

Tax Credits, Tax Equity and Alternatives **To Spur Clean Energy Financing**

Introduction: Tax credits and the need for tax equity

Federal clean energy policies have made tax equity a critical component in the private-sector financing of clean energy projects. This is because federal tax credits and other tax benefits are among the government's main incentives to help drive the adoption of domestic clean energy technologies. Examples of such tax benefits include the 30% investment tax credit (available for solar through 2016 and for wind through 2012); the 2.2 cent production tax credit (available through 2012 for wind projects that do not elect the ITC); and accelerated depreciation (including bonus depreciation) that can be used to offset taxable income from other sources.

Tax credits and other tax benefits, however, can only be used by clean energy developers who are profitable enough to actually pay income taxes. Because of this, many developers, whether they are start-ups that have not yet reached profitability or are established power companies that earn most of their income in currently depressed energy markets, have little or no ability to use tax benefits themselves. Hence, they must find investment partners with enough income to benefit from tax credits, accelerated depreciation and similar policies. Investment by such tax equity partners is, in fact, one of the few financing mechanisms currently available to fund renewable energy projects.

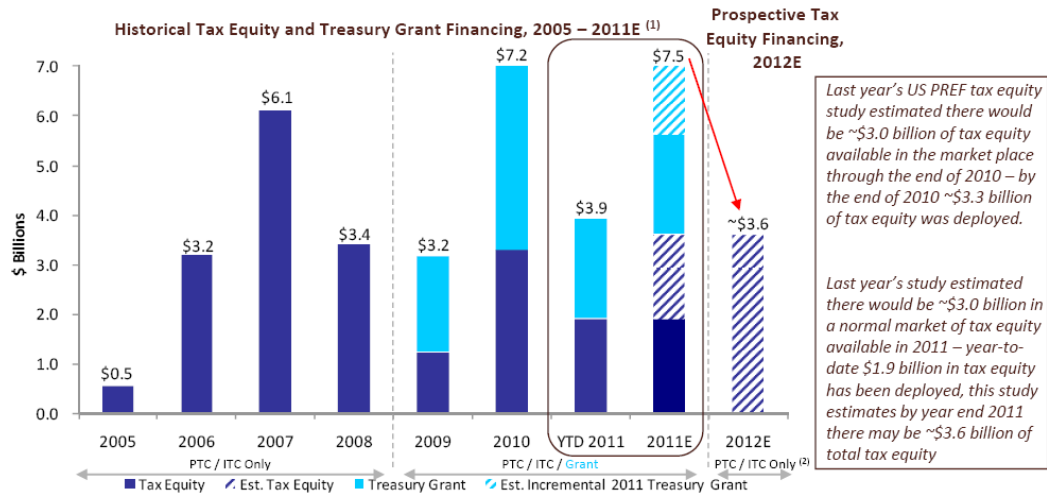
The 1603 cash grant program

Tax equity investment, while critical to clean energy development, does have significant limitations. The primary constraints are the limited supply of tax equity investors relative to demand for clean energy project finance, the high transaction costs associated with tax equity financing, and barriers tax equity can create for additional debt financing. All of these limitations are avoided by the section 1603 cash grant program that Congress enacted in 2009. This program allows project sponsors to elect to receive a cash grant in lieu of the 30% investment tax credit (ITC) for projects initiated by December 31, 2011. This program has allowed clean energy investment to far exceed the amount of financing available in the tax equity market.

In 2010, for example, there was \$3.3 billion in tax equity available – a level similar to 2008. An additional \$3.9 billion was allocated through the 1603 cash grant, resulting in a total of \$7.2 billion in financing for renewable energy projects. According to US PREF projections, in 2011 the available tax equity will increase slightly to \$3.6 billion, while the demand for renewable energy project finance will be \$7.5 billion. The \$3.6 billion void will once again be made up by the 1603 grant.¹ The combination of the 1603 cash grant and the tax equity market has thus played a major role in promoting job growth, the development of renewable energy, and broader economic growth. Unfortunately, the 1603 cash grant expires this year, and as a result, only \$3.6 billion of financing will be available for renewable energy projects from tax equity in 2012, according to a survey of all active tax equity investors.

¹ This tax equity was used, among other purposes, to provide bridge financing to the 1603 cash grant (which is paid several months after the project is complete) and to finance accelerated depreciation. See <http://uspref.org/wp-content/uploads/2011/07/US-PREF-Tax-Equity-Market-Observations-v2.2.pdf>

The loss of the 1603 cash grant, coupled with a return to relying on tax equity for clean energy financing, will virtually guarantee a severe reduction in renewable project installations starting in 2012. Solar projects are likely to be the most affected. This is because solar projects' higher upfront capital costs generate a large tax credit in the first year, while their smaller pre-tax net income in the first few years of operation may not be enough to allow the tax credits to be well-utilized. Wind projects, by contrast, are better able to use the production tax credits they receive over a period of 10 years. In addition, wind projects may generate higher net revenue due to their lower current construction costs per watt, relative to solar projects, and thus may support a higher appetite for tax benefits.



Sources: U.S. Department of The Treasury, US PREF Estimates, Leading Tax Equity Market Participants

(1) Includes all 1603 Treasury Grants for renewable projects

(2) Projects with 5% equity spend or in continuous construction prior to 12/31/2011 and that achieve COD by 12/31/2012 are eligible for the Section 1603 cash grant

In addition to its limited availability, tax equity financing is also constrained by its cost. Whether based on depreciation benefits or production/investment tax credits, tax equity financings are complex, customized transactions tailored to the specific aspects of each project. Consequently, sponsors pay significant professional service fees to execute each transaction.

In addition, the overall cost of capital is higher for projects using tax equity instead of debt. For example, project sponsors can borrow as much as 95% of the value of the expected 1603 cash grant at a low rate (currently 3-5%, pre-tax) to help fund construction. Subject to the project having a good credit profile, these sponsors can also obtain permanent project debt from many banks and institutional investors at 5-5.5% pre-tax².

The cost of tax equity capital can be far higher and is today approximately 12-13%, pre-tax.³ During the boom year of 2007, tax equity pricing was as low as 9% on a pre-tax basis, while

² Project debt is generally priced as a premium or “spread” over the yield of US Treasury bonds of similar duration. The current spread on a fully-amortizing loan of 15 to 20 years duration for an investment-grade project is ~2.25% and has generally been between 2% and 3%. 20 year US Treasury bonds are currently yielding 3%, which is near historic lows. Over the past 5 years this rate has generally been between 4% and 5%.

³ Tax equity investments are generally priced on an after-tax basis. These numbers have been converted to pre-tax equivalents using a 35% tax rate.

pricing reached 15% pre-tax or higher in 2009 during the financial crisis. Several key differences between the cost of financing with tax equity and with the 1603 cash grant are identified in the following table.

Specific Costs of Tax Equity Financing

Category	Cost to Sponsor of Tax Equity	Cost to Sponsor of Cash Grant
Attestation	-	\$75k-\$150k
Legal Documentation/Tax Opinion	\$350k	-
Independent Engineer	\$150k	-
Syndication Fees (may or may not be needed)	0.5% of tax equity amount	-
Pre-Tax Cost of capital during construction period	12%-13%	3-5% / year of cash grant amount during construction period ⁽¹⁾

(1) Assumes the project sponsor will also issue additional project level debt

Tax equity finance impact on project level debt

The most significant cost of tax equity, however, is that it makes obtaining project level debt more difficult. Project level debt introduces a senior claim on the project's collateral, meaning that, in the event of project default, the debt holders, not the tax equity partners, have first claim on project asset. Because tax equity would not have the senior claim on project assets, many tax equity investors will not invest in a project where there is also a lender providing debt. Those who do invest typically require a premium of 2-3% on a pre-tax basis. Adding a lender to the project's capital structure also adds significant complexity to the transaction, which increases the legal costs and can delay execution.

In general, projects that obtain tax equity to cover the 30% ITC will not find it feasible to access additional project level debt. By contrast, because the cash grant does not introduce a new claim on the project, project sponsors who are able to use the cash grant can much more easily access project debt, reducing project cost, minimizing the impact on customers and making more efficient use of capital. These results are summarized below for a representative solar project.

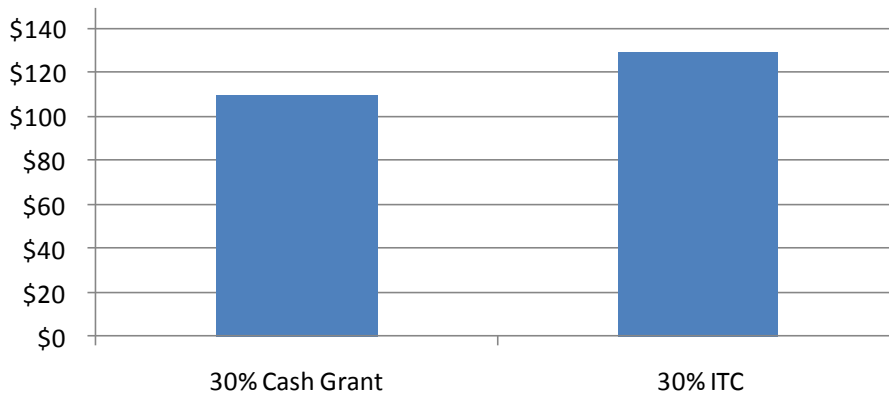
Capital Structure – Representative Solar Project

Category	Project with Cash Grant		Project with Tax Equity to Monetize ITC	
	% Capital	Pre-Tax Cost of Capital	% Capital	Pre-Tax Cost of Capital
Cash Grant	30%	3-5%	NA	NA
Project Level Debt	50%	7-9%	NA	NA
Tax Equity	NA	NA	60%*	10-12%
Sponsor Equity	20%	10-15%	40%	10-15%

* Higher than 30% due to the partnership structure required to properly structure a tax equity financing

Without the 1603 cash grant, the project sponsor will face a higher cost of capital. This higher cost of capital will translate directly into higher cost of electricity. As the table below indicates, this difference could be as much as \$20/mwh.

**Cost of Electricity - Representative Solar Project
(\$3200/kw cost with 25% capacity factor)**



Note: Compares a project with a capital structure of 30% cash grant, debt, and equity to a project with tax equity and debt.

Conclusion

Tax credits are an important incentive for renewable energy projects. Despite this, the lack of current taxable profits for many renewable energy developers, particularly in the solar field, severely constrain the value of these tax credits. Tax equity investors help address this problem, but tax equity faces limits in terms of availability, cost, and may forestall less expensive debt financing. The 1603 cash grant has proven to be a more efficient, lower cost approach to spur additional private sector investment in renewable energy. Continuation of the 1603 cash grant, or its replacement with a new program that avoids the limitations of the tax equity market, will continue to make efficient use of capital and promote lower cost development of renewable energy in the domestic market.

Primary Authors: Scott Fisher, Director, Policy Coordination and Management, NRG Energy, Inc., Steve Corneli, SVP Sustainability, Policy and Strategy, NRG Energy, Inc. and Steve Taub, Senior Vice President, Investment Strategy, GE Energy Financial Services.

ABOUT US PREF

The objective of the US Partnership for Renewable Energy Finance (US PREF) is to unlock capital flows to new, large-scale and distributed renewable energy projects in the United States. To achieve this objective, a balanced and credible group of highly experienced renewable energy financiers from financial institutions, investors, professional services firms, utilities and others have convened as US PREF. US PREF is a program of the American Council On Renewable Energy (ACORE), a Washington, DC - based 501 (c)(3) non-profit organization whose mission is to bring renewable energy into the mainstream of the US economy and lifestyle through research, education, convening, and communications.