

How To Rein In The Transaction Costs Of Distributed PV

For solar PV business development, the usual sequence for transactions should be modified, with an early focus on the ITC.

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The business of distributed solar photovoltaics should be easy, as the technology is delightfully simple and infinitely flexible, and it is becoming cheaper every day. However, consumers face two basic hurdles in adopting solar PV: the large upfront capital costs, and a mountain of confusing paperwork involving tax credits, renewable energy certificates (RECs), cash rebates and related programs.

Those hurdles create a business opportunity: making distributed solar PV simple for end users. The customer provides the site and buys the electricity output, while the solar PV developer does the rest. Distributed photovoltaics is a good business opportunity, and one that more good businesspeople are responding to every day.

But in our transactional dealings with distributed PV, a disturbing common story line has emerged: First, an entrepreneur pulls together a team that understands how solar PV works as a technical matter. Let's call this the distributed solar PV business, or DSB.

The DSB builds a business plan

based on this mantra: make it easy for the customer. The DSB will offer to install and maintain solar PV at a retail customer's premises, and ask only that the host pay for the electricity generated at a percentage of the local utility cost.

The DSB will take care of procuring, installing and maintaining the solar PV equipment; deal with the local utility on installation; permit and install the job; and absorb all the tax benefits, RECs and emission credits or allowances of all stripes, cash rebates and so on (collectively known as the solar benefits).

Next, the DSB produces a very detailed spreadsheet showing solid investment returns to equity. The DSB sells that business plan to an initial capital provider (sponsor equity). The DSB's plan is to develop a pipeline of contracted projects, get a few projects under construction and show the team's skills - all to create a portfolio of projects that can be taken to market and capitalized through a combination of the sponsor equity, tax equity from entities that can use the related tax credits and benefits and project nonrecourse debt (term debt).

Although the DSB understood the basic requirements of tax-equity in-

vestment, it did not fully anticipate that different tax-equity and term-debt providers have different ideas about deal structures.

The DSB's chief financial officer then makes heroic efforts in locking down term sheets from a tax-equity provider and a term-debt provider, which seemingly have only a few inconsistencies with each other. But now, the tax-equity provider and term-debt provider hire separate legal counsel and engineering consultants to review the projects, and paper the takeout financing - all at the DSB's expense.

It turns out that those few inconsistencies in the financing term sheets cause the respective lawyer teams to get exorcised over which capital provider has the priority security interest in the project assets, and who can exercise what remedies. In the end, they resolve their differences by requiring that more cash security/reserves be posted by the DSB.

Then, the parties discover that all the paperwork that the DSB did with its initial hosts did not fully anticipate the final takeout financial structure just recently negotiated for those projects. This necessitates another round of negotiations with the hosts to obtain agreement amendments and financing consent.

In the meantime, an argument breaks out among the lawyers - at the DSB's expense, of course - over whether the solar PV projects are real property or personal property in the various jurisdictions in which the projects are located. This matters because the characterization dictates the form of security documentation. Invariably, the host documentation will be silent on the matter, requiring more clarifications.

However, the lawyers are not satisfied with more clarifications from just the host, because the host typically does not own the premises. The premises are owned by some absent landlord or real estate investment trust. The lawyers want evidence that the actual owner of the host premises agrees with what is going on.

But the actual premises owner has already mortgaged the premises, and another lender somewhere holds a first security interest in all "fixtures" on those premises. Now, the solar PV takeout attorneys want this pre-existing lender to make written confirmations.

Meanwhile, it turns out that the DSB's customer team did not really keep to a disciplined consistency in their dealings with the hosts. Incentivized to get a deal pipeline developed, the field team allowed material deal variations that will need to be modeled by both legal and technical consultants.

During all this, that initial batch of projects that started construction with sponsor equity is essentially complete, but these projects cannot become operational unless they are placed in service for tax purposes, eliminating the potential to monetize the tax benefits. Consequently, the hosts become impatient.

This delay, in turn, is pushing the entire project portfolio back in the queue for some very important state cash rebates, creating cashflow problems for the financing model. Now, the sponsor equity is unhappy, and the team is starting to fracture, as some wonder whether the DSB has a real future.

Finally, and many months beyond even the DSB's worst-case scenario, there is a closing around some projects, and some of the sponsor equity is recycled. Whether the DSB will survive to do a second round of projects depends on whether the sponsor equity thinks that lessons have been learned.

If you are in the solar PV business, elements of this story will be familiar. The story must change if a distributed solar PV business is to be viable. How should it be changed?

Today, a successful solar PV business model is rooted in its ability to efficiently utilize the federal business investment tax credit (ITC) under Section 48 of the tax code and related depreciation benefits. That credit and its current alternative, the Section 1603 cash grant, comprise an outsized percentage of the value of solar PV projects.

This is not to disparage state RECs or grants, feed-in-tariff subsidies, carbon offset income or, indeed, the nuts and bolts of procuring, installing and maintaining solar equipment. All of those elements must be mastered to produce a successful distributed solar PV business.

Our point is simply that most failures that we have seen in distributed solar PV have been rooted not in the business nuts and bolts of procurement, installation and operation, but in spiraling transactional costs caused by efforts to capture one of the important elements of a solar program: the ITC.

It certainly seems proper to start a distributed solar PV business model with the premise of making it easy for the retail customer. Faced with the long list of administrative and capital hurdles, many commercial building owners will gladly opt to outsource the solar installation effort in return for a material discount on electricity.

So, the business opportunity in distributed solar PV involves providing a prospective host with a short stack of simple documents. To do so, the solar developer must confront and master a long list of business imperatives, and the developer typically makes a fundamental mistake: following the model of other successful businesses.

Thus, the developer first learns the

solar PV business in depth, gaining a deep understanding of the various solar technology options and supply chains. The developer gathers a team with experience in supply procurement, installation, and operations and maintenance.

That team focuses on a specific geographic market, and learns all the arcane ins and outs of that state's renewable energy programs, in addition to the federal tax incentives, and nails down a number of multi-site prospects. Once the development team has proven its chops, it approaches portfolio capital providers, flush with energy, confidence and demonstrated competence.

And then, the train wreck occurs. Why? The solar developer's capital needs are not just typical next-round sponsor equity and project debt; the developer must fold in tax equity - that rare entity that understands the distributed solar PV business and is willing to contribute capital to the term capitalization structure of the portfolio in return for federal tax benefits. Doing so late in the development process wrecks the train.

Tax-equity players are not uncommon, and they have been a feature of other tax-credit programs. However, their needs are unique. Like term debt, they do not want an active management role in the solar PV business. Unlike term debt, however, tax-equity investors must meet certain tax-code requirements concerning ownership or control levels in order to be allocated income tax credits and, in many cases, depreciation benefits. This means that to participate in solar PV financing, tax equity must walk a fine line between being a relatively passive capital provider and an active tax owner/controller of assets.

If a potential participant cannot comfortably walk that line, it cannot enter the deal, and without tax-equity participation, a solar PV portfolio will not add up.

Capital Structures For ITC Capture

Here is an overview of the four basic transaction models used to introduce tax equity into a solar PV capital structure today.

■ **Tax-equity-owned integrator.** The entity that has an appetite for tax credits and depreciation owns the solar PV integrator and its projects in a structure that passes through the tax attributes of ownership up to the taxable parent entity. This structure unites the tax-equity and sponsor-equity entities, and it is the most efficient of any structure from a tax and transactional perspective. The limitation of this structure is the tax appetite of the parent entity. If, for any number of reasons, the parent entity can no longer absorb the tax benefits, the business must quickly shift out of this model to avoid a major delay.

■ **Partnership-flip structure.** In this model, tax equity is integrated with sponsor equity into an ownership entity that is taxed as a partnership. Partnership items of income/gain/loss/credit are allocated up to 99% to tax equity, until tax equity has realized a negotiated rate of return on its investment. At that point, partnership allocations flip in favor of sponsor equity, with tax equity retaining a negotiated tail interest of around 10% of the ownership entity. These structures also often include the right of sponsor equity to buy out the tax-equity tail interest for fair market value.

■ **Sale-leaseback.** Here, a specific installation is sold to tax equity, and at the same time, tax equity leases the facility back to a sponsor-equity entity. The sponsor equity operates the project,

collects revenues and pays lease payments to tax equity, which, at the same time, absorbs 100% of the tax attributes as the owner. The sponsor-equity entity typically has the right to repurchase the facility for fair market value at the end of the lease term.

The main drawback of this model is paperwork. Each installation is completed and sold, and then later repurchased. If the tax-equity lessor also borrows funds to make the initial purchase (leveraged lease), then the transactional costs begin to skyrocket. That process is repeated at the end of the lease in connection with any repurchase by sponsor equity.

■ **Inverted lease.** In this model, the sponsor-equity entity retains ownership of each solar PV facility and simply leases it to a tax-equity entity while making an election under Section 50 to allocate tax credits to the lessee. Depreciation benefits stay with the sponsor-equity entity, while tax credits go to the tax-equity lessee. If the sponsor-equity entity cannot utilize that measure of tax benefits, the model can lead to tax inefficiency.

The structure can be modified to move tax equity into a minority interest in the project-level entity in order to absorb a portion of the tax depreciation, but this complication drives up complexity and transactional costs. On the other hand, unlike the sale-leaseback structure, there is no need to negotiate any repurchase of the project at the end of the lease; it simply expires, and tax equity exits the stage. - *M. Curtis Whittaker, Paul D. Burkett & Jill Dinneen*

Unfortunately, there are a limited number of entities interested in participating in solar PV portfolios as tax equity. Moreover, each of the few entities active in the solar PV tax-equity field has its own preferences as to transactional structures. These typically follow one of the four basic structures described in the sidebar, with each tax-equity entity having its own variations on one of these structures.

Thus, when the developer goes shopping for tax equity to match with other term capital, it all too often finds that if it can attract interest from tax equity at all, it is on the basis of a structure that does not fit (or fit well) with the field documents that were used to contract with commercial site hosts/retail customers, or with the preferences of their other term capital providers.

These mismatches force the developer to go back and revise field documents, cull out projects that have any unique features that cannot be squared with the limitations imposed on qualifying deals, and pay counsel in a multi-party negotiation among term equity, term debt and tax equity over intercreditor issues.

That late, expensive revamping of the portfolio - and indeed, the solar PV developer's business - is a direct consequence of the solar PV developer's following the typical maxim for new business success: show me the goods. By putting together the business before approaching the most scarce, least fungible aspect of the business's essential elements - tax equity - the distributed solar developer, we submit, puts the cart before the horse.

We believe that distributed solar PV is an exception to the typical approach to staging a business development precisely because the nuts and bolts of the business - solar panel procurement, installation and operation - are elegantly simple.

In distributed solar PV, the real

business constraint is the supply of good, readily documented and efficiently exploitable sites that readily meet the criteria for the tax-equity components of the financing.

In order to develop a proper screen for those sites, the developer should first identify those tax-equity (and, if possible, term-debt) site criteria, get commitments to fund to those criteria, and then procure sites and terms with site hosts/offtakers that clearly meet those criteria.

Here is an additional suggestion:

Partner early with your tax-equity source(s), determine their favored transactional structure and make sure that your field documents reflect that structure. An early commitment to a third-party tax-equity provider may result in more expensive capital compared to a downstream competitive solicitation for a fleshed-out pipeline.

But the transactional cost savings will more than outweigh the capital cost increase. Ideally, the developer also will source its term-debt provid-

er in tandem with its tax equity, and straighten out any disagreements between them as to portfolio security arrangements. ☞

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