices below the fixed PPA price (assuming that the electricity prices in the market where the project's energy is sold correlate to the market electricity prices paid by the corporate buyer). In each scenario, the seller ultimately receives the fixed price, and the buyer ultimately pays the fixed price, for energy delivered by the seller to the grid and the associated RECs.

However, these arrangements can become complicated if real-time market prices for electricity are negative.[5] If, under a virtual PPA, the buyer has assumed the obligation to settle the positive difference between the fixed price and floating (market) price as described above, the buyer would be responsible for paying to the seller the fixed price plus the absolute value of the negative price paid by the seller to the applicable ISO/RTO. As such, the buyer will naturally want to restrict the seller from producing and delivering to the applicable ISO/RTO when real time market prices are less than zero. Wind projects run a greater risk with negative pricing scenarios under virtual PPAs because sellers are incentivized to generate and deliver energy during

[5] Negative price events are increasingly common in certain U.S. markets. For instance, California's 33% (now 50%) Renewable Portfolio Standard has helped provide California with the largest installed solar generation capacity in the nation. (See Solar Energy Industries Association, "Top 10 Solar States", available at www.seia.org.) As a result, solar generation in the mid-day hours in California has increased dramatically in recent years, leading to an increase in negative price events in CAISO's real time market. In Texas, with the highest installed capacity of wind in the country, excess wind generation has led to negative prices in the ERCOT market since the mid-2000s. (See American Wind Energy Association, "U.S. Wind Energy State Facts", available at www.awea.org.)

periods of negative prices in order to obtain federal production tax credits. By contrast, solar projects do not benefit from federal production tax credits, and a seller of solar energy has no incentive to produce during periods of negative prices.

Parties to a virtual PPA can allocate negative pricing risk in different ways. In virtual PPAs for wind projects, one commonly agreed solution is for the seller to retain the ability to generate and deliver when the market price is equal to or greater than the negative pre-tax value (i.e., including tax gross-up) of the production tax credit, during which periods a buyer agrees to pay the fixed price plus the absolute value of the negative market price. If the market price is less than the negative pre-tax value of the production tax credit, the seller does not produce and is paid by the buyer the fixed price plus the absolute value of the negative pre-tax production tax credit value for the quantity of energy that the project would have otherwise been capable of producing. In this arrangement, both parties would agree to a "floor" price equal to the negative pre-tax production tax credit value.

In the context of a virtual PPA for a solar project, parties can allocate negative price risk in a number of ways, including one or more of the following:

- allowing the seller to generate and deliver during periods of negative prices up to a cap of monthly or annual energy quantities;
- allowing the seller to generate and deliver during periods of negative prices, but only during periods when the market price is equal to or greater than an agreed negative floor amount; and/or
- allowing the seller to generate and deliver during periods of negative prices, with the buyer only required to pay the fixed contract price (thereby treating the market price equal to zero dollars).

B. Basis Risk

Basis risk exists when electricity pricing at the point of interconnection (POI) differs from electricity pricing at the point at which the buyer takes delivery of the electricity (in a physical PPA) or prices the electricity (in a virtual PPA). In a physical PPA, that purchase occurs at a designated point of delivery (POD), and in a virtual PPA, that purchase may often occur at a liquid trading point (Hub). This creates a potential "basis risk" between the prices at the POI and the prices at the POD or Hub. The seller bears the basis risk that the POI price is higher than the POD or Hub price — in which event the seller may forego revenue (physical PPA) or the seller may be required to pay for the difference (virtual PPA). The buyer bears the risk that the POD or Hub price is higher than the POI price — in which event the buyer may forego cost savings (physical PPA or virtual PPA).

The seller and the buyer can attempt to control basis risk in the PPA itself. Aside from simply making the POD or Hub and the POI identical or purchasing a hedge that swaps the basis between the POI and POD, the parties can (1) use adjustments to PPA pricing, whether those are fixed adjustments or floating adjustments, (2) cap the basis risk swings, or (3) employ mechanisms to temporarily disaggregate the settlement of floating and fixed prices during periods where basis risk is unusually high.

C. Use of Energy Manager

If market prices increase over the term of a virtual PPA, the buyer theoretically benefits from additional sales under the PPA. In order to ensure that the energy sales functions are aligned with the buyer's interests under a virtual PPA, the buyer may require the seller to outsource the seller's energy management or marketing function to a third party energy manager. An energy management agreement can specify the arrangements by which the energy manager will bid and sell the project's products into the market on behalf of the seller. These obligations may include requirements that the energy manager sell products at the highest possible prices, and the energy manager may be rewarded based on its ability to do so.

D. Sale of RECs

Renewable energy credits[6] are a method of representing the renewable energy benefits associated typically with one megawatt-hour (MWh) of energy generated by renewable energy projects. In states with mandatory compliance obligations

[6] Also referred to as "renewable energy certificates (RECs)," "green tags," or "tradable renewable certificates" (TRCs).

under renewable portfolio standards (RPS), RECs are defined by statute and quantitatively assure that utilities are procuring the required percentage of renewable energy as part of their overall procurement mix. In those states which do not have mandatory compliance obligations, RECs are indicia of the amount of renewable energy generated and transferred from sellers to buyers.

Sellers can transfer RECs to third parties (whether corporate buyers, utilities or other third parties). ERCOT, PJM and WREGIS have electronic registration and transfer provisions; but in the absence, of such electronic registries, parties can simply trade RECs by contract. RECs can also be validated by certain third party providers, such as Green-e.

While, unlike utilities in RPS states, corporations are not subject to mandatory compliance obligations, they do seek to acquire RECs in connection with entering into corporate PPAs. Just as for utilities with mandatory compliance obligations, corporate buyers acquire RECs to demonstrate their ownership of renewable energy. As such, corporate PPAs uniformly provide that all RECs (as well as other environmental attributes) generated by the applicable projects will be transferred to buyers. This is true under both physical PPAs as well as under virtual PPAs.

ISOs, RTOs and, in some cases, NERC Regional Entities may specify the process by which those RECs are transferred, and PPAs will require sellers to manage that process on behalf of both parties. Failure to perform those obligations will result in payment of damages by sellers for failure to deliver RECs. Those damages can either be sized by the replacement costs for undelivered RECs or liquidated at some pre-determined amount.

E. Credit Risk and Credit Support

Seller Security

Corporate PPAs generally require credit support from sellers.

In a corporate PPA, the seller has an obligation not only to generate and deliver energy, RECs and environmental and other attributes, but also potentially to pay net settlement amounts. A corporate PPA buyer typically requires credit support from the seller, because the buyer is exposed both to this payment risk and to market price risk in the event the seller does not perform and the buyer has to replace the energy.

Most PPAs allow the seller to post security in cash or a letter of credit. Corporate PPAs will spell out in some detail the qualification requirements of banks holding the cash or issuing letters of credit and will generally attach a form of letter of credit specifying the drawing conditions. If cash is posted as security, it may also be necessary to negotiate a form of escrow agreement allowing for posting and disbursement of cash.

Affiliate guaranties are often an attractive alternative form of security because they avoid the carrying costs of posting cash in a segregated account and financing costs of posting a letter of credit. Corporate PPAs are not uniform in allowing affiliate guaranties to be posted. If they are allowed, a number of issues will be considered in negotiating the guaranty, including the creditworthiness requirements of an affiliate guarantor, the size of the guaranty obligation and related caps, and the quality of the guaranty instrument, including the waiver of certain surety defenses.

While liquid security of the type described above is most common, PPAs may also contain less frequently used forms of security, such as subordinated mortgages or deeds of trust, debt to equity ratios, and limitations on the incurrence of indebtedness or liens.

Buyer Security

Buyers' credit requirements can differ quite significantly from those of sellers. Historically (and currently), utility purchasers rarely provided security because their PPAs were generally approved by a state public utility commission, which allowed the utility's costs to be recovered in the rates charged to customers.

While companies may sometimes have stronger credit than utilities, corporate buyers may often choose to execute PPAs through subsidiaries that are not as well capitalized as their parents. In those circumstances, the seller will typically require some form of credit support, either liquid credit support in the form of cash or letters of credit, or a guarantee from the parent company. The advantages and

disadvantages of each type of security are similar to those for seller security described above. Not surprisingly, many corporate buyers prefer to rely on parent guaranties.

F. Inconsistent Energy Demand and Fractional Sales

Unlike utilities that aggregate the loads of their individual customers (whether loads of large corporate buyers or individual households), corporate buyers generally have discrete energy needs. So while utilities will generally procure the entire output of a renewable energy project, the typical corporate buyer may only be interested in purchasing a fractional quantity of electricity from a project. Selling fractional quantities of electricity can present challenges to large, utility scale renewable energy projects to obtain third party financing.

Since renewable energy projects need a certain (larger) scale to achieve requisite economics and attract project financing, the projects' output might be allocated among multiple corporate buyers. In the face of multiple PPAs for the same project, the seller must navigate documentation issues, scheduling coordination issues and issues involving allocations of electricity during periods of diminished performance.

Careful documentation is needed to control risk if fractional electricity output is allocated among multiple PPAs. Failure to properly align risk allocation provisions of multiple PPAs may create, at best, administrative burdens in coordinating disparate provisions and, at worst, misaligned risk allocation altogether, leaving the project in a position of absorbing risk in certain cases that should be allocated to the offtaker. For example, fractional allocation under a physical PPA requires particular attention to scheduling coordination, especially if multiple PODs exist under different PPAs. If those PPAs include inconsistent provisions regarding required delivery forecasts and/or each offtaker has a different scheduling entity, the administrative burden on the project is significant.

Allocating fractional capacity can present challenges with respect to managing outage events, especially curtailments or force majeure. If a project is physically unable to deliver its full output, the parties will need to agree upon whether reduced output is allocated pro rata to each buyer or whether certain buyers have priority with respect to some or all of the reduced output. The seller must also manage the relative rights of buyers to terminate their PPAs if there is a prolonged force majeure event, including the extent and duration of the force majeure event that gives rise to such termination rights.

G. Dodd-Frank Issues

Virtual PPAs, whether in the form of contracts for differences or commodity hedging agreements, generally constitute "swaps" under the Commodity Exchange Act (as amended by the Wall Street Transparency and Accountability Act of 2010) (the Act, also commonly called Dodd-Frank).[7] As described below, one or both parties to a swap must adhere to several regulatory requirements, including obtaining a "legal entity identifier" and complying with certain recordkeeping and reporting requirements. Swaps generally fall under the regulatory jurisdiction of the Commodity Futures Trading Commission (CFTC).

Currently, the CFTC has not mandated that virtual PPAs of the type addressed in this report must be exchange traded and centrally cleared under the Act, so they generally would be entered into "over the counter" and cleared bilaterally between counterparties. Nevertheless, several regulatory requirements apply to virtual PPAs. First, to be able to enter into a swap-over-the-counter, each party

[7] This issue usually does not arise with physical PPAs because there is an exclusion (often referred to as the "forward contract exclusion") to the definition of swap for contracts for the sale of non-financial commodities (e.g. energy) if the parties "intend" to settle them by physical delivery. Virtual PPAs are financially settling transactions and, therefore, this exclusion would not apply.

U.S. MILITARY

By Christopher Gladbach

Another significant development in the non-utility markets has been the emergence of the U.S. Defense Department (DoD) as a large buyer of renewable energy. The DoD is the largest consumer of energy worldwide, spending over $20 billion annually on energy. Each of the major DoD branches, the Army, Air Force and the Navy have committed to sourcing at least 25% of installation energy consumption from renewable sources by 2025, representing a significant opportunity for renewable energy project developers.

In addition to the issues related to corporate PPAs described in this report, there are unique risks associated with entering into contracts with the U.S. government and its departments and agencies (Government) that must be considered. These include provisions allowing termination for convenience (which is in every Government contract) and financing parties' step in rights.

Most Government contracts contain a formula which allows the contractor to recover its costs and a reasonable profit on work performed (but not future profits) in the event of a termination for convenience.

However, financing parties now often require a schedule of fixed termination values or debt make whole payments that are due upon an early termination. Some PPAs may provide for a special distribution to the tax equity investor in the case of a termination for convenience.

Government contracts may also limit a financing party's step in rights in the event seller defaults under its financing agreements, because the Government interprets the Anti Assignment Act as limiting its ability to pre-consent to an assignment of a Government contract without a formal "novation" approval process.

The Government can agree to allow financing parties to cure contractor defaults by the payment of money, and pledges of upstream equity in the project company owning the renewable energy project are generally permitted.

The developer will also need to allocate certain risks and responsibilities under the Government contract to its contractors and subcontractors, including its engineering, procurement and construction (EPC) contractor. For example, a typical Government contract will include a "Changes" clause that allows the Government to change the terms or conditions of the contract. The Government contractor then has a right to an equitable adjustment of the contract price to cover additional costs, but the developer will have to allocate this risk among itself and its contractors and subcontractors of the Government's equitable adjustment not being enough to cover the increased costs. A financing party may also require that the developer maintain funds in a contingency reserve during construction to mitigate this risk.

Apart from contracting risk issues, there are general commercial issues that arise when working on these types of projects: (1) the Government is often slow and delays are frequent, (2) Government approvals take time and involve a number of parties, and (3) the Government has little expertise related to renewable energy projects or third party project finance.

must have at least $10 million in total assets or otherwise qualify as an "eligible contract participant" at the time of execution. In addition, prior to the execution of the swap, both parties are required to obtain a "legal entity identifier," which is a unique identifier issued by a utility designated by the CFTC.

Both parties to a swap will also be required to comply with certain record keeping obligations. Record keeping obligations are substantial for parties that are registered as either "swap dealers" or "major swap participants" under the Act. However, even parties that are not so registered are required to maintain comprehensive records of each swap in paper or electronic form. Records must be maintained throughout the life of the swap and for a period of at least five years from the final termination of the swap, and generally must be retrievable within five business days. The records are open to inspection by regulators, including the CFTC.

Finally, swaps are subject to certain reporting obligations under the Act. Where one of the parties to a swap is registered as a swap dealer or major

swap participant under the Act, that party automatically is required to comply with the reporting obligations. However, if neither party is registered as a swap dealer or major swap participant, the Act establishes a hierarchy to determine which party is required to undertake the reporting responsibilities. In cases where both parties are at the same level under the hierarchy, the parties must agree as a term of the swap which counterparty is responsible for compliance with the applicable reporting requirements. Parties that lack the adequate resources and/or infrastructure to comply with the Act's reporting requirements may engage the services of a third party service provider to perform these responsibilities, although the ultimate responsibility for the reporting requirements continues to reside with the designated reporting party.

H. Derivative Accounting Treatment

Depending on its structure, a corporate PPA may trigger a requirement for derivative accounting treatment because minimum production and delivery guarantees could be construed to constitute a "notional amount" under FAS 133, thereby potentially qualifying the corporate PPA as a derivative instrument. Corporate buyers will often resist derivative accounting treatment in order to avoid ongoing obligations to mark to market the value of the corporate PPA on their financial statements. The usual solution is to provide for a mechanical availability guarantee instead of a production guarantee. Accountants are the best source for the most current rules and standards relating to derivative accounting treatment of PPAs.

I. Curtailment

Curtailment has long been a tool used by traditional utilities to manage imbalance between the supply of electricity from both their contracted generation and their self-owned power plants, on one hand, and the demand for electricity from their customers, on the other hand. Traditional PPAs have generally afforded utilities the right to curtail output so long as sellers are made whole for lost revenue from production and any loss of associated tax benefits and are not penalized for any mechanical availability or production guarantees under PPAs.

Buyers are not, however, always in control of curtailment decisions. Certain transmission events might lead to curtailments simply as a result of grid conditions. Line outages and force majeure-caused curtailments are obvious examples, but curtailment can also result from congestion when production of electricity from wind and solar projects exceeds the available transmission capacity. Allocating financial and operational responsibility to manage such curtailments often involve issues surrounding the requirement to forecast (and the quality of forecasting), the responsibility to acquire certain transmission rights, and the responsibility to schedule into the day ahead and real time markets.

In a physical PPA, curtailments frequently follow the traditional utility risk allocation model, i.e., if a corporate buyer finds that its load is insufficient to absorb the as generated electricity from its contracted seller, it has the right to curtail production so long as (1) it pays for lost revenue and associated tax benefits from the curtailed energy and (2) the seller is not penalized for any mechanical availability or production guarantees. And if curtailments occur, but are not due to any action or inaction by buyer, allocating risk generally also follows the traditional utility model. In a virtual PPA, by contrast, the corporate buyer is generally not able to order a physical curtailment of the project. (Corporate PPAs may, however, give sellers an incentive to self-curtail below a negative pricing floor since buyers are not required to financially settle prices below that floor.) Curtailments due to outside events would simply result in a zero settlement as to those periods, but, like in physical PPAs, sellers are not penalized for any mechanical availability or production guarantees.

J. Change of Law

Large investor-owned utilities and municipal utilities have dealt for years with change of law risk in PPAs. In contrast, change of law risk may be a new issue for corporate PPA buyers, many of whom are not accustomed to entering into long-term, fixed price, take or pay arrangements and may have been accustomed to purchasing energy as a commodity on the spot market. Some corporate PPA buyers may be unfamiliar with the laws, regulations and tariffs governing retail energy purchases and may seek to limit their exposure to change in law risk by, for example, requiring that a PPA be re-negotiated in the event that a change of law materially impacts a party's ability to fulfill its obligations under the PPA or otherwise increases a party's cost of compliance. This provision can be a double edged sword for the

LATIN AMERICA

By George Humphrey

Many of the key issues for negotiating a utility or corporate PPA in the United States are equally applicable to negotiating a PPA in Latin America, but with added levels of complexity due to the need to negotiate and document the PPA in Spanish or Portuguese, blend international class protections and financing provisions with the requirements of local law, and properly account for specific market and country risks, such as currency devaluation, exchange controls or expropriation.

The ability to make direct physical sales of power depends on the country. For example, under Mexico's pre-energy reform laws, which are still applicable to power projects that obtained a "self-supply" permit prior to the August 2014 application cut off, a buyer under a physical PPA would have to have a nominal share ownership interest in the generator. However, Mexico's new energy law now allows sales under PPAs between a generator and a registered qualified user (generally, a corporate with a minimum MW load registered with National Energy Control Center (CENACE) at a specific load point) through CENACE, which manages Mexico's electric wholesale market.

In some markets, incumbent generators have tried to keep out new renewable generation by pricing back up generation (which corporate buyers will generally need to back up intermittent renewable generation) at or greater than the spot price, which defeats the purpose for the corporate buyer that is looking for electric price certainty for its business. In these circumstances, there may be ways to fashion a financial hedge, sometimes combined with a physical delivery of power, where the seller shares a portion of the spot risk with the buyer.

Some electricity markets are relatively new to renewable energy and may not have prepared for the rapid build-up of wind and solar energy that frequently occurs as renewable penetration ramps up. In markets with historically ample transmission capacity and high power prices, such rapid build outs can cause electric prices to plummet and congestion to occur. For example, Chile's northern grid (called the SING), which has some of the best solar resource in the world and a large load from mining companies, recently saw its 200 to 300 MW of available transmission capacity virtually disappear and spot prices drop close to zero during the daylight hours as the result of a large build out of solar projects over the last several years. Relief is not expected until 2018 when a new 500 kV line and interconnection with Chile's central grid is scheduled to occur.

Since a country's sovereign rating often sets the upper limit of an offtaker's credit rating in the country, the ability to obtain commercial bank financing may be limited in countries that are not investment grade rated, forcing developers to potentially more expensive multilateral, development bank or local financing options. In risky markets, a seller may also want to increase buyer credit support beyond what it would obtain in a less risky market.

As with all contracts with foreign persons or entities, the seller will want to confirm that the buyer (and its affiliates) is not on the "Specially Designated Nationals and Blocked Persons" list maintained by the U.S. Department of Treasury Office of Foreign Assets Control, as well as other relevant lists of terrorists and other prohibited persons and entities, and include representations and covenants relating to such matters. The PPA should include provisions relating to compliance with the Foreign Corrupt Practices Act, together with other applicable anti bribery, terrorism and money laundering laws of the United States, the country where the power will be sold and other applicable countries.

seller. It potentially provides the corporate buyer with an ability to exit or renegotiate its PPA obligations, but the seller may also benefit from some limitation on change in law risk, because the seller often has a greater exposure to changes in law than the corporate buyer. The seller's primary obligation is to produce and deliver energy, and any number of potential changes in rules or applicable tariffs could require substantial capital investments from the seller to continue complying with its PPA obligations. By contrast, the corporate buyer's primary obligation is to pay for the energy it receives, which usually requires little more than accepting the energy that is delivered (or purchasing it from the local utility).

Compliance cost caps are one potential solution to mitigate sellers' change in law risk. Under such an

arrangement, if a change in law increases the seller's cost of compliance with certain requirements under the PPA, the seller would be required to expend money to continue complying with such requirements up to an agreed annual amount and/or aggregate amount over the term of the PPA. Beyond such limitation, the seller would be relieved of its compliance obligations, unless the buyer elected to pay any excess amounts above the cap in return for the seller's continued compliance.

IV. Corporate PPA Issues and Trends in Select Markets

A. California

In California, except in limited instances, commercial and industrial customers are not currently able to enter into new PPAs for the direct retail sale of power over the grid. California allowed "direct access" when it restructured its energy markets in the 1990s, but the program was suspended in 2001 in response to the state's electricity crisis. A limited amount of direct access sales to commercial and industrial customers have been allowed, but that program is fully subscribed.

As a result, sales of power between generator owners and corporate buyers are generally limited to virtual PPAs, with the generator's power output being sold into the wholesale markets operated by the California Independent System Operator (CAISO). An owner of a generation project that intends to sell wholesale power into CAISO markets must register with CAISO as a "Participating Generator," unless its facilities have a generating capacity of less than one megawatt. All Participating Generators are bound by the terms of the CAISO Tariff and must execute a "Participating Generator Agreement." In addition, Participating Generators must register, or designate a third party to register, as a "Scheduling Coordinator," an entity certified by CAISO to, among other things, submit bids into the CAISO markets on behalf of Participating Generators. Corporate buyers must purchase their energy at retail rates from their local utilities, but they can enter into virtual PPAs that do not involve the direct sale of physical power.

B. PJM

As in the rest of the United States, the ability of a corporate buyer in the PJM region to purchase physical supply from a remotely located generator is governed by state utility law. In many PJM states,[8] retail customers have the option to have electric energy supplied by a state licensed retail provider. In states where retail choice is permitted, the retail provider can become a member of and purchase commodity electric energy from PJM, and resell that power to the corporate buyer. The ability of a generator to market its power is greatly facilitated by becoming a PJM member, which allows a seller to sell its power output into PJM's energy and capacity markets, without having to negotiate bi-lateral agreements with a utility (that may or not be motivated to enter into such an agreement). The availability of the highly liquid PJM markets facilitates the ability of the generator and the corporate buyer to enter into a contract for differences or similar financial transaction that replicates the economics of a direct retail supply arrangement and facilitates the development of a renewable energy supply that the corporate buyer can characterize as dedicated to serving its load.

C. ERCOT

The Electric Reliability Council of Texas (ERCOT) market provides retail choice to customers.[9] The ERCOT market permits physical supply and delivery of power from a renewable generator to a corporate buyer.

A renewable energy generator seeking to enter into a physical corporate PPA in ERCOT must register with the Public Utility Commission of Texas (PUCT) as a Power Generation Company and with ERCOT as a Resource Entity (RE). Since Power Generation Companies are only allowed to sell energy at wholesale, the project would be required to sell its power to a "retail electric provider" (REP). The REP would generally also serve as a "Qualified Scheduling Entity" (QSE) for the project, and would schedule output from the project into ERCOT. The

[8] Retail access is available in the following states within the PJM service territory: Maryland, Delaware, New Jersey, Illinois, Michigan, Ohio, Pennsylvania, and the District of Columbia.

[9] Texas Senate Bill 7, enacted in 2002.

REP must be certified by the PUCT, which includes demonstrating its financial credibility and its competence in administering the electronic interface systems necessary to purchase and resell electric power in ERCOT markets. Once certified, the REP purchases the electricity supplied by the project. To physically deliver the power to the corporate buyer, the REP purchases and pays for transmission and distribution service on the Transmission and Distribution Utility or Utilities whose facilities connect the generator and the customer.

The REP handles customer billing and payments to the Power Generation Company, functioning as the utility service provider for the corporate buyer. Because the renewable generator, particularly in the case of a solar or wind generator, cannot provide a constant, uninterrupted power supply to the corporate buyer, the REP will make arrangements to purchase and resell power from ERCOT markets to the corporate buyer to shore up this intermittency.

The REP can be an affiliate of the Power Generation Company, or the generator can enter into a commercial arrangement with an unaffiliated REP to provide the required services.

Authors

Giji M. John
Partner, Energy & Infrastructure
Houston
E gjohn@orrick.com
T +1 713 658-6630

Giji has been named a Project Finance Rising Star and Project Finance MVP by *Law 360*, and has been recognized in both Projects and Renewable Energy in *The Legal 500* Guide to the U.S. Legal Profession, for among other transactions, corporate and traditional PPAs, mergers and acquisitions in the renewable energy industry and renewable energy project financings.

Giji has negotiated PPAs and other energy trading agreements for wind and solar projects in California, Colorado, Idaho, Michigan, New Jersey, Nevada, Oklahoma, Pennsylvania, Texas, and Wyoming. Those projects have included traditional "busbar" PPAs; contracts for differences and physical PPAs with a number of Fortune 100 corporate buyers; renewable energy swaps (including load shaped and basis swaps).

Rohit Sachdev
Partner, Energy & Infrastructure
San Francisco
E rsachdev@orrick.com
T +1 415 773-5813

Rohit represents several of the world's leading developers of renewable and conventional energy generation projects on project development, financing and purchase/sale arrangements. He has extensive experience in the solar, wind, gas and energy storage sectors. Rohit's past deal experience spans energy and infrastructure projects in the Americas, Asia, India, Europe and the Middle East, and includes transactions awarded "Deal of the Year" distinctions by *Project Finance* and *Project Finance International*.

Rohit has represented multiple clients in negotiating thousands of MWs of solar, wind and other renewables PPAs throughout the United States. In recent years, Rohit has represented numerous winning bidders on thousands of MWs of PPAs and tolling agreements awarded by California's investor owned utilities. Rohit has also recently represented several developers and sponsors on both "physical" PPAs and "virtual" PPAs across from large corporate buyers and technology / internet companies.

Les Sherman
Partner, Energy & Infrastructure
San Francisco
E lsherman@orrick.com
T +1 415 773-5570

Les has more than 30 years of experience representing developers, investors and other participants on energy and infrastructure projects. He is named in the *Chambers USA* Guide as a Leading Lawyer in the area of Renewables and Alternative Energy, by *Euromoney* as one of the World's Leading Project Finance Lawyers, and was highlighted as a Leading Project Finance Attorney in *The Legal 500* Guide to the U.S. Legal Profession.

In recent years, Les has represented many of the world's largest renewables and conventional project sponsors on the development, financing and buying/selling of generation facilities, and currently represents over twenty of the most active energy project developers in California and the West. He has special expertise in structuring project development arrangements, power sales and other offtake agreements, EPC and other engineering and construction contracts, energy project/company M&A, project financing, fuel and feedstock arrangements, and related project transactions.

David Spielberg
Partner, Energy & Infrastructure
San Francisco
E dspielberg@orrick.com
T +1 415 773-5590

David has more than 30 years of experience in project development and financing. His practice includes a broad range of project finance and energy transactions for both renewable energy and conventional power projects and covers all stages of project development, construction and financing, as well as project acquisition and disposition. He has particular expertise in the negotiation of power purchase agreements, construction and supply contracts, and other agreements for project development and construction and in the construction and long term financing of projects.

David has been recognized by *The Best Lawyers in America* in the area of Project Finance Law. He has been named one of the leading lawyers in Projects and Energy by *Chambers USA Guide* and has been selected as one of the outstanding project finance lawyers in the United States by *Who's Who International*. He has also received many "Deal of the Year" awards from *Project Finance International*.

Contributors

Christopher Gladbach
Partner, Energy & Infrastructure
Washington, D.C.
E cgladbach@orrick.com
T +1 202 339-8612

Chris Gladbach is a partner in Orrick's Washington, D.C. office. Chris is co-head of Orrick's Defense Energy Task Force and contributed to the "U.S. Military" section of this article.

Nikiforos Mathews
Partner, Structured Finance
New York
E nmathews@orrick.com
T +1 212 506 5257

Nik Mathews is a partner in Orrick's New York office and serves as Global Co-Head of the Derivatives group. Nik contributed to the "Dodd-Frank Issues" section of this article.

A. Cory Lankford
Senior Associate, Energy & Infrastructure
Washington, D.C.
E clankford@orrick.com
T +1 202 339-8620

Cory Lankford is a senior associate in Orrick's Washington, D.C., office and is a member of the firm's Energy and Infrastructure Group. His practice focuses on matters before the Federal Energy Regulatory Commission and he contributed to the discussions of regulatory issues in this article.

George Humphrey
Partner, Energy & Infrastructure
Houston
E ghumphrey@orrick.com
T +1 713 658 6650

George Humphrey is a partner in Orrick's Houston office. He frequently represents sponsors developing and financing power projects in Latin America, including negotiating the PPA or hedge for the project, and contributed to the "Latin America" section of this article.

Adam Wenner
Partner, Energy & Infrastructure
Washington, D.C.
E awenner@orrick.com
T +1 202 339 8515

Adam Wenner, a partner in Orrick's Washington, D.C., office, heads Orrick's Energy Regulatory Group, and his practice focuses on matters before the Federal Energy Regulatory Commission and state commissions Adam contributed to the discussions of regulatory issues in this article.

Orrick is a leading global law firm with a particular focus on serving clients in the technology, energy and financial sectors. We are recognized worldwide for delivering the highest-quality, commercially oriented legal advice and fostering a culture of innovation and collaboration with our clients, among our lawyers and staff and within our communities. Founded in San Francisco a century and a half ago, Orrick today is named by *Law360* as one of the "Global 20" leading firms. Orrick's energy group is comprised of over 140 lawyers focusing on the energy industry globally. We have prominent practices in project development, tax equity and debt financing, and energy project M&A.