

# Solar Project Finance

## Refresher On Solar Tax Incentives

Before digging into the mechanics of Tax Equity Investing, you must first understand the underlying solar tax incentives at play. There are two main Federal solar tax incentives:

### 30% Investment Tax Credit.

The owner of a solar system is entitled to a 30% Investment Tax Credit (ITC) upon installing a system. The ITC is calculated as 30% of the total system installation costs. For example, a \$100,000 solar system = \$30,000 tax credit.

### Accelerated Deprecation.

Under the Accelerated Depreciation rules, the owner of a solar system may deduct roughly 20% of the total system cost each year for five years. To be technical, the depreciable basis is the system price less its salvage value minus half of the ITC. To get the value of this deduction in real dollars you must multiply the deduction times the investor's tax rate, often 36%. Therefore, the annual value of the accelerated depreciation is =  $20\% * ((\text{Total Cost} - 15\% \text{ Salvage Value}) - \frac{1}{2} \text{ ITC}) * \text{Tax Rate}$ . If you add this up over five years, it typically returns 30% of the total system cost to the owner in after-tax dollars.

### Tax Incentives Combined: 60% Payback

When the Investment Tax Credit and Accelerated Depreciation solar tax incentives are combined, the solar system owner gets roughly 60% of the total system cost repaid by the Federal government in the form of lower taxes (i.e. 30% from ITC + 30% from depreciation after tax). Therefore, if a company installs a \$100,000 solar system, it will pay \$60,000 less in Federal taxes over 5 years.

## Solar Tax Equity Investments 101 – How the ROI Works

Tax Equity is a common part of solar project finance deals. Everyone knows “the Tax Equity Investor invests in the solar project and in exchange gets all the tax incentives.” This sounds great, but not everyone knows how this works. People regularly ask how the investor profits from buying tax credits. Below is an extremely simplified explanation of how a Tax Equity Investor makes money from its investment.

### What is a Tax Equity Investment?

For purposes of this article, the Tax Equity Investor funds about 40% of the solar system installation cost and receives 100% of the tax incentives plus a share of the energy income stream. Over five years, the tax incentives received repay the Tax Equity Investor's initial capital contribution. With its capital returned through the tax incentives, the additional cash proceeds received yield a nice profit. As explained below, the total after-tax return for a Tax Equity Investor can be close to a 10-14% IRR.

### Background On 5 Year Deal Term

Typically, the Tax Equity Investor owns 99% of the solar project company for 5 years and then exits. The reason for this structure comes from two important IRS rules. First – the tax incentives go to the legal owner of the solar system. Second – if system ownership changes within the first five years, the initial owner must repay the IRS a pro-rated amount of the tax incentives (called “recapture”).

After the 5 year recapture period expires, the other project investors (called “Sponsor Equity”) buy out the Tax Equity Investor's ownership in the project company. There are a myriad of ways to structure this ownership and flip (e.g. partnership flip, sale leaseback, inverted lease), all of which are outside the scope of this article.

See also IRS Revenue Procedure 2007-65 (published Nov. 2007) for additional guidance on the rules governing the structure of a solar project tax equity investment.

### **The Mechanics of A Solar Tax Equity Investment: 1-2-3**

As with all investments, the ROI for a Tax Equity Investment is a function of comparing the amount invested to the value returned. To break this down for solar, we need to understand (1) the price of the investment, (2) the value of the tax incentives, and (3) the additional cash proceeds received.

#### **1. The Price of the Tax Equity Investment**

Tax Equity Investors typically contribute about 40% of the total project cost, and the rest is covered by a combination of developer capital, normal equity, and bank debt. Solar tax equity investments are typically priced around \$1.20 per \$1.00 of ITC credits. In other words, if the owner of a solar system was entitled to a \$100,000 Investment Tax Credit (ITC), the Tax Equity Investor would make a \$120,000 investment. Remember, the ITC is 30% of the total system cost, so in this example the total project requires \$334,000 of capital. If the Tax Equity Investor contributes \$120,000 it is only putting in 36% of the total project funds.

#### **2. The Value of The Tax Incentives**

Federal tax incentives pay back 60% of the solar system's installation costs. The investment is structured so that even though the Tax Equity Investor puts in 36% of the capital, it takes 99% of the tax incentives. In our example, a \$334,000 system is entitled to a \$100,000 ITC credit plus \$90,180 (after-tax) from depreciation deductions. In other words, a \$120,000 cash investment now earns \$190,180 in tax savings over 5 years.

#### **3. Additional Cash Proceeds**

In addition to the tax incentives, most deals give the Tax Equity Investor the right to two additional sources of revenue.

First, they get paid a 2-4% preferred return each year of the 5 year investment term. Here, a 4% preferred return for a \$120,000 investment means a \$4,810 cash payment each year, totaling \$24,048 over 5 years.

Second, most deals allow the developer to buyout the Tax Equity Investor's ownership at the end of year 5. The buyout price often works out to be 10-15% of the initial investment amount. For simplicity, assuming a 10% buyout price on a \$120,000 investment means the Tax Equity Investor receives an additional \$12,000 cash in year 5.

Combined, the Tax Equity Investor receives \$36,000 in cash proceeds on top of the tax incentives over 5 years.

### **The ROI for Tax Equity Investors**

To summarize our example above, the Tax Equity Investor makes a \$120,000 investment and receives \$226,180 over five years. The \$226,180 returns consists of:

\$100,000 in ITC tax credits;

\$90,180 (after-tax) from depreciation deductions;

\$24,048 in cash payments as a preferred return; and

\$12,000 in cash payments as a final buyout.

Taken together, this \$226K returned equates to an 88% return on investment (ROI) with a 16% internal rate of return (IRR) over 5 years.

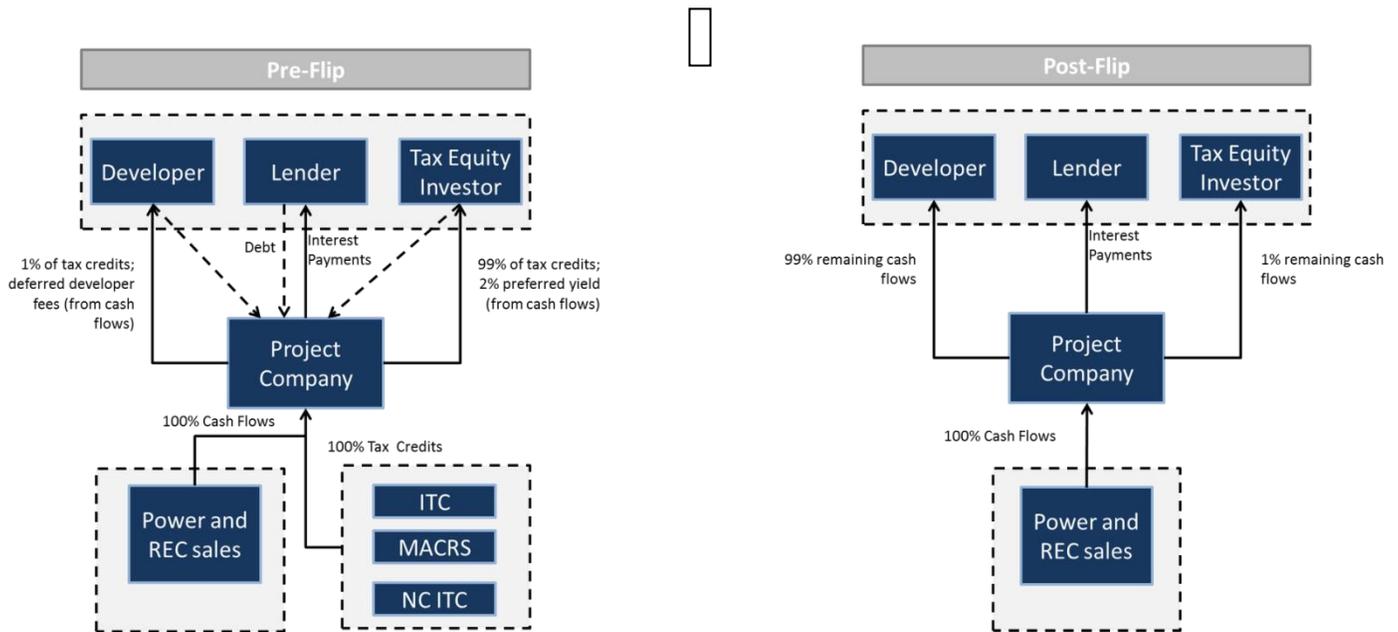
See <http://greenzu.com/solar-tax-equity-investor-returns>

## Tax Equity Project Structures

A market for tax equity exists because most developers do not have the internal tax appetite to take these benefits within their company. This prompts project developers to look to outside financing sources that have a need for the tax shelter. To take advantage of the tax benefits certain ownership criteria must be met by the incentive holder so that the full incentive benefits can be realized. One way to structure this is to use a partnership flip method in which the tax equity investor owns a majority of the project for 6 years and when the benefits are realized the ownership reverts back to the developer.

### Partnership Flip

A tax equity partnership flip allows for a tax investor to take advantage of the benefits without a long term commitment to the project for the term of the lease or power purchase agreement. Below is a diagram showing how the partnership flip method generally works.



### For Investors

Tax Equity is an excellent investment for individuals and corporations that have a tax liability and would prefer to invest capital in an income producing asset as opposed to paying the IRS. Investments can be structured so that investors receive a 1.4 to 1.6 multiple on their investment over the 6 year flip model. In addition, by taking the ITC and bonus depreciation benefit in year 1 the investor has a majority of their investment paid back in less than a year. An investor also has an opportunity to earn a preferred return on cash flow generated from operations.

See <http://www.solarcapitalfinance.com/tax-equity.html>