

New Horizons In Solar Financing



Law360, New York (May 15, 2014, 2:32 PM ET) -- How can companies in the solar power industry stay competitive as the typical offtake contract shrinks and as customers become more geographically distributed? Developers, installers and investors will choose carefully from the menu of traditional and more innovative financing options in an effort to grow and compete for the best opportunities.

Now that module costs appear to be bottoming out and margins on equipment, installation and development are becoming razor-thin, these sponsors are scrutinizing their capital and tax structures in an effort to hone any competitive edge they can find. Today, a much wider range of investors is willing to invest in solar energy-generating assets than even a few years ago, but, still, there are challenges to balancing risk profile and risk appetite. And certain classes of investors remain unfamiliar with solar assets, which means that there is still room for improvement in the cost of certain financial products.

In recent months, financial markets have stretched far beyond the traditional model of funding solar projects through project finance bank loans and third-party tax equity. The new models of solar project financing include public market equity offerings of de-risked project portfolios, securitized consumer loan and lease obligations, solar project bond offerings and crowdfunding. Sponsors are feeling pressure to catch the innovative-financing train before it leaves the station, or risk handicapping themselves with lower valuations and higher capital costs than their competitors.

Tapping the Public Equity Markets

One option is for a developer to raise capital on the public equity markets. Historically, developers raised equity at a parent level, requiring investors to optimally value an entire pipeline of projects in various stages of development and even (in some cases) non-development businesses. Recently, developers have shown growing interest in an alternative. A yield co is a special purpose vehicle created to hold a portfolio of de-risked operating assets and monetize a portion of its value through the sale of equity on a public exchange. The yield co distributes some or all of the projects' revenues as dividends. The parent company may use the cash raised from the initial sale of shares and from ongoing dividends

to develop additional assets to sell to the yield co or for general corporate purposes. Any cash retained by the yield co may be used for operations and maintenance and to acquire additional projects. Projects may be acquired from the parent or an affiliate, which may also be involved in managing the company, or from third parties. The company may be established around a portfolio of identified projects, or it may be established as a blind pool of capital, with management exercising discretion to acquire projects opportunistically.

Several yield cos containing renewable energy generating assets have been launched in the last year in North America, and several more are under consideration. SunEdison announced in April that it has formed a new yield co, and it is anticipated that it will offer shares publicly in the second quarter of 2014. NRG Yield launched in the United States in July of 2013 with \$431 million and a portfolio of 1.3 GW of natural gas, solar and wind generation. TransAlta Renewables launched in Canada in August of 2013 with US\$200 million and a portfolio of 1.1 GW (currently 1.3 GW) of wind and hydro generation. Pattern Energy launched in the United States in October 2013 with \$405 million and a portfolio of 1 GW (currently 1.3 GW) of wind generation. IPOs were attempted but withdrawn for Silver Ridge Power (by AES Corp.) and Threshold Power Trust. Several similar vehicles have launched in the U.K. in the form of investment trusts and investment companies, and are on target to have raised \$2 billion of capital through such vehicles in less than two years.

Why use a yield co to raise capital for solar projects? First, in a yield co, the tax attributes of renewable generation can offset the tax obligations of other projects in the portfolio. In order for the yield co to utilize all of its tax benefits, some of the projects in the portfolio must have net profits resulting in tax liabilities, either because they are conventional generation assets or because they are older renewables projects that have already exhausted their tax benefits. The yield co's ability to shelter its own tax obligations eliminates the need to access a potentially constrained pool of tax equity investors. Second, a yield co may allow a parent to finance its corporate operations (and potentially its further project development activities) more cheaply than selling equity at the corporate level, if investors have not appropriately valued the assets' potential as part of the parent or if investors will pay a premium for the high, stable yields of operating assets in isolation. Third, selling assets into a yield co may provide certain tax benefits — the parent company can realize the tax value of net operating losses from retained operations immediately rather than over the several years of project cash flows; and the yield co's investors enjoy the benefits of tax-free distributions (as return of basis — for as long as the yield co does not generate earnings and profits) and a tax shield resulting from incremental depreciation.

Several challenges must be addressed in order to effectively use a yield co to monetize solar projects. The yield co must have a large enough portfolio to justify the expense of a public offering. Additionally, it must continue to acquire new projects to maintain its favorable tax position and to generate the growth that investors seek. Affiliated entities (such as developer-managers) may incur high costs to protect against potential conflicts of interest when they want to sell assets to the yield co, a risk highlighted by ratings agency reports in connection with the NRG Yield offering. Finally, the portfolio must be carefully selected and marketed to match the risk appetite of the target investors, and the market's lack of familiarity with either the technology or the applicable regulatory regimes can lead to underpriced or failed offerings. For example, in 2013, when AES Corp. withdrew its IPO of Silver Ridge

Power, a solar yield co, reports attributed the offering's failure to investor uncertainty about the applicable international regulatory regimes.

Tapping the Public Debt Markets

Sponsors with either a single asset or a portfolio of assets may also consider whether they can bring debt into the financial structure in order to cost-effectively monetize assets while retaining as much ownership as possible. Traditional project financing of either a single asset or a portfolio of assets involves a loan secured by the project assets. Some well-capitalized corporate sponsors have also back-levered their equity investments in projects, relying on their corporate credit instead of the project assets as the basis for obtaining a loan.

Recently, sponsors have ventured to use other debt structures to better take advantage of risk allocation among various investors. A few have successfully issued project bonds as part of the debt structure for single projects or small portfolios of assets. The current buzz, however, is around the use of asset-backed securities to finance solar projects.

In the past year, Soitec issued the equivalent of approximately US\$85 million of bonds listed on the Johannesburg Stock Exchange to finance its 44 MW Touwsrivier CPV project in South Africa and Foresight Group issued £60 million of bonds listed on the London Stock Exchange and secured by a portfolio of four operating solar PV assets in the U.K.[1] Two years ago, MidAmerican Energy Holdings privately placed \$850 million of project bonds to finance the construction of the Topaz Solar Farm, a 550 MW solar photovoltaic project in California. In 2010, SunPower Corp issued €195 million of solar bonds to finance the development and construction of the Montalto di Castro solar park, a 44 MW photovoltaic solar project in Italy.[2]

Project bonds offer a further tiered capital structure, typically by prioritizing the claims of the bondholders versus other debt holders, and pushing equity further down the waterfall in terms of priority of access to project cash flows. However, for large projects still under construction, the inability to space the disbursements of bonds proceeds over time can make bonds less efficient than traditional bank-financed project loans, as the entire proceeds of the bond issuance begins accruing interest at once. For this reason, bonds are usually most efficiently deployed to repay a construction loan or to refinance a project after it begins operating, as in the case of the Foresight offering mentioned above. This issue can be partially mitigated by issuing multiple series, staggered in time, with the later series benefiting from reduced construction risk. Traditional private placements, as opposed to 144A bond issuances, can also offer more flexibility on funding arrangements.

Looking forward, the shift toward smaller, distributed deployments of solar systems is expected to continue. Medium-sized projects cannot bear the transaction costs of single-project financing. And small rooftop or commercial projects cannot even bear the cost of full diligence for a portfolio project financing. Instead, the industry is seeking to finance small distributed projects through a new class of asset-backed securities, backed by solar leases or consumer power purchase agreements.

Asset-backed securities are debt instruments that receive interest and principle payments from the income stream of a highly diversified pool of very small assets (such as small distributed or rooftop solar installations) that would not otherwise be able to access the public debt market. Like mortgage-backed securities, auto-loan-backed securities or credit-card-obligation securities, the risk analysis focuses on the attributes of the class of obligations as a whole and on the diversity of the asset base rather than on the credit of the counterparty to any individual contract. SolarCity launched the first solar asset-backed offering in November of last year. The private placement of \$54 million in Solar Asset Backed Notes pooled contracts for over 5,000 residential and commercial installations, by contrast with the single-digit portfolios that have been financed with traditional project loans or bonds.

The challenges of incorporating solar leases and power purchase agreements into asset-backed securities are highlighted by the Standard & Poors' presale rating report on the SolarCity notes. The risks highlighted in the report included the limited performance history of the assets and customers, regulatory risk, and the potential need to renegotiate customer contracts. These risks were mitigated by the high FICO scores of the customers involved; the successful history of contract reassignments in SolarCity's operating contract base; conservative technical assumptions; overcollateralization; and credit protections including an interest reserve, an inverter replacement reserve, performance tests, and mandatory prepayments upon contract renegotiation. The conservative structuring meant that even in extreme stress scenarios, such as a 50 percent default rate and 25 percent to 30 percent relocation rate, the modeling still predicted timely interest payments and full payment of principal by final maturity.

While there had been some criticism for its low advance rate, a result of the overcollateralization of the instruments, several factors are likely to improve the advance rate on solar securitizations in the future. The historical record of customer performance in solar leases and power purchase agreements will improve. Contracts will become more standardized, for example, by applying the standard contract templates developed by NREL's Solar Access to Public Capital Project for residential leases and commercial power purchase agreements. Sponsors will be able to assemble more geographically diverse asset pools. And technology performance will develop a longer track record.

SolarCity announced that it plans to offer a publicly traded bond backed by a portfolio of solar assets before the middle of this year (its November offering was a private placement). And the market buzzes with talk of further offerings. In particular, SunPower has announced that it will issue bonds backed by solar leases in the second half of 2014. It would not be surprising if other competitors soon follow.

Crowdfunding

Finally, trends in social media, micro-finance and peer-to-peer lending are converging to allow individuals to invest in solar projects with the click of a mouse, completely bypassing the stock exchange. The trend started with arts-based crowdfunding platforms like Indiegogo and Kickstarter, and direct-to-peer lending platforms like Kiva.org and Prosper Marketplace. Then companies like Mosaic, SunFunder, GreenFunder and Abundance Generation began offering renewable and cleantech-focused investment opportunities. Securities regulations have limited the scope of online funding platforms of this nature.

But the Jumpstart Our Business Startups Act, which became law in April 2012, opened the door to more of this type of investment. The JOBS Act created an exemption under the securities laws to allow the sale of securities to the public through the Internet. The SEC published draft rules for comment in October 2013.[3] Final crowdfunding rules are expected late in 2014. Meanwhile, Mosaic has sourced over \$5.6 million of loans for solar projects.[4] And Solar City just acquired the financial firm Common Assets, with the goal of launching a Web-based investment platform for its solar projects similar to Mosaic's.[5] Where crowdfunding will ultimately fit in the menu of renewable energy financing options remains to be seen.

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[1] <http://www.foresightgroup.eu/page/548/Case-Study-Solar-Bond.htm>.

[2] <http://investors.sunpower.com/releasedetail.cfm?ReleaseID=537057>.

[3] <http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370540017677>.

[4] <https://joinmosaic.com/in-the-press>.

[5] <http://www.bloomberg.com/news/2014-01-15/solarcity-plans-to-offer-asset-backed-debt-to-retail-investors.html>.