

Corporate PPAs as a solution

Business and finance | Complexity, pricing and regulatory hurdles remain key obstacles for the corporate PPA market to overcome. But as Andrew Hedges, Caileen Kateri Gamache and Lee Donovan of Norton Rose Fulbright write, ongoing procurement innovations and new players entering the market suggest this will be a crucial route market for solar for some time to come



Credit: Apple

The issue?

At its launch at Climate Week NYC 2014 the RE100, a global corporate leadership initiative that brings together influential businesses committed to 100% renewable electricity, counted 13 companies as members, alongside NGOs and clean energy experts. As of August 2019, RE100 boasts 191 companies that have made the commitment to go 100% renewable.

Around the world, influential companies are continuing to join RE100 and other initiatives with similar ambitious goals. Although there are undoubtedly laudable intentions backing this trend, the corporate bottom line increasingly demands it. As school children worldwide take part in climate strikes, climate change lawsuits wind through courts and activist shareholders score major climate and sustainability-related victories, companies of all sizes are finding that the sustainability sections of their websites and annual reports require renewed attention. Corporates are realising the reputational benefits of “going green”, stakeholders and the public have become more educated on climate and sustainability issues and accusations of greenwashing (compa-

nies making environmental claims that are unsubstantiated and/or misleading) and calls for additionality (renewable energy generation that is truly new) have increased around the world.

The solution?

Corporates have a variety of options to meet their individual climate and sustainability policies, including adopting efficiency measures, imposing sustainability measures on supply chains and service providers, utilising green electricity supply tariffs and purchasing renewable energy certificate purchases. Corporate power purchase agreements (PPAs), however, are emerging as one of the most popular solutions.

For developers of renewable projects, this is all well timed. For many, the past five to 10 years have been bumpy ones, particularly developers that base their projects on more established technologies such as solar PV. In regions such as Europe, generous government subsidy schemes have been reduced or removed, often at short notice and sometimes with retroactive effect. In the US, developers face the step-down and eventual phase-out of valuable tax incentives. Moreover, traditional utility

Tech companies such as Apple have been early movers on corporate PPA market, but new players are entering the market

PPA opportunities in the US decline as utilities focus more on asset ownership to increase internal capital costs and associated rates of return.

The absence of long-term revenue certainty, coupled with increased power market volatility (often caused by the increase in intermittent renewable technologies on grid systems), makes project development more difficult. This is particularly true for projects that rely on non-recourse project financing. Developers still require a route to market for their projects in order to develop and construct new renewable assets. However, the rapidly growing corporate focus on renewable energy procurement along with the dramatic reductions in renewable technology costs create favourable conditions for continued build-out of projects.

Developers seeking to fill the gap left by government subsidies and dearth of utility off-take opportunities are excited about the relatively new corporate PPA market. Developers in markets where government subsidies have been eroded or removed are looking to corporate PPAs to act as a route to market for projects that do not benefit from tax credits, green certificates or other price stabilisation mechanisms that help mitigate exposure to merchant risk.

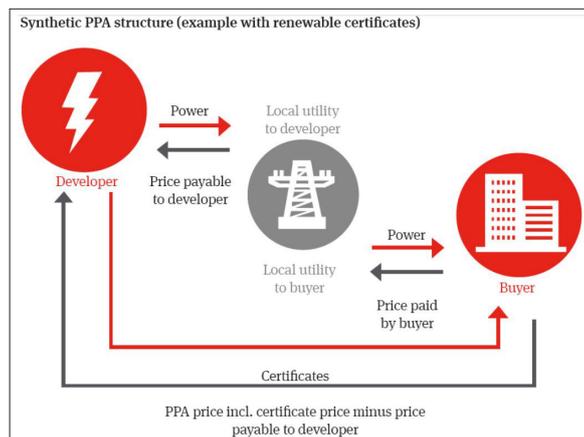


Figure 1. The structure of a typical synthetic PPA [1]

How?

The term “corporate PPAs” has become an industry buzzword the past few years, with varied use and understanding. The term has been used to describe a variety of contracting structures, some of which are quite far removed from a direct power purchase agreement between a renewable project and a corporate buyer. In general, corporate PPAs can be broadly broken down into two types: synthetic/virtual PPAs and sleeved or physical PPAs.

A “synthetic” or “virtual” corporate PPA is a financial derivative. In the most common virtual PPA arrangement, the parties agree to a strike price, with payment flows being determined by comparing that strike price against a market reference price. This contractual arrangement does not involve the physical delivery of output to the buyer or an agent appointed by the buyer (for example a utility). These types of corporate PPAs may be structured in various ways. For example, they may be two way or one way. In the former, where the market reference price is higher than the strike price, the generator pays the difference to the buyer. Where the market reference price is lower, the buyer pays the difference to the generator. The volume contracted under the agreement can also be specified in a variety of ways and need not be tied completely to the actual generation of the project. This type of virtual PPA is generally known as a “contract for difference”. As the market becomes more comfortable with contracts for difference, we are seeing unique additions and modifications, including shared upsides or downsides to split the risk of particularly high windfalls on either side, the introduction of temporal risks by making settlements based on day-ahead pricing irrespective of whether the project clears in day-ahead or in real-time markets, and other creative mechanisms to define and predict the value of the contract.

It is important to note there is typically one physical aspect in a synthetic PPA. For example, in the US and other parts of the world, the transaction typically involves green certificates (as in the diagram in Figure 1). The corporate buyer will usually require the green certificates associated with the energy output of the project be delivered to the buyer or retired in the buyer’s name. The transfer of certificates, evidenced via attestations or formal clearinghouses

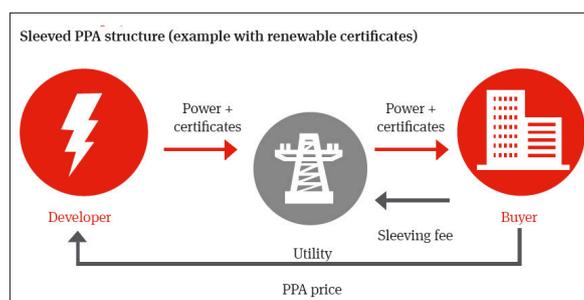


Figure 2. The typically structure of a sleeved PPA [1]

that track environmental attributes, is the primary means of demonstrating a corporate obtained “green” energy in the US. If electricity is sold without all associated environmental attributes, it is often described as “brown” energy and is of little to no value to corporates. The renewable energy certificates are used by the corporates to offset their overall electricity usage. In this manner, a corporate is able to offer tangible evidence of its performance against its corporate mandate or other commitments. Some transactions take a different approach. For example, in markets such as those in the Nordics where there is already a high deployment of low carbon generation on the system and an established secondary market for green certificates, the corporate buyer may separately purchase green certificates in the market and allow the project to sell the green

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certificates associated with its power output separately.

A “sleeved” or “physical” PPA often (but not always) involves a direct PPA between the corporate buyer and the generator. The corporate buyer usually enters into associated arrangements (either managed by the corporate buyer itself or via a utility) to enable the output purchased to be used for the benefit of the corporate’s wider facility load.

Under this approach, the corporate

buyer enters into a PPA with the generator. The corporate buyer simultaneously enters into a PPA with its incumbent energy supplier. This second PPA requires the utility to act as the buyer’s agent in managing the off-take of power from the generation facility. Generally the design of the linked PPAs is intended to mitigate risk for the corporate buyer by passing through obligations and liabilities to the extent possible. Usually the corporate buyer will agree with the utility how the intermittent electricity output of the generation facility will be credited against the corporate’s electricity requirements. This will generally involve management fees associated with the intermittent nature of that generation output.

In the US, there are various state regulations that govern the structure of a physical PPA and, in some places, prohibit them. A structure adopted by many US states that solar developers and large commercial and industrial off-takers have embraced is “net metering.” Under this arrangement, the developer will install the generating system behind the meter on the host customer’s facility (e.g., on parking garages, rooftops, adjacent land). The PPA between the parties requires the host customer to consume all of the electricity it can from the project, and any excess energy flows to the grid. State laws typically limit the size of the generating unit to ensure the host customer still consumes more electricity from the grid than is sent onto the grid from the on-site system. Corporates with large warehouses and stores have spurred this trend and been influential in shaping local laws to accommodate these physical PPA arrangements.

A bright future...

As noted above, the growing focus of corporates of all sizes on sustainability presents a clear opportunity for large-scale deployment of corporate PPAs globally. Data gathered by industry observers such as Bloomberg New Energy Finance demonstrate a marked growth in the cumulative volume of corporate PPAs being signed at both a global and regional level, from 2.3GW of signed contracts in 2014, the year of the formation of RE100, to 13.5GW signed contracts in 2018. Corporate PPAs are not new instruments and some of the early-mover corporates are now established

market players with portfolios of multi-technology corporate PPAs across different jurisdictions. That experience (both positive and negative) is leading to continued innovation in the market, with a number of experienced buyers using competitive procurement processes to push for more innovative contracting structures and risk mitigations.

In addition to increased cumulative volumes of signed corporate PPAs, we are seeing new corporate entities entering the market. Given the complexities of a corporate PPA, an “education” process is often required. The extra time developers take to assist with this process often pays off in repeat transactions once the corporate becomes comfortable. Once a corporate has signed its first contract, efficiencies can be utilised going forward in the same market and in other jurisdictions (subject to mandatory local law requirements). It is not uncommon in the US to see developers repeatedly working with the same corporates and lenders, which reduces costs and resources for all parties. There are also smaller corporates looking at corporate PPA solutions either individually or as part of aggregated corporate PPA structures. Developing efficient contractual and technical tools to allow a significantly greater number of smaller buyers to be involved in corporate PPAs is one of the key near-term challenges for the sector. As developers and off-takers become more sophisticated, we will likely see corporate PPA structures evolve. The goal for the future will be to continue to find ways to increase the value for all participants.

...albeit, with a few challenges

One of the biggest challenges for corporate PPA deployment to date has been regulatory hurdles. Although at a very basic level a corporate PPA is a simple supply contract (and in the case of synthetic or virtual PPAs may not even require delivery of any goods), the regulated nature of the electricity industry adds great complexity. In the US, there is the potential for both federal and state regulators with competing priorities to regulate physical energy sales. A synthetic PPA is likely to be treated as derivative product in many jurisdictions, requiring consideration of financial services regulations. The US Commodities Futures Exchange Commission regulates virtual PPAs in the US under a

relatively new regulatory structure that many developers and corporates are still learning, for example. These types of regulations are foreign to other jurisdictions and the popularity of corporate PPAs may outpace the capacity of some regimes to accommodate their use. Early participants in these markets will have certain advantages in helping to shape the regulatory regime and corporate PPA structure. On the flip side, their experience will also be the basis for the future “lessons learned” in such markets.

In addition, corporate PPAs require interaction with the operational and/or construction contracting framework and while a corporate PPA that applies to an operational asset only is more straightforward, the signing of a corporate PPA in the pre-construction phase may be

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a requirement for a corporate in order to tick the “additionality” box of its own internal sustainability policies. Although a degree of standardisation has been achieved by market leaders in certain regions, key differences in electricity markets mean that a template for example in the US looks very different to, say, a template form in Northern Europe. In Europe, the European Federation of Energy Traders (EFET) has been working with developers, corporates, advisors and financiers in order to produce an EFET standard corporate PPA. A review of the first draft shows that, in order to cater for the various types of corporate PPA that parties may consider using, the document has a great degree of optionality and at first glance can look overbearing. It will be interesting to see if the EFET form of corporate PPA can operate like the other forms of EFET documents or if, given the nature of

the contract, it will need to evolve to be more like the forms of construction contract that renewable developers will be familiar with (FIDIC, JCT, NEC, etc.). The experience in the US to date has demonstrated that it is very challenging to find parties willing to execute a “standard” contract without some degree of negotiation and legal review. This, in turn, drives up costs and makes the economics of smaller corporate PPAs difficult. It is an issue some in the US market are actively working to overcome.

There are also a variety of competing avenues to achieve corporate climate and sustainability goals. Many of the other products in the market, such as green supply tariffs, purchase of green certificates, etc. are often simpler and quicker to put in place. An energy procurement manager in a corporate may not be willing or able to engage in the time and complexity of a corporate PPA, particularly a smaller organisation where energy procurement may be just a small part of his or her role. In addition, the tenure of corporate PPAs that are sought by developers (10-15 years) are often much longer than the usual mandate that a procurement manager may have for long-term contracts (for example five to seven years).

There are numerous risks to consider before entering into a corporate PPA. These include factors such as: market risk, price and project revenue risk, tenor risk, currency (or foreign exchange) risk, credit risk, scheduling risk, basis risk, balancing risk, volume risk, shape or profile risk, construction risk, performance or operational risk, change in law risk and force majeure risk. These risks require allocation between the parties in the corporate PPA and, where appropriate the use of contractual or physical mitigation tools. As corporate PPAs have evolved to offer innovative products such as baseload volumes, so too have the mitigation tools such as hedging, proxy revenue swaps, co-location of battery storage, etc. If risk profiles cannot be allocated in the corporate PPA, the introduction of third parties into the contracting framework increases complexity.

While the cumulative numbers of corporate PPAs signed each year are increasing at a rapid rate, a more detailed look at the data shows that growth is focused. A small number of

market players in a handful of jurisdictions make up the bulk of the numbers. While there is opportunity to study “lessons learned” from transactions in the US or Nordics, the nature of different electricity systems and regulatory structures means that contracting frameworks are not readily transferable from one region to another. The growth of the corporate market has introduced new players and while this presents opportunity there is a repeat “education” exercise required. As established market players fulfil their quotas the scope for smaller corporates to join aggregated structures is reduced.

The outlook

The data suggest that the deployment of corporate PPAs will continue to rise. The questions that the industry is concerned with are how fast and where? Established players in established markets continue to provide innovative contracting frameworks and the market is responding with the development of contractual and physical risk mitigation tools. While demand from “big tech” may not

continue at the same pace it will not stop completely and there are other corporates, from a variety of industries, who are stepping into the market. New and smaller corporates will require education, given the complex nature of the documents but standardisation exercises and aggregation transactions provide opportunities to speed up this process in an efficient manner.

As mentioned previously, for all the complexity that can be introduced in a corporate PPA arrangement, at its core it is a supply contract for green electricity. Like any supply contract, pricing is key. It is pricing in each region and jurisdiction which will ultimately drive, or hinder, the development of corporate PPAs as routes to market for renewable projects. ■

References

- [1] World Business Council for Sustainable Development (WBCSD), in conjunction with Norton Rose Fulbright and EY, 2016, “Corporate renewable power purchase agreements: scaling up globally”.

Authors

Andrew Hedges is a climate change and clean energy lawyer based in London. His expertise spans the development of renewable energy projects, energy efficiency, sustainable energy procurement (including long-term corporate PPAs) and carbon finance. Andrew has experience advising both developers and corporates on innovative off-take arrangements and has authored a number of publications on corporate PPAs, including for the World Business Council on Sustainable Development (WBCSD).



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