

Raising debt for US solar

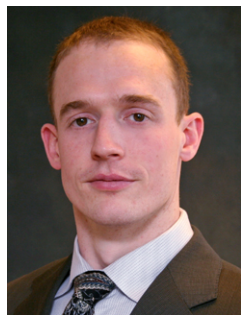
Todd Alexander and Chadron Edwards

WHILE THE SOLAR INDUSTRY has experienced tremendous growth in the US since 2007, most of this has occurred without the benefits of leverage.



Todd Alexander

The recent debt financing of several utility-scale solar projects may signal that we are about to enter into a new era. These financed projects include Duke Energy's 14MW Blue Wing project in Texas and the 21MW Blythe project in California.



Chadron Edwards

Sponsors of solar projects should appreciate, however, that although many lenders are eager to participate in the non-recourse financing of such projects, their credit committees hold them to underwriting standards similar to those found in the financing of other renewable energy projects.

This requires that solar projects make good use of the state-based renewable energy credits to enhance their revenue projections. It also means that construction risks for these projects must be appropriately mitigated as a means of assuring both lenders and the purchasers of renewable energy credits that a project will achieve timely commercial operation and that forecasts of future revenues are reasonable.

And third, sponsors need to match the profile of their project with the appropriate debt source, which may not always be the commercial debt market, given the relatively short construction periods for these projects. We have seen lenders size their debt based on debt-service coverage ratios of 1.35 to 1.45 at P50 production levels and 1.0 to 1.1 at P99 production levels.

Monetising renewable energy credits

Two methods are typically used by solar developers to monetise the value of solar renewable energy credits. From a lenders' perspective, the optimum method is to sell these credits, together with the energy produced by the facility, to an investment-grade offtaker.

Where this is possible, lenders typically are willing to give projects full value for the revenues expected from the offtaker and offer loan tenors nearly as long as the term of the offtake agreement. However, many state programmes do not require the offtaker to purchase the credits with the energy.

Where the credits are sold separately from the energy, several strategies have been used by developers to maximise value. One approach has been for sponsors to enter into short-term contracts for the sale of the credits. While this approach may ultimately create the greatest cashflow for the owners of the facility, it does not allow sponsors to maximise their leverage.

In our experience, lenders assign almost no value in their financial models to solar credits if they are not sold on a firm basis to a creditworthy entity. As a result, it is more typical for sponsors to enter into long-term sales of their solar credits even where forward pricing is heavily discounted if they are seeking debt financing.

New Jersey's solar renewable energy credit market is a good example of this phenomenon. New Jersey has one of the most active solar renewable energy credit markets in the US. Nevertheless, given the legislative uncertainty surrounding this programme, we have seen contracts for future sales of credits use annualised discount values between 9% and 12% for sales in 2014 and up to 20% for sales in 2016 and beyond. In fact, forward sales of seven and ten years – which may be needed for debt with longer tenors – have experienced even greater discounts.

Given the large number of projects that have been announced and not completed on time, developers are also able to maximise the value of

their credits by demonstrating that they have a guaranteed construction schedule and have a creditworthy party who is liable to pay the costs associated with non-delivery of credits. As a result, we have seen developers attempt to negotiate construction contracts that allocate all or a significant portion of these risks to the contractor.

Construction and equipment risk

Unlike many other energy sectors, lenders do not view the construction of solar projects as fraught with difficult construction risks. As a result, most of their attention is focused on the guarantees of schedule and cost provided and the creditworthiness of the contractor.

The construction schedule is important because eligibility to obtain a cash grant in lieu of the investment tax credit is set to expire at the end of this year and many developers have assumed that the proceeds of this grant will be available to repay a portion of their debt. The schedule is also important if the project is obligated to cover offtakers' costs of purchasing solar credits from a third party if the project fails to deliver any of the solar credits for which it has contracted.

Sponsors have been able to obtain schedule guarantees, although many of them have not been from creditworthy contractors. The higher the certainty of the schedule or the delay liquidated damages associated with the schedule, the greater a project's ability to achieve a high sales price for its solar credits.

Alternatively, if a project's contractor is unwilling or unable to offer an acceptable guarantee or liquidated damage payment, sponsor support for these risks is another viable option. We have seen some cost guarantees, although these can be difficult to obtain because a large part of the construction costs are related to the productivity of labour.

Another means of maximising leverage is obtaining long-term degradation warranties from panel manufacturers or the contractor. This allows the lenders to assign greater value to revenues in the financial model. While warranties of 20–25 years are commonplace in the market, many of the manufacturers do not have the creditworthiness or the financial history to convince lenders that they

can support such long-term arrangements. As a result, technology that does not have a proven track record is more difficult to finance.

To address the technology concerns of potential lenders, we have seen sponsors enter into arrangements with contractors that are willing to assume the degradation rates on panels provided that the contractors retain the right to perform the operation and maintenance services for the project on a long-term basis. Lenders have generally found this arrangement acceptable.

Creative financing structures

In addition to maximising the value of a project's solar credits and properly mitigating construction risk, a project can maximise its leverage by customising its amortisation schedule and considering non-traditional sources for its construction debt.

Given that many developers have had difficulty demonstrating their ability to monetise their solar credits beyond three to five years and that most commercial banks are unwilling to extend the tenor of loans beyond seven to ten years, we have seen many lenders customise their scheduled principal repayments to better suit an individual project's cashflow. For instance, during periods for which there is a firm contract to sell the solar credits, repayment levels are disproportionately high to pay down the debt as quickly as possible.

At the end of the sale contract, the scheduled amortisation is reduced and a cash sweep can be employed to capture the revenues from the solar credits if they are ultimately sold. The cash sweep allows the lenders to show a financial case in which they can be repaid more quickly without imposing an amortisation schedule that depends on the value of non-contracted solar credits.

Because commercial banks are once again becoming reluctant to offer tenors in excess of seven to ten years, many deals are being structured with bullet repayments at maturity. The use of these various approaches allows leverage to be increased based on firm sales for solar credits that are shorter than the maturity of the debt and also mitigates the risk of default in the event that credits are unable to be sold at the projected prices.

Another approach, which we have seen several of our clients explore, is securing debt through the bond or term B markets. As a result of the European debt crisis, we have seen a retrenchment in the commercial bank market. Whereas only a few weeks ago, it appeared that spreads on commercial bank debt for solar projects could be found in the Libor plus 300bp range, it now seems that spreads are moving towards Libor plus 350bp or higher.

We have also seen the number of commercial banks willing to offer tenors in excess of ten years shrink. The bond and term B markets are more willing to extend debt with tenors of 15–20 years, which more closely match the useful life of the asset and potentially the offtake arrangements.

Their upfront fees are also generally lower than the two to three percent charged by commercial banks. However, these markets traditionally require their funds to be disbursed in a single drawdown and often require a credit rating from one of the recognised agencies.

The use of a single drawdown increases interest during construction and rating agency reviews increase transaction expenses. These reviews often run to several hundred thousand dollars. However, in the case of solar projects, construction can be completed within three to six months, which reduces the negative effects that a single disbursement would have on the cost of other power projects.

In summary, solar development in the US has not generally enjoyed the benefits of debt. This appears to be changing, although only those deals that are able to properly monetise their solar renewable energy credits, manage their construction and equipment risk, and secure an appropriate source of funds are likely to obtain debt in the current environment.

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