

FINANCING CONSIDERATIONS FOR COMMERCIAL SOLAR INTO 2020 AND BEYOND

IN THE CASE OF COMMERCIAL-SCALE SOLAR, CORPORATE-DRIVEN DISTRIBUTED GENERATION IS FLOURISHING BECAUSE THERE ARE MORE AVENUES FOR PARTICIPATION.

Historical records don't last very long in the renewable energy industry. Whether it's pushing the boundaries of solar cell efficiency, offshore turbine size, or reaching a new low for power-purchase agreement (PPA) pricing, the advancement of renewable energy in recent years often feels like an Olympic track meet where world records are shattered in every event.

That is also true beyond utility-scale renewables. In 2018, corporate contracts accounted for 22 percent of renewable energy PPAs, according to Wood Mackenzie Power & Renewables. The nearly 6 gigawatts' worth of offtake agreements for wind and solar PPAs last year more than doubled those signed in 2017.

In the case of commercial-scale solar, corporate-driven distributed generation is flourishing because there are more avenues for participation.

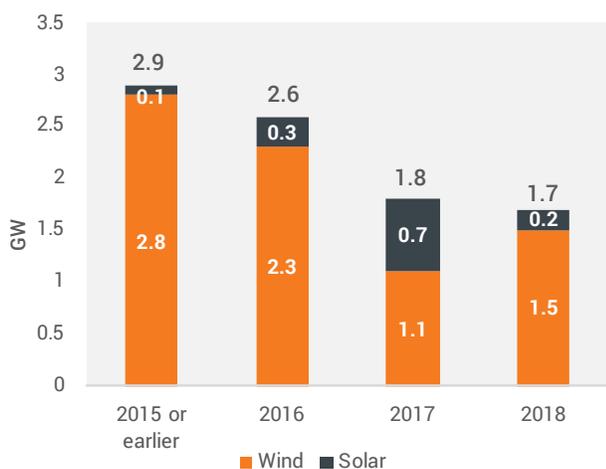
While large corporate offtakers continue to make up the majority of projects, that is changing. Corporate PPA size is growing, often a reflection of various offtakers coming together to get projects done. In addition, community solar projects – particularly in policy-friendly states like Minnesota, Massachusetts and Illinois – are another vehicle for commercial solar's growth.

The growth of distributed solar (which CohnReznick defines as non-residential projects less than 10 megawatts in size) is being propelled by a reality that commercial customers of all sizes can appreciate: pure economics.

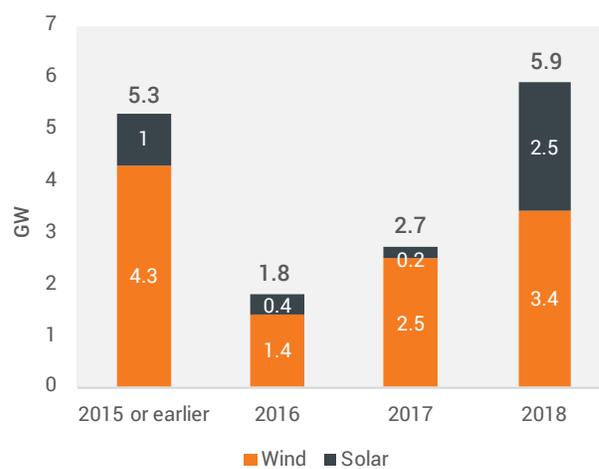
While federal and state policies, particularly renewable portfolio standards, will continue to matter for utility-scale projects, the ability to manage company costs and tax liabilities while also achieving ambitious sustainability goals will make commercial solar increasingly attractive.

Yet, despite the attractive economics, commercial solar remains a challenging business from a financing perspective.

C&I capacity additions, U.S.



C&I by procurement year, U.S.



Source: Wood Mackenzie Power & Renewables

WHILE THE APPETITE FOR LARGER DEALS REMAINS, RECENT YEARS HAVE SEEN INCREASING NUMBERS OF NONTRADITIONAL TAX EQUITY INVESTORS PURSUING SMALLER DEALS.

Here we unpack some of the sticking points of getting deals done, including:

- Minimizing challenges associated with tax equity financing
- Navigating the federal Investment Tax Credit stepdowns
- Maximizing solar-plus-storage

HOW TO MINIMIZE FRICTION USING TAX EQUITY

Last year kWh Analytics, a risk management and software company serving the solar industry, launched Solar Landscape. It lists the industry's most active lenders and tax equity investors and allows project developers to quickly get up to speed on those market segments where lenders and tax equity investors (such as John Hancock, ABN Amro and ING Capital) are active. It also provides a summary of the typical deal size and structure they prefer.

The website's listing of more than 30 tax equity investors and lenders that are active in commercial solar projects is a reminder of the ongoing importance of tax equity in the growth of distributed generation.

Tax equity investments in commercial-scale solar, however, can be complicated and cumbersome for some, in no small part due to the added costs associated with the continued lack of document standardization, small deal sizes and credit rating issues. Addressing some of these friction points remains an important challenge for the tax equity sector.

STANDARDIZATION FOR SMALLER DEALS

For some of the larger tax equity investors, one primary issue is scale. This has historically played out by seeing tax equity require investments of \$50 million or more. While the appetite for larger deals remains, recent years have seen increasing numbers of nontraditional tax equity investors pursuing smaller deals, or aggregations of small projects, as a way to reach the desired scale.

Key to this approach is the establishment of a solid partnership between investors and project developers. When developers can demonstrate to tax equity investors that they can consistently put together projects with the right equipment and offtakers, investors are more likely to pursue a partnership that allows the two parties to standardize documentation and agreements, which can reduce unnecessary transaction costs.

Time and expense can further be reduced through other standardization efforts, including:

- Consistency in the operating agreements that spell out partnership benefits, liabilities and indemnities.
- Equity capital contribution agreements that establish the conditions that must be met for investments to actually take place.
- Streamlined due diligence processes that can help save significant time and money for the sponsor during both the initial underwriting phase and the funding period. For example, a tax equity investor may conduct a deep-dive examination of a sample of projects that are part of the portfolio, rather than each individual project. As part of the tradeoff for accepting a streamlined process, the tax equity investor may seek to rely more heavily on the sponsor's representations and warranties.
- Dividing a portfolio into a limited number of groups, each of which comprises projects with similar construction schedules, which allows for a reduced number of tax equity funding rounds (and fewer associated updates to third-party consultant reports and legal opinions).

STRATEGIES TO ADDRESS CREDIT QUALITY

One key challenge of tax equity investment in commercial solar projects is the credit quality, or lack thereof, of offtakers. In general, the tax equity market has been small enough that investors have insisted on creditworthy offtakers, which is historically measured by the offtaker's credit rating.

IN THE SHORT TERM, CORPORATIONS LOOKING TO PURSUE SOLAR WILL CONTINUE TO HAVE A WIDE SELECTION OF PROJECTS THAT QUALIFY FOR THE FULL 30 PERCENT TAX CREDIT.

Clearly, not all offtakers will have an investment-grade credit rating, which is why more investors are willing to do their own analysis of a company's financials in order to achieve a level of comfort with a deal. Other approaches include putting together a portfolio of projects that blends or mixes offtakers with and without credit ratings, or structures deals in a way that provides protection to investors if an offtaker's credit degrades below a certain predefined level.

Another recently adopted tool for accessing the roughly 90 percent of U.S. companies that don't have a public credit rating was unveiled this past April when Energetic Insurance released details of its credit insurance policy for commercial solar projects, which is designed to protect developers from the possibility of payment default by an offtaker.

THE IMPACT OF THE ITC STEPDOWN

The federal solar Investment Tax Credit has been an enormous success. According to the Solar Energy Industries Association, the U.S. solar industry has grown by more than 8,600 percent since it was enacted in 2006, resulting in hundreds of thousands of new jobs and billions of dollars in capital investments.

At the end of 2015, Congress passed a multiyear extension of the ITC as part of a larger spending package. The move kept the ITC tax incentive at 30 percent through the end of 2019 unless a project is otherwise safe-harbored by year's end. However, without new extending legislation, the value of the ITC for safe-harbored projects beginning their construction in 2020 will decline to 26 percent in 2020 and 22 percent in 2021, as long as those projects are placed into service by December 31, 2023. For any commercial and utility-scale projects commencing construction in 2022 and beyond, the ITC will be 10 percent (the separate residential ITC will be eliminated entirely in 2022).

As a result, the ITC stepdown will exert downward pressure on the commercial solar market. The question is whether the long-term positive trends in the solar market will continue at a level that is sufficient to offset this downward pressure.

However, in the short term, corporations looking to pursue solar will continue to have a wide selection of projects that qualify for the full 30 percent tax credit. This is because projects can qualify for the full ITC if developers commence construction by the end of 2019 (by either starting "physical work of a significant nature" or by taking advantage of the IRS' spending "safe-harbor" approach, which requires the developer to incur 5 percent or more of the total cost of the project's energy property). Through 2023, Wood Mackenzie analysts expect over half of the nation's utility-scale projects to make use of either the physical-work or the 5 percent safe-harbor standard to take advantage of the full 30 percent ITC.

Developers must have a plan to qualify for the ITC safe-harbor test in order to receive the full 30 percent tax credit. Meeting the physical work standard is arguably the more challenging route, because it requires a generally more subjective determination, rather than the formulaic dollar-based approach provided by the 5 percent safe-harbor standard. At the same time, the physical-work standard is typically a less expensive choice that could work well, especially for projects that are already in an advanced stage of development and better able to demonstrate continuity of work.

Many contend that the 5 percent safe-harbor test is easier to comply with, or less risky, because it can be achieved by purchasing panels and other integral equipment. As such, the 5 percent test is well suited for projects that are still in early development.

The safe-harbor test is not without its own issues and complexities. The test requires advanced planning to make sure the project is able to receive any purchased equipment by the end of 2019. In some cases, the project owner may be able to take advantage of accruing eligible costs under the "3.5-month rule," a complex tax accounting rule which requires deliveries to be reasonably expected within 3.5 months after the purchase of equipment. Still, developers should not rely on this rule without first seeking professional tax accounting advice due to its numerous labyrinthine requirements and qualification criteria.

Developers considering purchasing and holding equipment for projects that qualify for the full ITC also need to understand the nuances of their choices, as solar equipment prices are expected to

DEVELOPERS MUST HAVE A PLAN TO QUALIFY FOR THE ITC SAFE-HARBOR TEST IN ORDER TO RECEIVE THE FULL 30 PERCENT TAX CREDIT.

continue to decline. It's therefore critical to calculate whether those declines will offset the value of having fully ITC-qualified equipment.

But stockpiling too early or in excessive quantities can have a downside. Insufficient demand for the equipment could force an eventual write-down or write-off if the developer is unable to place the equipment in service within four years. This is an issue that some wind developers are working through now with Production Tax Credit-qualified, safe-harbored turbines that may not be deployed by the end of 2020.

Another issue is the impact of improvements in solar panel efficiency over time. Will your safe-harbored panels have the same level of energy production or performance profile of a project completed in later years?

CREATING SYNERGIES BEYOND SOLAR

The market for energy storage is set for massive growth. Global energy storage deployments across all sectors will grow from a cumulative 7 gigawatts/12 gigawatt-hours in 2018 to 63 gigawatts/158 gigawatt-hours in 2024, a thirteenfold increase, according to WoodMac.

The pairing of commercial solar with storage is already an area of interest and activity in the U.S. market as more developers and investors get comfortable with the technology and better understand the economics of these projects. In the U.S., commercial projects accounted for 78 megawatts in 2018, according to WoodMac, representing 53 percent growth over 2017. Nearly all of those projects to date have been in California.

The rapidly declining cost of battery storage, along with the unique benefits that storage provides to solar projects by enabling peak-shaving and participation in wholesale electricity markets, is further driving interest in pairing these technologies. But doing so involves introducing substantial complexity into these deals.

Today, there is no standalone ITC for battery storage. However, solar-plus-storage projects can still qualify for either a full or a prorated ITC incentive for the battery components if at least 75 percent of the energy that goes into the battery comes from an ITC-eligible renewable resource. To qualify, owners must continue to track the level of renewable power flowing into the battery throughout the five-year compliance period to avoid a partial or full recapture of the associated ITC. This adds a level of tax accounting complexity that investors need to consider as they carry out due diligence on solar-plus-storage projects.

In addition to achieving clarity on whether the battery storage component of the project qualifies for the ITC, investors need to understand where potential revenue will come from. The solar piece of the equation is straightforward, but it's important to determine whether the battery portion of the project will earn revenue from capacity payments, which are typically straightforward, or ancillary services, which can comprise numerous types of revenue streams of varying contractual complexity.

In Q2 2019, both the U.S. Senate and House of Representatives introduced legislation that would allow battery storage to qualify for the ITC. Though it remains uncertain whether it will be approved by the Senate, the enactment of a bill granting battery storage the same ITC benefits that have been afforded to solar would be a significant driver of additional projects. However, even without such an incentive, it's very likely that commercial solar-plus-storage projects will grow significantly, because increasingly lower-cost batteries have the ability to make these deals more profitable.

DO REGIONAL PLAYERS NEED TO SCALE?

With a few prominent exceptions, residential solar installation companies have traditionally found it extremely difficult to expand from their local roots to a national presence. But is

commercial solar a fundamentally different business that improves the possibilities and benefits of geographic expansion?

There are certainly plenty of reasons why such expansion is beneficial. Even commercial solar developers operating in an area of the country with a great deal of demand will ultimately be limited by the size of the addressable market. There is also the risk that can come from any reliance on state or local incentives or regulatory schemes.

Nevertheless, whether attempting to grow organically by originating and developing projects or by acquiring projects already underway, expansion is expensive, and it is challenging to convince investors to back that effort.

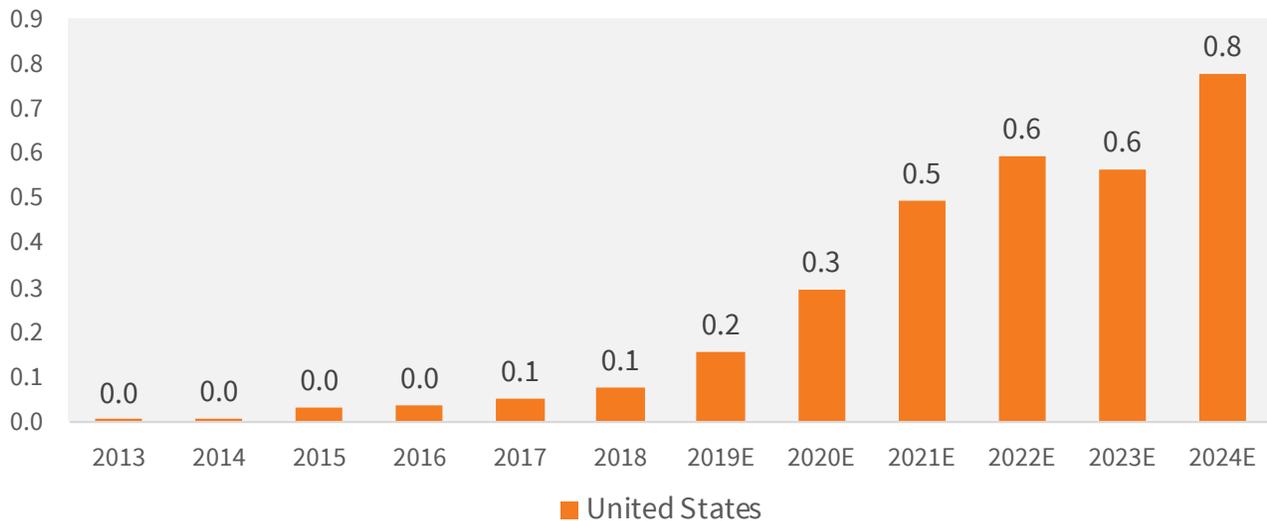
One possible approach to expansion is for developers to piggyback on existing relationships with customers who have a national presence. For example, a developer working to install

solar on the rooftops of a national retailer in one state may stand a strong chance of winning bids for projects that retailer might want to pursue in other states. Taking advantage of that existing relationship can provide a foothold in a new market that a developer can build on.

Without the benefit of established relationships with customers that have a national footprint, the other way to pursue expansion is by doing the hard work of assessing the market potential, the existing regulatory and policy environment, and the competition.

With that strategy, it's important to be realistic about the ability to differentiate and win enough business to make the expansion worth the additional costs and risks involved. Even so, the potential benefits of achieving national scale are significant enough to consider as the commercial solar market expands to include more and more businesses and large end users.

U.S. Energy Storage Capacity Additions



Source: Wood Mackenzie Power & Renewables

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