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SECTION REPORT OF THE



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Editor for Vol. 44, No. 3:

Brent Stahl
7320 N. MoPac, Suite 211
Austin, Texas 78731
(512) 652-2946

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Chair's Message

On behalf of the entire Council of the Oil, Gas and Energy Resources Law (OGERL) Section of the State Bar of Texas, we welcome our members for the 2020-2021 year! Thank you for renewing your membership (or joining for the first time) during these challenging times for our industry. If you, or others you know, have delayed renewing their membership with the State Bar and the OGERL Section, this is an ideal time for them to renew their membership.

This year, OGERL is pleased to bring you a first. This Section Report is dedicated exclusively to cutting edge legal issues in the renewable energy field. OGERL recognizes renewables as an important and expanding area within its scope. We are quite happy that one of our council members, Brent Stahl, has dedicated his career to the practice of law in this area and agreed to spearhead this endeavor. This issue exists because of his work. Thank you, Brent!

This special issue of the OGERL Section Report covers the gamut – from preparing and negotiating the actual instruments that set up operations to agreements relating to the purchase of the power generated from these activities. The list of authors reads as a veritable “who’s who” in the industry.

As a final note, the Council again expresses its sorrow over the passing of Mike McElroy, our good and trusted friend and the man who was slated to be the OGERL Chair this year. We lost Mike to the scourge of cancer this summer, and we dedicate this issue in his memory.

Jeff Weems
Chair, OGERL 2020-2021

Editor's Message

Welcome to the inaugural edition of an OGERL Section Report focusing on renewable energy law topics. We are excited to publish this group of ten articles, with a mix of introductory, overview and advanced topics. Some essays focus solely on legal issues, while others include discussion of commercial and practical subjects. Paper topics include long term ground lease issues, power purchase agreements, tax equity investment structures, mergers and acquisitions, construction contracts, recent case law, property tax incentives, and mineral estate impacts on solar development. You may be particularly intrigued by some of the global energy projections and data in the first article, and you may be inspired to action by its discussion of energy poverty and energy insecurity. If you would like to see a renewable energy focused Section Report periodically repeated, please let us know – we’re considering publishing a Section Report like this once a year if the membership finds it helpful.

Thank you to all of the contributors to this Section Report – they put in a huge amount of work to prepare the materials compiled for this Section Report. I really appreciate the dedication, hard work and finesse that the all of the authors have brought to us.

Finally, I want to point out that if you are receiving this Section Report, it is because you are a member of the OGERL Section. As a member of the Section, I want to remind you that you can always access past Section Reports and many CLE presentations via the Section’s website: www.oilgas.org.

If you are interested in contributing an article for future Section Reports, please contact Gregory C. Cox, the Section Report Editor for OGERL at (832) 366-9224.

Brent Stahl
Editor for Vol. 44, No. 3
Inaugural Edition on Renewable Energy Law



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TAX EQUITY STRUCTURES FOR WIND ENERGY PROJECTS

Santosh Raikar* and Seabron Adamson⁺

I. Introduction

The American wind power industry has grown substantially in the last two decades, and Texas has been at the forefront. Texas leads the nation in terms of wind capacity by a substantial margin. According to the Electric Reliability Council of Texas (ERCOT), wind capacity has grown 42-fold in less than 20 years, and now makes up more than 23,000 megawatts (MW) of capacity in the ERCOT. In certain periods, wind farms supply more than half of the total ERCOT generation.

Perhaps the largest single driver of growth in wind power has been the U.S. federal Production Tax Credit (PTC). Unlike many countries, the United States has long used federal corporate tax incentives to accomplish public policy goals. While PTC and other corporate tax incentives act economically like a direct federal subsidy, Congress has chosen to implement these subsidies in the form of corporate tax credits for companies making qualifying investments, rather than direct subsidy payments, which would require direct Federal expenditure and could be more controversial.

These federal tax incentives cannot be used by all project sponsors equally, due to the lack in many cases of sufficient tax liability to fully “offset” the tax incentives. Therefore, sophisticated financial structures have emerged to monetize the tax incentives. Since the rules around these tax incentives have evolved many times over the years, renewable energy investors have needed to respond to the latest federal tax laws. Accordingly, it is instructive to explore various and changing tax equity structures that have been used to monetize the various tax benefits available for renewable energy projects.

The remainder of this article is organized as follows. The next section provides an overview of the tax benefits available for wind projects including a brief history of PTCs. Section 3 discusses the partnership flip structure prevalent for monetizing the PTCs, and Section 4 discusses various structural aspects of the partnership flip transactions. The final two sections will provide a critical assessment of PTCs as an incentive mechanism, and explore various policy alternatives.

While the primary focus of this article will be the tax equity structures applicable for wind projects employing PTCs, the basic structures can be adopted to monetize the Investment Tax Credit (ITC) available for solar projects, and for wind projects electing ITC in lieu of PTCs.

II. Tax Benefits for Wind Projects

The 1992 *Energy Policy Act* first established the PTC. This tax credit is a production-based incentive, through which the owner of a power generation project employing certain renewable energy

technologies (including open-loop biomass, small irrigation power, landfill gas, waste-to-energy, hydropower, and marine and hydrokinetic facilities) can claim a tax credit, calculated on the basis of electricity generation from the project. The PTC credit is calculated by multiplying the defined PTC rate by the amount of electricity generated in a given tax year. The 1992 *Energy Policy Act* set the PTC rate at \$15/MWh and the rate is indexed to the inflation rate. The U.S. Internal Revenue Service (IRS) publishes the applicable PTC rate annually, based on an inflation indexing formula.

The PTC rate in 2019 was \$25/MWh for wind projects. PTCs are available for a term of 10 years from the date a project is placed in service.¹ As defined by the IRS, the in-service date essentially coincides with the date that the wind project (or other PTC-eligible project) achieves substantial completion.

In the original 1992 *Energy Policy Act*, the PTC was scheduled to terminate in July 1999, but the PTC has been extended multiple times. The *Protecting Americans from Tax Hikes Act of 2015* (“PATH Act”) extended the termination of PTC eligibility until January 1, 2020. The PATH Act also required that PTCs be phased out over time, depending on when the construction of the PTC-eligible project begins.

Pursuant to the PATH Act, wind projects beginning construction in year 2016 qualified for 100% of the PTC rate, while projects beginning construction in year 2017 qualify for 80% of the PTC rate, projects beginning construction in year 2018 qualify for 60% of the PTC rate, and projects beginning construction in year 2019 qualify for 40% of the PTC rate.

Projects beginning construction on or after January 1, 2020 would not qualify for the PTC under the PATH Act. However, on December 20, 2019, President Donald Trump signed into law the *Further Consolidated Appropriations Act, 2020* (H.R. 1865), which among other things, extended the PTCs for the facilities that begin construction in 2020 at a 60% rate.

The 1992 *Energy Policy Act* predicated PTC qualification by the project being placed in-service by the eligibility termination date. This PTC qualification criterion was changed in the *American Taxpayer Relief Act of 2012* stipulating that projects must start construction by the termination date to qualify, rather than being placed in-service. The IRS subsequently has issued several notices providing guidance to investors on the requirements to “begin construction” on a project, ultimately requiring a project developer must have incurred at least 5% of the project cost by the end of such year (the “5% Safe Harbor”), or have begun physical construction of significant nature (the “Physical Work Test”). The latest such IRS notice issued in 2017 (IRS Notice 2017-04), provides developers four years from the year construction began to complete an eligible project in order to qualify for the PTC rate applicable for the year in which such project began construction (the “Continuity Safe Harbor”). If it takes longer than four years to complete an eligible project, it may still qualify for the PTC rate

* Santosh Raikar is Managing Partner and Head of Renewables for Silverpeak, New York, NY and he is an adjunct professor at Boston College, Carroll School of Management, Chestnut Hill MA. He also co-author of the book, *Renewable Energy Finance: Theory and Practice*.

⁺ Seabron Adamson is Vice President of Charles River Associates, Boston MA and an adjunct lecturer at Boston College, Wallace E. Carroll Graduate School of Management, Chestnut Hill, MA. He also co-author of the book, *Renewable Energy Finance: Theory and Practice*.

¹ “Placed in service” is a technical term under the tax law which generally fixes the time at which the relevant asset is eligible for tax credits and

depreciation. In determining if an asset is placed in service, there is a five-factor test, which specifies that a project is deemed to be placed in service based on whether the following five conditions are satisfied: (1) approval of required licenses and permits; (2) passage of control of the facility to taxpayer; (3) completion of critical tests; (4) commencement of daily or regular operations; and, (5) synchronization into a power grid for generating electricity to produce income. See IRS Private Letter Ruling PLR 144,688-12 (June 28, 2013); See also Moran, Gambino, Chase, & Ludwig, Renewable Power Facilities: Placed-in-Service Issues, Tax Notes (May 23, 2016).

applicable for the year in which it began construction, as long as the developer can demonstrate continuous construction (for an eligible project qualifying on the basis of the Physical Work Test) or development (for an eligible project qualifying on the basis of the 5% Safe Harbor) until the project is placed in-service.

Responding to the disruptions caused by the COVID-19 pandemic, the IRS has issued Notice 2020-41 to extend the Continuity Safe Harbor by a year, to five years. As a result, projects that began construction before December 31, 2016 would have until December 31, 2021 to place the project in service whereas the projects that began construction before December 31, 2017 would have until December 31, 2022 to place the project in service.

The repeating cycles of PTC expiration and extension (or even expected expiration) have exposed the wind industry to boom and bust cycles in terms of project development. This has raised questions about the effectiveness of the incentives created, a topic discussed in further detail in the last section.

Use of ITC instead of PTC

Under the *American Recovery and Reinvestment Act of 2009* (ARRA), investors were provided an irrevocable election to claim the ITC instead of the PTC for certain PTC-eligible properties, to be placed in service after December 31, 2008. For projects using the ITC instead of PTCs, the PATH Act extended the credits subject to various deadlines. The ITC in this case was set to phase out on a schedule in proportion of the phase out of PTCs.

The IRS-issued guidance for beginning-of-construction for PTC eligible properties and the Continuity Safe Harbor also applies to properties claiming ITC in lieu of PTCs. Pursuant to the *Further Consolidated Appropriations Act, 2020*, an additional extension is also available to properties claiming ITC in lieu of PTC, with ITC at an 18% rate for a project beginning construction in calendar year 2020.

The ITC can be a valuable option for some projects, especially those with high capital costs and/or a low generation profile. These could include, for example, wind projects located regions with a less favorable wind resource and high capital costs, or offshore wind projects, which often have relatively high capital costs.

Corporate eligibility for renewable tax incentives

The renewable energy tax credits discussed in this article are only available to for-profit entities that pay corporate taxes and which are owners of the projects that claim the credits. These requirements therefore exclude tax-exempt or non-profit organizations, which could include endowments and pension funds that directly or indirectly own renewable energy projects. Under some circumstances, tax-exempts or non-profit entities can be eligible for renewable energy credits if they invest through a taxable “blocker corporation” (provided the tax-exempt or non-profit entity does not own more than 50% of the value of the stock), or make an election to cause income from the project to be subject to tax.

Depreciation benefits

Direct tax incentives such as PTC and ITC are not the only tax benefits that arise from ownership of a renewable energy project. Renewable energy projects are typically highly capital intensive. Many renewable energy projects may also qualify for certain depreciation benefits, which can be valuable to both sponsors and tax equity

investors.

Most of the assets in a large renewable energy project such as a wind farm will qualify for depreciation over five years using the Modified Accelerated Cost Recovery System (MACRS). Some assets with longer useful lives may depreciate over 7-, 15-, 25-, or 39- years using MACRS. If the entity owning a qualified wind farm elects for ITC instead of PTC, its depreciable basis will be reduced by 50% of the ITC claimed.

Renewable projects may also qualify for bonus depreciation status. The *Tax Cuts and Jobs Act of 2017* (TCJA) modified the bonus depreciation provision by providing for: 100% bonus depreciation for qualified property placed in-service after September 27, 2017 and before January 1, 2023, with 80% bonus depreciation for 2023, 60% in 2024, 40% in 2025 and 20% in 2026.

III. The Partnership Flip Structure

The tax benefits available for wind energy projects described in the last section are generally critical to make wind projects financially viable. However, ordinarily renewable energy project projects are owned through special purpose entities (such a project company), which on their own cannot absorb the tax credits or accelerated depreciation. Without an efficient monetization mechanism in place, the tax benefits are likely to be lost. IRS rules however allow for the monetizing of the associated tax benefits through partnerships with well-capitalized institutions (mostly financial institutions) with sizeable tax capacity. This monetization is accomplished through a variety of structured transactions that have collectively come to be known as “tax equity” transactions. There are three different tax equity structures prevail in the market:

- The Partnership Flip Structure
- The Sale/Leaseback Structure
- The Lease Pass-through or Inverted Lease Structure

For wind projects claiming PTCs, the Partnership Flip structure has been widely used. Therefore, we will focus only on the Partnership Flip structure through the rest of the article.

Subchapter K of Title 26 of the IRS Code defines the rules governing partners and partnerships. These rules allow for disproportionate allocations of economic and tax benefits among the partnership's partners. Under these rules, a sponsor developing a renewable energy project can form a partnership with an investor, hereafter referred to simply as tax equity investor, who has tax liabilities of its own, with an objective of monetizing the renewable energy project's tax benefits.

In its simplest form, the tax equity investor and the sponsor form a partnership with the tax equity investor funding a substantial amount of the capital up front and the sponsor funding the remainder.² The tax equity investor is allocated 99% of the taxable income, gain, loss, deduction, and tax credits available to the partnership until the “Flip Date”, while the Sponsor is allocated the remaining 1%. The Flip Date is defined as the date on which the tax equity investor realizes its pre-defined return target (often called a “Target IRR” or “Flip Yield”). After the Flip Date, the allocation of taxable income, gain, loss, deduction, and credit to the tax equity investor drops to 5%, while that for the sponsor increases to 95%. In order to comply with the IRS safe harbor discussed in the subsequent section, the tax equity investor is required to participate in all streams of benefits available from the

ITC can often receive 35% - 50% of the capital cost of the project using Partnership Flip structure.

² Wind projects claiming PTCs can often receive 50% - 80% of the capital cost of the project in the form of tax equity whereas solar projects claiming

project, including cash flows. Accordingly, the tax equity investor is allocated a certain portion of the cash flows as well. The share of cash distributed to the tax equity investor and sponsor depends on the economic motivations of the sponsor and the tax equity investors and circumstances specific to each project, but there is a general consensus in the tax equity community that in order to comply with the IRS safe harbor the tax equity investor should take at least 5% of the cash generated by the renewable energy project through the life of its investment.

Most tax equity investors size cash distributions so that the pre-tax cash-on-cash IRR over the useful life of the project (usually 25 years for wind projects), counting tax credits as cash, is at least 2.0% (“Pre-Tax IRR”). There is no specific guidance from the IRS in terms of IRR requirements for tax equity investments, and hence the sponsor and tax equity investor can engineer a mutually satisfactory outcome in order to meet the 2% Pre-Tax IRR hurdle.³ Finally, most tax equity investors require that the after-tax IRR over the useful life of the project (usually 25 years for wind projects) should be at least 50 bps higher than the Target IRR, which is calculated through the Flip Date. Again, there is no specific IRS guidance on such matters, but the tax equity market has acted fairly consistently in applying this yardstick. The aforementioned 50 bps bump in the after-tax IRR is achieved by adjusting the cash distributions to the tax equity investors allocable after the Flip Date with a proviso that the tax equity investor receives at least 5% of the cash distributions after the Flip Date. Consequently, the sponsor desires to keep the cash distributions allocable to the tax equity investor after the Flip Date as close to 5% as possible because the upfront investment from the tax equity investor is typically independent of the cash distributions the investor receives after the Flip Date. Stated another way, the tax equity investor may receive cash distributions after the Flip Date for “free.”

The Partnership Flip transactions are structured so that, at the inception of the tax equity partnership, the tax equity investor is expected to achieve the Target IRR by a certain date referred to as the Target Flip Date. If the tax equity investor does not achieve the Target IRR by the Target Flip Date, the tax equity investor may receive up to 100% of the partnership cash until the tax equity investor achieves the Target IRR. Most Partnership Flip transactions in the wind sector are structured such that the tax equity investor receives 100% of the cash flows until the Target IRR is achieved. This effectively shuts down cash distributions to the sponsor, thereby limiting the amount of back-leverage a sponsor can obtain through banks and this may also create other inter-creditor complications.

The tax equity investor's IRR for the investment is calculated using the highest marginal federal tax rate⁴. Therefore, if there is a change in tax rate, similar to the one pursuant to the TCJA, the tax equity investor is effectively insulated from the direct economic impact of the lower tax benefits resulting from a lower tax rate. This is so because out of the three streams of benefits the tax equity investors receive, namely, cash distributions, tax credits, and depreciation benefits, only depreciation benefits are subject to variation due to tax rate change. Therefore, if the change in tax rate reduces the net depreciation benefits the tax equity investor can realize, the Flip Date would be delayed. As a result, up to 100% of the cash available from

the project would be swept to the tax equity investor until the tax equity investor realizes the Target IRR. It is important to note that with a lower tax rate, the tax equity investor may have to stay in the deal longer and earn enough cash distributions to make up for the lost depreciation benefits. However, economically, the tax equity investor should come out unscathed because of the cash sweep protection. It is important to note that the timing of the future tax rate change is important. If the tax rate change occurs in the later part of the tax equity financing, when a substantial portion of the depreciation benefits have already been claimed, the Flip Date may actually accelerate and may occur prior to the Target Flip Date. Rising tax rates could have opposite effects on timing.

Most tax equity transactions are structured such that the sponsor has an option to purchase the tax equity investor's equity interest in the project at “fair market value” at pre-determined time intervals after the Flip Date. The fair market value is usually determined by an independent appraiser at the time of the exercise of the purchase option. In certain transactions, the fair market value governing the purchase option is fixed⁵ at the inception of the transaction as a good faith estimate provided by an independent appraiser. Usually, tax equity investors set the purchase option exercise price at 102%–105% of such fixed purchase price estimates for an added margin of comfort, so as to avoid potential scrutiny from the IRS which might claim that the purchase option was at a bargain, thereby considering the tax equity transaction as a disguised debt financing.

Variations in the partnership flip structure

In a variation of the partnership flip structure, the tax equity investor makes investments in two parts – an initial upfront investment and periodic deferred pay-as-you-go (called “PAYGO”) equity contributions that are linked to the energy generation of the project. If the generation from the project is lower than expected at the time of financing, the PAYGO rate automatically adjusts downward according to a predetermined scalar varying from 0 to 1. In order to comply with the IRS Revenue Procedure 2007-65 (discussed further in subsequent sections), the tax equity investment is sized such that the upfront investment is at least 75% of the total equity investment, comprised of the upfront investment and PAYGO contributions. This structure, with deferred PAYGO contributions, enables the tax equity investor to mitigate some of the wind generation risks, as the amount it contributes are effectively linked to PTCs received by the project as the PTC payment is tied to the energy generation from the wind project. Since the PAYGO rate is linked to the energy generation from the wind project, this structure also alleviates potential underperformance of a wind project due to transmission curtailments.

The tax equity investors are often concerned about wind generation risk because the investors derive a significant portion of the return of capital and return on capital through PTCs, which are directly linked to wind generation. In fact, some early projects in the US suffered from significant underperformance. While the cash sweep protections afforded in the partnership flip structure ensured that the economic impairment to tax equity investors was minimal, the tax equity investors were concerned about the delays in achieving Target IRR, which extended well beyond the Target Flip Date. Most of the financial institutions invest in the partnership flip transactions under a

³ Generally speaking, the 2% Pre-Tax IRR requirement is no longer binding for most tax equity transactions because with the passage of the TCJA, the lower tax rate has reduced the value of the net depreciation benefits, which has the effect of reducing the up-front tax equity investment amount. However, since the depreciation benefits are excluded for the purpose of calculating the Pre-Tax IRR, this has the effect of boosting the Pre-tax IRR.

⁴ This means the tax equity investor effectively gets the state tax benefits for free so long as the tax equity investor has sufficient tax liabilities in the state where the renewable energy project is located.

⁵ The fixed purchase options are allowed pursuant to the IRS safe harbor promulgated in IRS Notice 2009-69 (<https://www.irs.gov/pub/irs-drop/a-09-69.pdf>).

merchant banking authority, which requires that the financial institution limit the holding period of their investments to 10-years.⁶ If the tenor of the investment extends beyond 10 years, the institution may need to undertake bona fide efforts to sell the investments.

Another variation to address wind generation risk in lieu of the PAYGO structure is to adjust the cash flow distributions allocable to the tax equity investors based on the actual performance of the project. For example, in certain transactions, beginning the second anniversary of the commercial operation date, the tax equity tracking model is re-run to calculate the expected Flip Date and if the expected Flip Date falls beyond the Target Flip Date by a certain margin, the cash flow distributions allocable to the tax equity investors are adjusted upwards so that the expected Flip Date falls on the Target Flip Date (or a certain predetermined period beyond the Target Flip Date). The exercise is repeated for a certain number of years on each anniversary date through the Target Flip Date.

As the wind industry in the US has matured the concerns regarding the wind generation have subsided. Nonetheless, both variations discussed above can be utilized to alleviate certain other risks of tax equity investors may desire to mitigate.

In another variation of the partnership flip structure, the Flip Date is fixed at the start, leading to a structure often called as a “Fixed Flip” structure. In this structure, the tax equity investor receives cash distributions equal to a certain fixed percentage, typically 2%, of its original investment on a priority basis and some proportion of the remaining cash on a *pro rata* basis for a fixed time period (the “Fixed Flip Term”). Once the Fixed Flip Term is over, the sponsor has a right to purchase the interests held by tax equity investor at a predetermined time interval. However, if the sponsor elects not to exercise the purchase option, the tax equity investor typically has a withdrawal option whereby for a period of 2 years, the investor receives a predetermined amount (usually, higher than that allocable during the Fixed Flip Term) of cash from the partnership, termed as withdrawal cash, until a predetermined amount of cash, often termed as withdrawal price, is realized. If the tax equity investor does not recover the full withdrawal price within the first two years after the Fixed Flip Term out of the cash available from the project, the tax equity investor can essentially take over the project.

Renewable energy developers generally prefer the Fixed Flip structure because the structure allows them to retain most of the cash, against which they can raise additional debt (in the form of “back-leverage,” discussed in later sections). This can be especially important for solar projects claiming ITC. As a result, the Fixed Flip structure has been popular in the solar sector. The structure also has several debt-like features, which ensures that the tax equity investor exits the partnership within two years after the Fixed Flip Term, but the structure carries additional tax risk for the tax equity investors and must be structured carefully.

Partnership Flip Structure Requirements

In order to determine the investment amount in a partnership flip transaction, the tax equity investor has to consider three streams of benefits: a portion of the partnership cash distributions, tax credits, and

tax benefits or losses that can be used against taxable income, and the investment amount is calculated as the present value of the benefit streams, net of any potential tax liabilities arising from the investment itself. A typical partnership flip structure raises 35%–50% of the project capital for solar ITC transactions and 50%–80% of total project capital for wind PTC transactions, depending on the specifics of the underlying projects. As the PTCs and ITC step down pursuant to the PATH act (or the *Further Consolidated Appropriations Act of 2020*) capitalization rates are expected to change. The primary document governing the partnership flip structures is typically an LLC Agreement (“LLCA”), which among other things identifies the role and responsibility of each partner, income allocations, future cash distributions, etc. The LLCA also designates the sponsor as the Managing Member who retains the day-to-day control of the project, usually in collaboration with independent contractors. The tax equity investor serves as a passive investor, so as not to have to consolidate the investment on its financial statements, but typically retains certain consent rights to ensure that the project is run and operated prudently. The sponsor is obligated to provide periodic operational reports and financial statements. The LLCA also typically provides the tax equity investor a right to remove the sponsor as the Managing Member of the LLC if the tax equity investor can prove that the project is being run in contravention of the LLC Agreement or if the sponsor has committed willful misconduct or gross negligence.

Partnership flip structures have been around for a long time, and are not unique to the wind sector. The structure was used in early 2000s to monetize PTCs but the market for tax equity remained fragmented, however, as there was limited consensus as to how the transactions were to be structured. The IRS received several requests to provide a private letter ruling to validate the structure for the tax equity financing. Consequently, in 2007, the IRS issued Revenue Procedure 2007-65 to establish a safe harbor for partnership structures for wind projects.⁷ In 2009, the IRS issued additional guidance, IRS Notice 2009-69, to further clarify the safe harbor guidelines pursuant to the Revenue Procedure 2007-65.⁸ The two safe harbor guidelines, taken together, provide that the IRS will generally not scrutinize a wind project company as a partnership or investors as partners in the partnership if the following requirements are satisfied:

- i. The sponsor shall retain a minimum 1% interest in each material item of partnership income, gain, loss, deduction, and credit during the existence of the project company whereas each tax equity investor has a minimum 5% interest in each material item of partnership income or gain for each taxable year.
- ii. On or before the later of (i) the date the wind farm is placed in service or (ii) the date the investor acquires its interest in the project company, the investor must make a minimum unconditional investment in the project company in an amount of at least 20% of the sum of the fixed capital contributions, plus reasonably anticipated contingent capital contributions required to be made by the investor under the partnership agreement. The investor’s minimum investment must not be protected against any loss through any agreement directly or indirectly with the sponsors, any other investor, the turbine supplier, the power purchaser, or any affiliates thereof.

⁶ The final rule governing merchant banking activities of financial holding companies pursuant to the Gramm-Leach-Bliley Act allows investments in certain defined private equity funds to be held for a period of up to 15 years and allow all other types of merchant banking investments to be held for a period of up to 10 years, unless the Federal Reserve Board allows a longer period. Retrieved from

(<https://www.federalreserve.gov/boarddocs/meetings/2001/20010110/2001110-OpenMemo.pdf>)

⁷ IRS Revenue Procedure 2007-65 (<https://www.irs.gov/pub/irs-drop/rp-07-65.pdf>)

⁸ IRS Notice 2009-69 (<https://www.irs.gov/pub/irs-drop/a-09-69.pdf>)

- iii. At least 75% of the sum of an investor's fixed capital contribution, plus reasonably anticipated contingent capital contributions to be contributed by a tax equity investor must be fixed and determinable obligations that are not contingent in terms of amount or certainty of contribution.⁹
- iv. Neither the sponsor, the tax equity investors, nor any related parties may have a contractual right to purchase at any time the wind farm, any property included in the wind farm, or an interest in the project company at a price less than its fair market value determined at the time of exercise of the contractual right to purchase. Furthermore, the sponsor may not have a contractual right to purchase the wind farm or an interest in the project company earlier than the 5th anniversary of the date the wind farm is placed in service.¹⁰
- v. The project company may not have a contractual right to cause any party to purchase the wind farm or any property included in the wind farm from the project company. An investor may not have a contractual right to cause any party to purchase its partnership interest in the project company.¹¹
- vi. No person may guarantee the tax equity investor the right to allocation of the PTC. The project company must bear the risk of the availability of the wind resource. Neither the sponsor, the turbine supplier, nor any power purchaser may provide a guarantee that the wind resource will be available at a certain level. However, a third party (not related to the sponsor, the turbine supplier, any power purchaser, or any other project participant) may provide a guarantee for the wind resource availability at a certain level if the project company or the tax equity investor compensates for the cost of such guarantee.¹² A long-term power purchase agreement between the project company and any unrelated party is permissible, but a take-or-pay contract between related parties would constitute a guarantee and is not permissible. The sponsor may not lend any tax equity investor the funds to acquire any part of the tax equity investor's interest in the project company or guarantee any indebtedness incurred in relation to the tax equity investor's interest in the project company.

The IRS safe harbor was instrumental in driving the growth of the tax equity market and the partnership flip structures has become the most common structure for tax credit monetization. Almost 80% of the solar ITC transactions and almost 100% of the wind PTC transactions have used the partnership flip structure in recent years. It is important to note that in a 2015 memo, the IRS clarified that the safe harbor guidelines described above do not apply for solar transactions or other renewable energy projects claiming ITC. Instead, the memo directed that the general partnership principles should apply to test as to whether the tax equity investor is really a partner in the partnership. The IRS has not issued any guidelines with respect to the partnership flip structure for ITC transactions. However, the tax equity market has grown comfortable adopting most of the structuring elements applicable for PTC partnership flip structure to renewable energy projects claiming ITC.

⁹ The PAYGO structure described earlier is designed to comply with the provisions (ii) and (iii) of the safe harbor guidelines.

¹⁰ The IRS notice 2009-69 clarified that the fair market value governing the sponsor's contractual right to purchase tax equity investor's interest in the project company can be fixed at the inception of the transaction provided that the fair market value is a good faith estimate provided by an independent appraiser.

¹¹ The withdrawal option discussed with respect to a Fixed Flip structure is designed to comply with this provision (v) of the safe harbor guidelines.

IV. Structuring Partnership Flip Transactions

While the IRS safe harbor discussed in prior section provides guidance for structuring these transactions effectively, every project is different and each transaction needs to be structured to the specific circumstances governing the project.

Transaction Timing

For wind project PTC transactions, tax equity investors can commit to an investment as early as the project is ready for construction. Such commitment, when made early on when construction begins, gives the sponsor confidence that the project will get tax equity funding when the project reaches commercial operation. Moreover, once a tax equity commitment is in place from a creditworthy investor, lenders feel comfortable extending incremental construction loans that bridge a portion of the tax equity commitment (usually 95%). The legal documents governing the commitment from tax equity investors specify the conditions that need to be satisfied before the tax equity investor is legally obligated to fund the investment (the "Conditions Precedent") similar to the ones governing conversion of a construction loan into a term loan and may include:

- the project reaches commercial operation;
- the project company has all material documents in full force and effect;
- the project company is not in default or has commenced bankruptcy proceeding; and
- the project qualifies for and has met the requirements for tax credits and depreciation benefits, etc.

Once the conditions precedent to funding are satisfied, the tax equity investor can fund the investment.

The timing for the partnership flip transactions for renewable energy projects claiming ITC work generally the same way, with one important exception. While there are no timing restrictions with respect to funding a tax equity investment for a wind project claiming PTC, tax equity investors typically fund wind project investments once the project reaches commercial operation. However, according to the IRS rules for renewable energy projects claiming ITC, the partnership needs to be formed and the tax equity investor needs to be a partner in the partnership before the project is placed in service. There is no strict rule as to exactly how early the tax equity investor needs to make the investment before the project is placed in service. However, most tax equity investors feel comfortable about making an investment at or before the project achieves mechanical completion.¹³ Of course, a tax equity investor does not wish to fully fund the investment at mechanical completion and take the risk, albeit fairly small, that the project never achieves commercial operation, in which case the tax equity investor might stand to lose all of its up-front investment. Therefore, tax equity investors typically fund investments in two installments: the first installment occurs immediately before mechanical completion in the amount of at least 20% of the overall tax equity investment and the second installment (for the rest of the tax equity investment) at commercial operation.¹⁴

¹² For example, a weather derivative contract between the project company and an insurance company is an acceptable guarantee and is permissible pursuant to the safe harbor guidelines discussed herein.

¹³ Mechanical completion is a milestone usually defined in EPC contracts and typically occurs once all mechanical equipment is completely installed but before the project substation is energized.

¹⁴ Most of the tax equity investors rely upon the IRS Revenue Procedure 2007-65 when sizing the first installment at 20% but, there are some tax equity investors, albeit a minority, who believe that the first installment can be sized as small as 5%.

Contribution versus Purchase Method

There are two ways to initiate a partnership in a tax equity investment: contribution or purchase method. The tax equity investor may initially contribute its share of capital in exchange for an interest in the project company (“Contribution Method”), or the tax equity investor may “purchase” an interest in the existing project company directly from the sponsor (“Purchase Method”). The choice between the two is dictated by multiple factors such as intended use of the investment proceeds, taxation, and step-up in basis.

In the contribution method, the proceeds from the investor's contribution can be distributed to the sponsor - but it makes more sense if the project company can use the funds to pay for any accrued but unpaid expenses such as construction costs. In this model, the sponsor may avoid having to pay taxes on the tax equity investor's contributions provided that the transaction abides by the safe harbor for “disguised sale”, which among other things, states that the sponsor can treat the distribution of tax equity proceeds as a reimbursement of capital expenditures incurred for the project during the preceding two years. In order to qualify for the safe harbor and avoid taxation, the project cannot be worth more than 120% of the tax basis of the project at the time of the formation of the partnership, with the tax equity investor thereby potentially limiting the step-up in basis. This issue is more relevant for renewable energy projects claiming ITC because the step-up in basis directly impacts the amount of ITC, which can be valuable. The step-up in basis may also limit depreciation benefits that any renewable project can claim but the depreciation benefits are much smaller compared to the ITC or PTCs.

In the purchase model, the proceeds from the tax equity investor are remitted directly to the sponsor, who is treated as selling a share of project assets to the tax equity investor. This can trigger a tax liability for the sponsor for the taxes on the capital gains that result from the share of the project assets deemed sold. The purchase model may be preferable for renewable energy projects claiming ITC because the higher basis resulting from a step-up allows for a higher ITC and depreciation benefits, albeit at the expense of an immediate tax liability resulting from a proportionately higher gain for the sponsor. The net benefit may be worth the effort. However, the step-up in basis is less relevant for wind projects claiming PTCs because the incremental benefit arising from depreciation is less meaningful.

It should be noted that the tax equity investor ultimately bears the risks of any step-up in basis for ITC transactions. This risk arises as the IRS may dispute the ITC basis through periodic tax audits. There have been several lawsuits where the IRS disputed that because the ITC basis was not justified, the project company should have received a smaller tax credit.¹⁵

There is guidance from the IRS that suggests that a development fee mark-up, which is reflected in the step-up in basis, of approximately 15%–20% is acceptable. As a result, tax equity investors typically limit the step-up in basis to 15%–20% of the project costs, provided that the higher basis is supported by the independent

appraisal of the fair market value of the project. In addition, tax equity investors typically require that the sponsor indemnify the tax equity investors for any reduction in ITC (in addition to the interest, penalties, and compensation for the time value of money) pursuant to a successful IRS dispute of the ITC basis, with such indemnity being supported by a guarantee from a creditworthy entity. As an additional protection, the tax equity investor may require a cash sweep to the extent any of the indemnity claims remain unpaid.

Capital accounts and deficit restoration obligations¹⁶

In partnership transactions, IRS Subchapter K rules require that the partners track the capital account and outside tax basis for their investments. A capital account tracks each partner's share of equity in a partnership through the life of the partnership. At the inception of the partnership, each partner's capital account begins with the amount of equity contributed to the partnership. Thereafter, the capital account balance for each partner is increased by adding book income and capital contributions allocated to the respective partners, whereas the capital account balance for each partner is reduced by deducting book losses and cash distributions allocated to the respective partners. If any partner's capital account balance reaches zero, any further book losses shift to the other partner. Since the tax equity investor's contributions are primarily comprised of tax credits and depreciation benefits, the tax equity investor's capital account balance typically reaches zero first. Thereafter, any book losses and tax credits are reallocated to the sponsor. Since the primary objective of the tax equity transactions is to utilize tax benefits efficiently, reallocating book losses to the sponsor is not ideal. Therefore, tax equity investors may often agree to a Deficit Restoration Obligation (DRO) at the inception of the transaction. As a result, the capital account balance for the tax equity investor can go negative in an amount up to the amount of DRO, and the investor can continue to receive the losses. The DRO is essentially a contingent liability and obligates the tax equity investor to contribute capital in the amount of DRO in the rare event the partnership liquidates.¹⁷ The deficits can be higher if the partnership claims bonus depreciation or 100% expensing (as per TCJA), if available, because with 100% expensing or bonus depreciation, the book losses are claimed in the early part of the investment. Similarly, the PAYGO transactions explained earlier can lead to higher deficits because in the PAYGO transactions, the tax equity investor contributes up to 25% of the capital on a deferred basis, which reduces the up-front capital account balance attributable to the tax equity investor, and therefore the initial capital account balance. Given the potential for higher deficits, the tax equity investor may need to sign up for higher DROs in PAYGO transactions.

Tax equity investors are usually hesitant about high DROs as DROs are contingent liabilities that spring up in the event of liquidation. Typical market transactions cap the DRO liability to 40% of the capital contributed upfront. From a structuring perspective, the DROs are more troublesome for PTC transactions because once the DRO cap is reached, unless it is raised, not only depreciation benefits but also PTCs, which are very valuable, are reallocated to the sponsor. This impairs the economics for the sponsor if the sponsor has limited

¹⁵ One such example of the dispute is the 2018 case *Alta Wind I Owner-Lessor C et al. v. United States*, 897 F.3d 13,651,365 argued in front of the US Federal Court of Appeals. See Moran, Broome, Gambino, Odell, & Chase, Federal Circuit Reverses and Remands *Alta Wind*, Holding that a Portion of the Asserted Section 1603 Basis May Be Allocated Entirely to Intangibles, *Energy Law Report*, Vol. 19-3 (March, 2019). Another case *California Ridge Wind Energy, LLC & Invenery Wind, LLC v. United States* was also decided in favor of the government.

¹⁶ Please note that for the purpose of this section, the terms “book”, “equity”, etc. refer to “tax book” and “equity” from a tax perspective. The terms should not be confused with the similar terms used from a financial accounting perspective.

¹⁷ Commercial Aspects of Deficit Restoration Obligations in LLC and Partnership Transactions - Akin Gump Publication by David Burton (<https://www.akingump.com/images/content/4/1/v2/41603/DRO-Commercial-Aspects-Project-Perspectives-Article.pdf>).

tax capacity.¹⁸ If the tax equity investor has a negative capital amount balance (or a DRO) on or after the Flip Date, tax equity investors are allocated the maximum permissible income allocation in order to rapidly reduce the DRO back to zero (or in other words reducing the absolute value of the capital account balance). At such time, the partnership is likely to be outside of the tax loss position and should be generating taxable income (because the depreciation benefits are front loaded in the first five years). Accordingly, any additional income allocation (beyond the minimum post-flip 5% allocation agreed upon in the LLC Agreement), results in tax equity investor continuing to receive up to 99% of income allocation thereby reducing the DRO. It should be noted, however, that any such stepped up allocation to “cure” the DRO after the Flip Date creates a tax liability in an amount equal to the additional income allocation multiplied by the prevailing federal tax rate for the tax equity investor and the tax equity investor needs to be compensated for the incremental tax liability by allocating additional cash.

In rare situations, it is possible that the sponsor ends up with a negative capital account balance before the Flip Date. In such cases, the tax equity investor may require the sponsor to sign up for a DRO but given the nature of the income and tax profile of the wind investments, the sponsor DRO gets reversed quickly.

Partnership flip transactions for wind projects can be structured with a “cash holiday” feature whereby the tax equity investor takes no cash during the first 5–7 years as contractually agreed upon. As discussed before, the cash distributions to either partner reduces their respective capital account balance. Therefore, the cash holiday feature can effectively slow down the reduction in capital account balance for the tax equity investor. After the cash holiday period, the tax equity investor is allocated a much higher share of cash distributions (50%–100%) until the Target Flip Date.

This discussion has been solely focused on unlevered partnership flip transactions, in which the project company does not have debt financing secured by the project company’s assets. A non-recourse senior secured financing at the project company level results in the sponsor and the tax equity investor being allocated their pro-rata share of the non-recourse liability. Therefore, the non-recourse financing, can be utilized to manage the DROs. However, partnership flip transactions with partnership assets encumbered by non-recourse debt, oftentimes termed as “levered partnership flip transactions”, are almost non-existent for the wind projects because the tax equity investors are highly averse to the potential for any tax credit recapture caused by foreclosure of the project assets in the event of a default. Accordingly, levered partnership flip transactions will not be discussed as they are not very common. Such transactions may become more prevalent in the future, once tax credits start stepping down pursuant to the PATH Act.

Inside and outside tax basis

As with capital accounts, partners in a partnership are also required to track their “inside” and “outside” tax basis. The initial outside basis of a partner is typically equal to its initial capital account balance; however, there are certain situations that may cause outside

basis to differ from its capital account balance. Inside basis is generally the partner's share of the tax basis of partnership assets (i.e., the cost of such assets reduced by depreciation).

Once the outside tax basis of a partner reaches zero, any tax losses allocated to said partner are suspended. Such suspended losses can be offset only by the future income allocated to said partner. The partner with the suspended losses may continue receiving “excess cash distributions” because they are cash distributions in excess of the partner's outside tax basis; these must be reported as capital gains, and taxed accordingly.

Due to the loss limitations caused by outside tax basis, there are limitations on how much tax losses a tax equity investor can harvest despite agreeing to a higher DRO. It should be noted that since suspended losses do not have any economic value for tax equity investors, when modeling tax equity transactions, the suspended losses should not be counted toward calculating the tax equity investor's IRR. Instead, the IRR calculation should consider any capital gain taxes payable on the excess capital distributions, which results in reducing the IRR for the tax equity investor.

Back-leverage Considerations

As discussed above, tax equity investors are averse to non-recourse project-level debt in partnership flip transactions, even though such transactions are typically more tax efficient due to the concern that in the event of a default, the lenders would foreclose on the project assets, which in turn could trigger a recapture of the tax credits. The risk is more pronounced for ITC transactions, because ITC is subject to recapture during the first five years of operation upon a change of control on the tax equity investor side. Sometimes, in order to avoid the potential for recapture, lenders to the project-level debt may agree to a limited forbearance so that change of control can be deferred until the recapture period is over.

However, sponsors do need access to debt financing to reduce the equity contribution to a more manageable level. Consequently, back-leverage transactions have become more prevalent wherein a sponsor can get debt financing secured by its own equity interest in the project company. In such a back-leverage loan, the lender is one step away from the project company's assets. Consequently, back-leverage debt financings are perceived to be less secure and generally carry higher interest costs relative to project level debt.

Back-leverage financing transactions inject additional complications from a structuring and risk allocation perspective. First, as discussed before, the tax equity investors in a partnership flip transaction require cash sweeps if the Target IRR is not achieved by the Target Flip Date, or if the Sponsor is unable to fulfill its indemnity obligations. If a cash sweep is triggered in such situations, the sponsor is allocated less cash, which may impact debt service. Second, if there is a default under back-leverage, the lender may foreclose on the sponsor's equity interest. However, tax equity investors usually require the new owners of the sponsor's equity interest possess significant operational experience in order to continue managing operational risks.

¹⁸ For the ITC transactions, it is customary to step down the income allocation to the tax equity investor from 99% to a lower number once the ITC is claimed, which effectively allocates more depreciation benefits to the sponsor. The tax rules require that income allocations to the tax equity investor should not drop below 67% until the expiration of the 5-year recapture period otherwise a tax recapture liability may be triggered. Generally, the tax equity investor should keep its share of income allocations at 99% for a meaningful period following the date the project is placed in

service, owing to the concern that upon an audit the IRS may argue that 99% of income allocation was illusory and meant only to capture the ITC when available and the income allocation changed when profits were received. Accordingly, tax equity transactions are structured such that the income allocations to the tax equity investors are reduced to as low as 67% for a 4-year period following the first anniversary of the placed-in-service date. This has the effect of managing the DRO to a lower level while complying with the tax rules.

Both of these issues can be managed, but usually lead to protracted tripartite negotiations among the sponsor, tax equity investor, and back-leverage lenders before the financing can successfully close.

V. A critical assessment of tax credits as an incentive mechanism

The use of tax credits as an incentive mechanism has a long history in the United States, although it suffers from substantial disadvantages from a financing and economic perspective. First, as noted earlier, the tax credit regulations have been through multiple cycles of extensions and other changes. This has created a set of boom-and-bust cycles and consequent uncertainties for renewable energy investors. This has had substantial impacts on investment in some years, especially in the wind sector.

Second, the financing of large-scale renewable energy projects – most of which rely on project finance – is already costly, complex and time-consuming. The need to layer in tax equity structures adds to the complexity. Despite IRS safe harbors and guidance, there has also been some uncertainty about how some structures could fare under an audit. This then leads to even more structuring complexity.

Third, the tax equity investor based is quite small. Only a small number of financial institutions have the consistent tax base and project finance expertise to make substantial tax equity investments. In 2012 the Obama Administration invited leaders from some Fortune 100 companies to the White House to encourage them to invest in tax equity, in order to broaden the investor base and increase tax equity capability. However, the later response was sporadic. Only a limited number of companies have successfully entered the tax equity market with any scale.

This tepid response is likely to due to the complexities of the tax equity structure. For example, even some regional banks and insurance companies, who otherwise participate in the project finance market for renewable energy sector, have found themselves hobbled by the complexities of arranging these deals and getting internal product approvals. Tax equity investments are an equity product (as opposed to a loan) and the tax equity structure generally needs to be vetted essentially by every corner of the bank – tax, accounting, regulatory, treasury, credit, risk management, to name a few. The implementation of the Dodd Frank and Volcker rules added further complexity.¹⁹

Fourth, IRS rules require that the tax equity investor be a true equity owner, which increases the financing costs relative project finance loans. Tax equity investments are structured as preferred equity instruments and do not enjoy the same foreclosure rights that a lender may have in a typical non-recourse loan. Pricing for the tax equity instrument must reflect the limited prospects for the recovery in the event the project faces default. This incremental risk, along with a limited investor base, helps make tax equity relatively more expensive.

Another related issue is that the tax equity investments are not

¹⁹ The Volcker Rule prohibits a banking entity from acquiring an ownership interest in a covered fund. “Covered fund” is defined in the Volcker Rule as an issuer that would be an investment company as defined in the Investment Company Act of 1940 (the “1940 Act”) but for sections 3(c) (1) and 3(c) (7) of the 1940 Act. However, the banking industry has come to its own conclusion that, for purposes of the analysis of tax equity investments under the Volcker Rule, the LLCs in which the banks invest do not qualify as investment companies. Because the issuers are not investment companies, they do not need to rely on the exceptions set forth 3(c) (1) and 3(c) (7) of the 1940 Act, and, therefore, do not qualify as covered funds. Separately, regulatory authority for energy credit monetization transactions similar to the

truly non-recourse compared to project finance loans. The sponsor typically must indemnify the tax equity investors for some project-related risks (that a typical acquirer may require from a seller) and additional tax indemnities. Furthermore, such indemnities need to be guaranteed by a creditworthy entity. The indemnification and the creditworthiness criteria make tax equity investments challenging to some alternative investment management firms, including private equity firms and hedge funds.

Finally, tax subsidies such as PTC are generally an inefficient method to meet policy goals such as reducing carbon emission. Substantial tax subsidies tend to lower energy prices, and hence do little to encourage efficient consumption of energy. They also provide little incentive to site renewable projects where they make the most impact on emissions. Renewable tax incentives, as various authors have noted, may also have substantial distributional impacts.

On the positive side, the tax credit mechanism does have some advantages from a practical policy perspective. Tax credits may be more politically palatable from a voter perspective than direct subsidies or mechanisms that directly increase consumer energy prices.

The tax credit mechanism also limits the need of the federal government to pick which projects deserve subsidies, since private investors sponsor and finance the projects (including tax equity). The fact that only domestic federal tax obligations can be offset also ensures that the “benefits” of the subsidies flow only to domestic taxpayers. In some jurisdictions, for example, the fact that foreign investors may have benefitted from incentive mechanism such as feed-in tariffs has attracted negative publicity.

VI. Alternative Policy Options to Current Tax Credit Structures

Given the disadvantages of the current tax credit mechanisms, policy analysts within and outside the renewable energy industry have considered alternative tax credit structures. The Congressional Research Service (CRS) has analyzed some alternatives in an April 2019 report.²⁰ This section discusses some of the alternatives discussed by the CRS in addition to the others arising in the renewable energy industry.

Refundable Tax Credits

One significant limitation on for tax equity investment is that it is often very difficult for the potential entrants into the market to reliably predict their future tax liability. IRS rules allow for PTCs to be carried back by one year and forward by up to 20 years, to the extent the PTCs cannot be absorbed in the year they are generated. Such relief is of limited use, because if a tax equity investor cannot absorb the tax credits in a year, there is significant deterioration in economic benefit due to time value of money. As a result, some of the industry participants have argued for a refundable tax credit, which provides for a cash payment in lieu of tax credits to the extent the PTCs cannot be utilized in a given tax year. The proponents of this approach argue that

ones discussed in this article has been premised on an OCC ruling, issued in 1994, which found that a national bank can provide financing for tax credit monetization in the form of purchasing energy producing properties. In a letter addressed to Union Bank of California dated February 2006 regarding its investment in a wind farm producing \$45 tax credits, the OCC confirmed its findings in the 1994 letter. See, also, OCC Interpretive Letter 1139 (November 2013) regarding solar projects producing \$48 tax credits.

²⁰ “Tax Equity Financing: An Introduction and Policy Considerations”, Mark P. Keightley, Molly F. Sherlock, and Donald J. Marples, Congressional Research Service (R45693), April 17, 2019.

the net cost impact to the government should be the same whether the tax credits are refundable or not, but that adding the refundability provision would draw more investors into the market. This in turn should help lower the cost of tax equity.

While there is only limited data available about how many PTCs have gone unclaimed, the revenue neutrality argument is likely not credible because given the transaction costs, the current tax equity market incentivizes projects exceeding a certain size as more likely to be financed and built. If the tax credits become refundable, developers should be able to finance smaller projects, which would otherwise go unfunded. Furthermore, as a policy matter, refundability provisions have not typically been used for businesses and have been reserved only for households, especially low-income families. Therefore, making renewable energy credits refundable could prove difficult from a policy perspective.

As of the writing of this article, refundable tax credits are being considered as a part of the stimulus bill by the Congress in response to the COVID-19 pandemic. The tax credits would be available to all businesses but the primary beneficiaries are likely to be available for companies conducting research and development, building low-income housing and producing renewable energy.²¹

Cash Grant Program

Another way to address the scarcity of reliable tax equity investors is to convert the tax credits into cash grants – most likely, in the form of an up-front lump sum payment in lieu of the tax credits.²²

There is a fairly recent precedent for such program. In 2009, the Congress enacted the *American Recovery and Reinvestment Act*, which enabled businesses to claim cash grant in lieu of PTCs and ITC. The program has often been referred to as “1603 Cash Grant Program” or the “1603 Program” in short. According to the Treasury, the 1603 Program allocated \$26.2 billion in funding, which supported the installation of 34.6 gigawatts (GW) of new capacity.²³

While the 1603 Program helped incentivize significant deployment of renewable energy projects, it has not been without controversies. The Treasury has claimed in multiple cases that the claimed grant amounts were overstated, which has led to significant litigation. Some investors also had their claims audited.²⁴

Direct Transfer of Credits

A core tenet of current federal incentive policy is that federal tax law requires that the tax equity investments should be structured as equity investments, whereby the tax equity investor participates in all benefits (and losses) to be derived from a given project. As discussed before, this requirement helps deter new investors in the tax equity market, as being an equity owner implies understanding the full risks

and rewards of the tax equity investment.

One alternative that has been proposed would be to make the tax credits directly transferable, and therefore more widely usable. There are some precedents in certain state policies. Certain states permit the sale of tax credits without the stipulation of equity ownership imposed by the federal tax laws.

Allowing direct transfer of credits would broaden the pool of potential tax equity investors. New structures would need to be created to allow the direct monetization of the incentives and allow investors to meet their investment objectives. However, even this structure might not completely eliminate the need for the tax equity structure in its entirety. For example, even under the 1603 Program there were tax equity transactions to monetize depreciation benefits. These are valuable and may be worth monetizing up-front, rather than deferring until the project generates positive income to absorb the losses carried forward.

Master Limited Partnerships

Another potential method to encourage renewable energy investments is to allow these projects to qualify for Master Limited Partnership (MLP) status.²⁵ MLPs are pass-through companies and allow for taxation only at the investor level. Renewable Energy Investment Trusts (REITs) are also structured in a broadly similar way.²⁶

Allowing renewable projects to be owned by MLPs could benefit the renewable energy industry by broadening the equity owner base. The emergence of publicly traded YieldCos has proven the retail investor appetite for the renewable energy sector. However, without the ability to monetize the tax benefits fully, the growth potential of the YieldCo structure has not been fully harnessed.

Therefore, if the intent of the change is to mitigate the need for tax equity, the Congress would also need to address the passive income loss rules. The passive loss activity rule says that a passive tax loss can only be offset against passive income. Income or loss is designated as passive if it is generated from a business or activity in which the investor does not actively participate. If the MLP structure is to be designed so as to enable the ultimate investors to absorb tax credits, depreciation benefits, etc. then the passive loss rules will need to be restructured. Otherwise, the benefit of MLP structure would be limited to a small number of sophisticated investors.

Alternatives to Tax Credits

More broadly, it would likely make more economic sense to move to an alternative mechanism to meet energy and environmental goals, outside of the use of tax credits. No matter how these are designed, they are likely to prove economically inefficient in comparison to

²¹ “Corporations Seek Tax-Credit Cash-Out in Next Coronavirus Relief Plan”, Richard Rubin, Wall Street Journal, July 20, 2020

²² “§1603 Treasury Grant Expiration: Industry Insight on Financing and Market Implications”, Michael Mendelsohn and John Harper, National Renewable Energy Laboratory Technical Report (NREL/TP-6A20-53720), June 2012.

²³ US Department of the Treasury (<https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/1603-program-payments-for>)

²⁴ In the Form S-1 filed on October 5, 2012, SolarCity reported that “In October of 2012, we were notified that the Internal Revenue Service was commencing income tax audits of two of our investment funds which audit will include a review of the fair market value of the solar power systems submitted for grant under the 1603 Grant Program. If, at the conclusion of the

audits currently being conducted, the Internal Revenue Service determines that the valuations were incorrect and that our investment funds received U.S. Treasury grants in excess of the amounts to which they were entitled, we could be subject to tax liabilities, including interest and penalties, and we could be required to make indemnity payments to the fund investors.” The outcome of the audit is unknown.

²⁵ Molly F. Sherlock and Mark P. Keightley, “Master Limited Partnerships: A Policy Option for the Renewable Energy Industry”, Congressional Research Service Report (R41893), June 28, 2011.

²⁶ Felix Mormann and Dan Reicher, “Smarter Finance for Cleaner Energy: Open up Master Limited Partnerships (MLPs) and Real Estate Investment Trusts (REITs) to Renewable Energy Investment”, Brookings Remaking Federalism/Renewing the Economy Series, November 2012.

broader energy policy mechanisms such as carbon taxes and tradable permit systems. These policy measures not only help provide incentives to build low-carbon renewable energy, but also help align consumer prices to the full social cost of producing energy. Most economists believe that the use of such broad policy mechanisms could help meet climate goals much more cheaply than with indirect means such as subsidies implemented through the tax system. Such systems also help place the cost burden of reducing carbon and other emissions where it belongs – on the producers and consumers of energy.

Conclusion*

Federal tax credits have played a major role in the development of renewable energy in the United States. The wind industry has benefited tremendously from Production Tax Credits. However, the inherent complexity of the tax structures necessary for many renewable project sponsors to take advantage of these tax credits has come with substantial downsides.

If rapid growth in renewable energy is to continue, at a minimum alternative means of implementing tax credits should be considered by Congress. The policy reforms discussed above could help overcome some of the key limitations currently affecting the tax equity market, especially if the renewable sector continues to expand as expected in conjunction with national and state climate goals. More broadly, as the

renewable energy industry takes a leading position in the energy sector, the United States would be well-served to move renewable subsidies out of the tax systems as a whole and into more direct and transparent mechanisms better suited to meet national and state goals equitably and at lower cost.

*The authors of this article are also coauthors of the book *Renewable Energy Finance: Theory and Practice*. More information regarding the book and other helpful renewable energy finance materials can be found at this informative website:

<https://renewableenergy-finance.com/>

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