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Tax Equity Financing: An Introduction and Policy Considerations

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April 17, 2019

Congressional Research Service
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R45693

CRS REPORT
Prepared for Members and
Committees of Congress

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Tax Equity Financing: An Introduction and Policy Considerations

SUMMARY

This report provides an introduction to the *general* tax equity financing mechanism. The term *tax equity investment* describes transactions that pair the tax credits or other tax benefits generated by a qualifying physical investment with the capital financing associated with that investment. These transactions involve one party agreeing to assign the rights to claim the tax credits to another party in exchange for an equity investment (i.e., cash financing). The exchange is sometimes referred to as "monetizing," "selling," or "trading" the tax credits. Importantly, however, the "sale" of federal tax credits usually occurs within a partnership or contractual agreement that legally binds the two parties.

Three categories of tax credits that either currently use or have recently used this mechanism are presented in this report to help explain the structure and function of tax equity arrangements. These include the low-income housing tax credit (LIHTC); the new markets tax credit (NMTC); and two energy-related tax credits—the renewable electricity production tax credit (PTC) and energy investment tax credit (ITC). While these credits all use the tax equity financing mechanism, no two credits do so in the same manner. The economic rationale for subsidizing the activities targeted by these tax credits is not evaluated. Instead, this report focuses on explaining the structure and functioning of tax equity arrangements, analyzing the delivery of federal financial support using this mechanism, and discussing various policy options related to tax credits that rely on tax equity.

Four policy options are presented to help Congress should it consider modifications to an existing tax equity program, or create a new one. The options are with respect to the general tax equity approach and include making the credits refundable, converting the credits to grants, allowing for the direct transfer of credits, and accelerating the credit claim periods. This list of options is not exhaustive. Due to important differences in the underlying structure of various current or future credits, some options may be better suited for particular credits than others. Careful consideration on a case-by-case basis is part of evaluating the appropriateness of each option.

Consideration of various options might ask whether the use of tax equity markets is an efficient and effective means of delivering federal financial support. At first glance, it may appear that the government would get more "bang for its buck" by delivering subsidies more directly, without a role for tax equity markets. However, such a conclusion overlooks one role that tax equity investors play in some industries in addition to providing financing: they evaluate the quality of projects before investing, as well as provide continuing oversight and compliance monitoring. Effectively, the tax equity mechanism outsources a portion of the oversight and compliance monitoring to investors in exchange for a financial return. On the one hand, there may be value to the federal government in being able to rely on outside investors to provide oversight and monitoring. On the other hand, for some tax equity programs that have a government entity overseeing participant compliance, the monitor role of investors may be redundant. There also may be ways to improve the current delivery approach.

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Introduction

The federal government subsidizes a wide range of activities through the tax code. The majority of available tax incentives are claimed directly by the party engaged in the activity targeted by the subsidy. There are several tax credits, however, that often require or encourage the intended beneficiary of the subsidy to partner with a third party to use the tax incentive. This may happen because the tax credits are nonrefundable and the intended beneficiary of the tax credit has little or no tax liability (e.g., a nonprofit), or because the credits are delivered over multiple years whereas upfront funding is needed to break ground. This situation often results in a *tax equity* transaction—the intended beneficiary of the tax credit agrees to transfer the rights to claim the credits to a third party in exchange for an equity financing contribution. One estimate placed the size of the tax equity market in 2017 at $20 billion.[1]

This report provides an introduction to the *general* tax equity financing mechanism. To facilitate the presentation of the tax equity approach to subsidization, three categories of tax credits that either currently use or have recently used this mechanism are examined: the low-income housing tax credit (LIHTC); the new markets tax credit (NMTC); and two energy-related tax credits—the renewable electricity production tax credit (PTC) and energy investment tax credit (ITC).[2] This report does not evaluate the economic rationale for subsidizing the activities targeted by these tax credits, and does not analyze whether these subsidies increase net investment in these activities. Instead, this report focuses on explaining the structure and functioning of tax equity arrangements.

Tax Equity Investments

Tax equity investment is not a statutorily defined term, but rather identifies transactions that pair the tax credits or other tax benefits generated by a qualifying physical investment with the capital financing associated with that investment.[3] These transactions involve one party agreeing to assign the rights to claim the tax credits to another party in exchange for an equity investment (i.e., cash financing). The exchange is sometimes referred to as "monetizing," "selling," or "trading" the tax credits.[4] Importantly, however, the "sale" of federal tax credits occurs within a partnership or contractual agreement that legally binds the two parties to satisfy federal tax requirements that the tax credit claimant have an ownership interest in the underlying physical investment. This makes the trading of tax credits different than the trading of corporate stock, which occurs between two unrelated parties on an exchange.[5] The partnership form also allows

[1] Alex Tiller, "Insight: Tax Equity Remains an Under-Utilized Tool for Corporate Tax Strategy," *Daily Tax Report*, January 30, 2019.

[2] Another tax incentive that uses this approach, but is not discussed in this report, is the historic tax credit (HTC). Recent expansion and changes to the tax credit for carbon capture and sequestration have led some to believe that this credit may be part of tax equity transactions.

[3] Tax equity investors may also receive tax benefits that are not credits, such as accelerated or bonus depreciation or tax losses. While this report tends to refer to tax credits when describing tax equity transactions, other tax savings may be involved.

[4] Some tax provisions can be allocated or transferred between parties. For example, in the case of the §179D deduction for energy-efficient commercial building property, deductions allowed for property owned by federal, state, or local governments can be allocated to the person who designed the property (an architect, engineer, or contractor, for example). Another example is the §30D plug-in electric vehicle tax credit, where tax credits for vehicles sold to tax-exempt entities can be allocated to sellers.

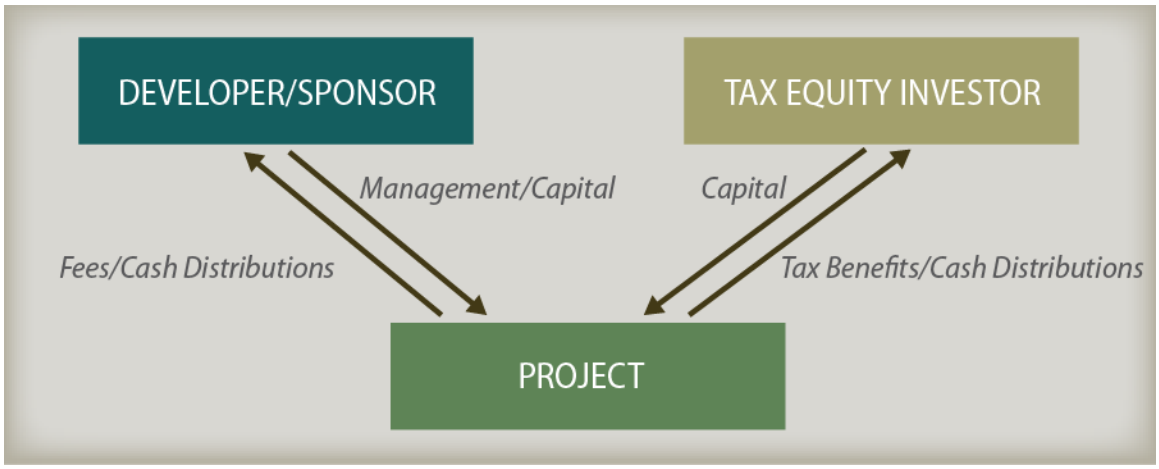
[5] This is not necessarily true with credits offered by states; some states allow particular credits to be transferred to a

for income (or losses), deductions, and other tax items to be allocated directly to the individual partners. In some cases, nonprofit entities can form a partnership with taxable investors and benefit from tax credits through this relationship.

Overview of Structure and Mechanics

While the specifics of a tax equity arrangement vary depending on the project and tax credit program involved, these deals often share some general common structural features.[6] **Figure 1** provides a graphical summary of the structure and mechanics of one kind of project that relies on tax equity investment.

Figure 1. General Tax Equity Structure



Source: CRS illustration.

The process begins with a developer, also sometimes referred to as a "sponsor," identifying a potential project eligible for federal tax credits. For projects where an application is required, the developer will apply to the entity in charge of awarding the credits.[7] At the same time, the developer will seek out potential investors willing to contribute equity capital in exchange for the tax credits expected to be awarded. A developer can partner directly with an investor, or, as is also common, partner with a tax credit "syndicator" that manages a tax credit fund for multiple investors that may not have the expertise to partner directly with a developer, or that may want to diversify their tax equity investment portfolio. The syndicator will earn a syndication fee for identifying, evaluating, and managing tax equity investments for the fund. Regardless of whether

third party without requiring the relevant parties to enter into a partnership.

[6] This report focuses on tax equity arrangements that use a partnership structure. Tax equity investors may also participate in certain energy projects using various lease structures (a sale-leaseback, for example). The role of tax equity investors in this type of arrangement, or other arrangements, is not explicitly discussed in this report.

[7] This entity can be a federal or state-level entity, depending on the program. For example, affordable housing developers will submit an application for a low-income tax credit award to the housing finance agency in their state. In contrast, a commercial property developer will submit an application for a new market tax credit to the Community Development Financial Institutions Fund (CDFI Fund), a federal entity. There is no application process associated with the energy ITC or PTC. Instead, tax credits associated with qualifying investments or production are claimed on federal income tax returns.

the partnership with investors is direct or via a syndicator, the tax equity investors are typically large corporations with predictable tax liabilities.[8]

The developer and investors will negotiate how much equity capital will be contributed in exchange for the right to claim the tax credits and other tax benefits.[9] As previously mentioned, this is commonly referred to as the "selling," "trading," or "monetizing" of tax credits. The tax equity investors will serve as the "limited" partners in the partnership, meaning they generally have a passive role and do not participate in management decisions.[10] The developer will serve as the "general" partner overseeing day-to-day operations in exchange for a fee and possibly any cash distributions the project may generate. The developer may also contribute their own capital to or arrange or coordinate other sources of capital for the project, depending on the particular tax credit program being used. While tax equity investors are not generally required to have an active management role, they have an incentive to monitor the project to ensure it complies with the program's rules, since compliance violations can result in forfeiture of tax credits.

The Tax Equity Investor's Return

A tax equity investor's return depends on the price paid per credit and associated benefits the investor secures in exchange. In the simplest case, the only benefit the investor receives from the credits is the ability to reduce their tax liability. For example, consider a project that will cost $1.5 million to complete and that will generate $1 million in federal tax credits that its owner is seeking to sell to finance the upfront cost of the project. An outside investor has agreed to contribute 90 cents in equity financing in exchange for each $1.00 of tax credit. Thus, the investor pays (contributes in capital) $900,000 in exchange for $1 million in tax credits. The net return to the investor is $100,000 (in reduced taxes), or 11.1% ($100,000 divided by $900,000).[11]

The project developer will need to make up the difference between the project's cost ($1.5 million) and tax equity investor's capital contribution ($900,000). This difference is often referred to as the "equity gap." Possible options for filling the equity gap include traditional loans or equity financing from other sources. The gap could also be filled with additional federal, state, or local subsidies. These might be grants, below-market-rate loans, or other tax incentives.

Depending on the structure of the arrangement, the tax equity investor may also secure other benefits, such as additional state and federal tax incentives, a claim to operating income and losses, a share of any capital gains when the underlying investment is sold, or goodwill with the community or regulators. With regard to regulatory-driven motives, investments in LIHTC and NMTC projects, for example, can assist financial institutions in satisfying requirements under the Community Reinvestment Act (CRA; P.L. 95-128), which is intended to encourage banks to make credit more readily available in low- and moderate-income communities. Tax equity investors in

[8] Big banks and financial institutions are major tax equity investors. Examples include Bank of America, JP Morgan, Citigroup, GE Financial Services, U.S. Bank, and Capital One. See Alex Tiller, "Insight: Tax Equity Remains an Under-Utilized Tool for Corporate Tax Strategy," *Daily Tax Report*, January 30, 2019.

[9] In the case of energy tax credits, these negotiations are constrained by guidance from the Internal Revenue Service regarding allocations of tax benefits and investment returns or losses.

[10] The designation of being a limited partner may also imply that the investor has limited legal liability.

[11] The tax equity investor may be guaranteed a certain rate of return depending on the particular tax credit program involved and the specific structure of the partnership.

renewable energy projects generally have returns that consist of both tax attributes and operating cash flow to conform to guidance provided by the Internal Revenue Service (IRS).[12]

The price investors are willing to pay for tax credits not only depends on the benefits attached to the credits, but on factors associated with the underlying project. These factors can include the risk associated with the project, how it is financed, and the time period over which benefits accrue.[13]

Due to the complexity of tax equity transactions and the size of investors' tax liabilities they desire to offset, the current federal tax equity mechanism may not, in some cases, be well suited for assisting small individual projects. When possible, tax equity investors typically seek large projects expected to generate a fairly significant amount of credits.[14]

Since tax equity investors require a financial return in exchange for providing financial capital, a portion of the subsidy is diverted away from the targeted activity. Returning to the previous example, if a tax equity investor agrees to contribute 90 cents in equity financing per $1.00 of federal tax credit, it means that for every $1.00 in government subsidy (i.e., tax credit), 10 cents is diverted away from subsidizing the underlying activity and to the investor and middlemen. Put differently, every 90 cents in federal subsidy that reaches the targeted industry actually costs the government $1.00 in lost tax revenue. This aspect of the tax equity mechanism is discussed in more detail in the "Policy Options and Considerations" section.

Subsidy Fluctuations

The use of the tax equity mechanism can create fluctuations in the amount of subsidy qualified activities receive. The subsidy flowing into a project depends on the price tax equity investors receive in exchange for their financing contributions. All else equal, higher tax credit prices imply more federal subsidization of the targeted activity per dollar loss of federal tax revenue. Therefore, factors that cause variability in tax credit prices also cause variability in the subsidization rate. This can lead to fluctuation in the subsidy delivered via the tax equity mechanism, even though there has been no direct policy change regarding the tax credit program itself. For example, during the Great Recession, falling corporate tax liabilities reduced investor demand for credits, leading to depressed credit prices. In turn, qualified investments had difficulty raising enough equity to finance projects. To bypass the tax equity mechanism, some credits were temporarily converted into direct grants.[15]

Policies enacted by Congress, but not directly related to the underlying tax credit program itself, can also lead to subsidy fluctuations. This occurred most recently with the 2017 tax revision (P.L. 115-97). Although some direct changes were made to several incentives that use the tax equity mechanism, there have also been concerns that the reduction in corporate tax rates and overall corporate tax liabilities could curb investor appetite for credits, and reduce the amount of tax equity investment being offered in the market. With less tax equity being supplied in the market, tax equity investors might demand higher rates of return, which could increase the cost of

[12] See Internal Revenue Service (IRS) Rev. Proc 2007-65.

[13] The price investors are willing to pay for the same benefits accrued over a longer time period, all else equal, would be less to account for the time value of money.

[14] For example, NMTC projects have a bias to larger project sizes, as the amount used for "fees" is limited to a percent of the project. In contrast, some states place limits on the LIHTCs a development can receive, which can limit the size bias.

[15] For background, see CRS Report R41635, *ARRA Section 1603 Grants in Lieu of Tax Credits for Renewable Energy: Overview, Analysis, and Policy Options*, by Phillip Brown and Molly F. Sherlock.

financing from the perspective of investors in targeted activities.[16] Additionally, the subsidies delivered by LIHTC and NMTC can also vary geographically due to the CRA.

Policies can also affect the demand for tax equity. For example, with renewable energy tax incentives phasing down, renewable energy investors may have fewer tax credits they are seeking to monetize. Less demand for tax equity could tend to reduce tax equity financing costs from the perspective of investors in targeted activities, reducing the overall rate of return for tax equity investors.

Select Case Studies

While several current federal tax credits use the tax equity financing mechanism, no two credits do so in the same manner. For example, affordable housing developers are awarded LIHTCs by officials in each state who review applications, decisions regarding NMTC applications are made by federal officials, and renewable energy tax credits have no similar application and review process. The rate of subsidization and time frame over which the various tax credits may be claimed are also different, as are many of the intricacies of the rules and requirements of each. This section reviews three large tax credits that employ the tax equity financing mechanism to illustrate the various ways the approach is used in practice.

Low-Income Housing Tax Credit

The LIHTC program was created by the Tax Reform Act of 1986 (P.L. 99-514) to replace various affordable housing tax incentives that were viewed as inefficient and uncoordinated at the time.[17] The tax credits are given to developers over a 10-year period in exchange for constructing affordable rental housing. Originally scheduled to expire in 1989, the program was extended several times before being made permanent in the Omnibus Budget Reconciliation Act of 1993 (P.L. 103-66). According to the Joint Committee on Taxation's (JCT's) most recent tax expenditure estimates, the LIHTC is estimated to cost the government an average of approximately $9.9 billion annually in reduced federal tax revenues.[18]

The mechanics of the program are complex. The process begins at the federal level, with each state receiving an annual LIHTC allocation based on population. In 2019, states received an LIHTC allocation of $2.75625 per person, with a minimum small-population state allocation of $3,166,875.[19] These amounts reflect a temporary increase in the amount of credits each state received as a result of the 2018 Consolidated Appropriations Act (P.L. 115-141). The increase is equal to 12.5% above what states would have received absent P.L. 115-141, and is in effect through 2021.

[16] With respect to the renewable energy industry, experts observed early in 2018 that tax equity investors were continuing to provide tax equity following the tax policy changes enacted late in 2017. See Emma Foehringer Merchant, "Renewables Tax Equity Market Fares Fine in Q1, Calming Industry Fears," *Greentech Media*, May 17, 2018, https://www.greentechmedia.com/articles/read/renewables-tax-equity-market-fares-fine-in-q1.

[17] For more information on the LIHTC program, see CRS Report RS22389, *An Introduction to the Low-Income Housing Tax Credit*, by Mark P. Keightley.

[18] Computed as the average estimated tax expenditure associated with the program between 2018 and 2022. U.S. Congress, Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2018-2022*, committee print, 116th Cong., 1st sess., October 4, 2018, JCX-81-18.

[19] The state allocation limits do not apply to the "noncompetitive" 4% LIHTCs, which are automatically packaged with tax-exempt-bond-financed projects. Tax-exempt bonds are issued subject to a private activity bond volume limit per state, which limits the amount of "noncompetitive" credits available by default. For more information, see CRS Report RL31457, *Private Activity Bonds: An Introduction*, by Steven Maguire and Joseph S. Hughes.

State or local housing finance agencies (HFAs) then award credits to developers using a competitive application process to determine which developers receive a credit award. HFAs review developer applications to ensure that proposed projects satisfy certain federally required criteria, as well as criteria established by each state. For example, some states may choose to give priority to buildings that offer specific amenities such as computer centers or that are located close to public transportation, while others may give priority to projects serving a particular demographic, such as the elderly. Delegating authority to HFAs to award credits gives each state the flexibility to address its individual housing needs, which is important given the local nature of housing markets.

Upon receipt of an LIHTC award, developers typically "sell" the tax credits to investors in exchange for an equity investment. This transaction occurs within a partnership structure and in a manner similar to the generalized example discussed in the previous section. While LIHTC prices fluctuate over time and geographic regions, they typically range from the mid-$0.80s to mid-$0.90s per $1.00 of tax credit. In addition to the tax credits, the equity investor may also receive tax benefits related to any tax losses and other deductions, as well as residual cash flow.

New Markets Tax Credit

The NMTC program was created by the Community Renewal Tax Relief Act of 2000 (P.L. 106-554) to provide an incentive to stimulate investment in low-income communities (LICs).[20] The original allocation authority eligible for the NMTC program was $15 billion from 2001 to 2007.[21] Congress subsequently increased the total allocation authority to $61 billion and extended the program through 2019.[22] The tax credits are awarded to community development entities (CDEs) to make eligible low-income community investments.[23] According to JCT's most recent tax expenditure estimates, the NMTC is estimated to cost the government an average of approximately $1.2 billion annually in reduced federal tax revenues.[24]

[20] For more information on the NMTC program, see CRS Report RL34402, *New Markets Tax Credit: An Introduction*, by Donald J. Marples and Sean Lowry.

[21] Congress provided a schedule limiting the NMTC allocation authority for calendar years 2001 through 2007. The schedule allowed for $1.0 billion in allocation authority in 2001, $1.5 billion in 2002 and 2003, $2.0 billion in 2004 and 2005, and $3.5 billion in 2006 and 2007.

[22] The Gulf Opportunity Zone Act of 2005 (P.L. 109-135) authorized an additional $1 billion of NMTC equity for qualified investments in areas affected by Hurricane Katrina, the Tax Relief and Health Care Act of 2006 (P.L. 109-432) extended the NMTC for an additional year (through 2008) with an additional $3.5 billion of NMTC allocation authority, and the Emergency Economic Stabilization Act of 2008 (P.L. 110-343) extended the NMTC for an additional year (through 2009) with an additional $3.5 billion of NMTC allocation authority. In the 111th Congress, the American Recovery and Reinvestment Tax Act of 2009 (P.L. 111-5) increased the NMTC allocation for 2008 and 2009 from $3.5 billion to $5 billion; and the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (P.L. 111-312) extended the NMTC authorization through 2011 at $3.5 billion per year. In the 112th Congress the American Taxpayer Relief Act of 2012 (P.L. 112-240) extended the NMTC authorization for 2012 and 2013 at $3.5 billion per year. In the 113th Congress the Tax Increase Prevention Act of 2014 (P.L. 113-295) extended the NMTC authorization for 2014 at $3.5 billion. In the 114th Congress the Protecting Americans from Tax Hikes (PATH) Act (Division Q of P.L. 114-113) extended the NMTC authorization through 2019 at $3.5 billion per year.

[23] A CDE is a domestic corporation or partnership that is an intermediary vehicle for the provision of loans, investment funding, or financial counseling in low-income communities (LICs). To become certified as a CDE, an organization must submit an application to the CDFI that demonstrates that it meets specific criteria.

[24] Computed as the average estimated tax expenditure associated with the program between 2018 and 2022. U.S. Congress, Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2018-2022*, committee print, 116th Cong., 1st sess., October 4, 2018, JCX-81-18.

The process by which the NMTC affects eligible low-income communities involves multiple agents and steps. The multiple steps and agents are designed to ensure that the tax credit achieves its primary goal: encouraging investment in low-income communities. For example, the Department of the Treasury's Community Development Financial Institutions Fund (CDFI) reviews NMTC applicants submitted by CDEs, issues tax credit authority to those CDEs deemed most qualified, and plays a significant role in program compliance.

To receive an allocation, a CDE must submit an application to the CDFI, which asks a series of standardized questions about the CDE's track record, the amount of NMTC allocation authority being requested, and the CDE's plans for any allocation authority granted.[25] The application is reviewed and scored to identify those applicants most likely to have the greatest community development impact and ranked in descending order of aggregate score.[26] Tax credit allocations are then awarded based upon the aggregate ranking until all of the allocation authority is exhausted.[27]

Upon receipt of an NMTC award, developers often "sell" the tax credits to investors in exchange for an equity investment. This transaction typically occurs through a limited liability corporation obtaining a loan from a bank and combining the loan proceeds with the tax credit proceeds to invest in the low-income community. While NMTC prices fluctuate over time, geographic regions, and the business cycle, they typically range from the mid-$0.70s to mid-$0.80s per $1.00 of tax credit.[28] Unlike the LIHTC investor, the NMTC equity investor does not generally receive tax benefits related to any tax losses and other deductions.

Energy Tax Credits

Investment tax credits for renewable energy date back to the late 1970s.[29] The production tax credit (PTC) for renewable energy was enacted in the Energy Policy Act of 1992 (P.L. 102-486).[30] In recent years, the cost of both of these incentives has increased, as investment in renewable energy technologies has accelerated. For FY2018, the JCT estimates tax expenditures for the renewable energy investment tax credit (ITC) will be $2.8 billion.[31] Tax expenditures estimates for the PTC are $5.1 billion for FY2018. Most of the forgone revenue associated with the ITC is attributable to solar ($2.5 billion of the $2.8 billion for all eligible technologies).[32] In the case of

[25] In addition, priority points are available for addressing the statutory priorities of investing in unrelated entities and having a demonstrated track record of serving disadvantaged businesses or communities.

[26] For past examples of what the CDFI Fund has considered as "highly ranked applications" for the NMTC, see Community Development Financial Institutions Fund, *2014 NMTC Allocation Application Review Process*, Washington, DC, 2015, https://www.cdfifund.gov/Documents/2014%20NMTC%20Allocation%20Application%20Review%20Process.pdf.

[27] In each of the completed NMTC rounds, significantly more CDEs applied for allocations than were able to receive allocations.

[28] GAO-10-334 and New Markets Tax Credit Coalition, *New Markets Tax Credit Progress Report: 2018*, Washington, DC, 2018.

[29] CRS In Focus IF10479, *The Energy Credit: An Investment Tax Credit for Renewable Energy*, by Molly F. Sherlock.

[30] CRS Report R43453, *The Renewable Electricity Production Tax Credit: In Brief*, by Molly F. Sherlock.

[31] Joint Committee on Taxation, "Estimates of Federal Tax Expenditures for Fiscal Years 2018-2022," JCX-81-18, October 4, 2018.

[32] Other ITC-eligible technologies include geothermal, fuel cells, microturbines, combined heat and power, small wind, and geothermal heat pumps.

the PTC, most of the forgone revenue is associated with tax credits claimed for using wind to produce electricity ($4.7 billion of the $5.1 billion for all eligible technologies).[33]

The energy credit for solar is 30% of the amount invested in solar projects that start construction before the end of calendar year 2019. In 2020, the credit rate is reduced to 26% for property beginning construction in 2020, before being reduced again to 22% in 2021. For property that begins construction after 2021, the credit is 10%.[34] As an investment credit, the ITC is generally claimed in the year the property is placed in service.[35] The energy credit may be recaptured, meaning a taxpayer must add all or part of the tax credit to their tax liability, if a taxpayer disposes of the energy property or ceases to use the property for the purpose for which a tax credit was claimed. The recapture period is five years.[36]

The PTC is a per-kilowatt-hour (kWh) tax credit that can be claimed for the first 10 years of qualified renewable energy production. In 2018, the tax credit for wind was 2.4 cents per kWh. The amount of the credit is adjusted annually for inflation. Since 2009, taxpayers have had the option of electing to receive an ITC in lieu of the PTC.[37] Wind or solar projects that began construction in 2009, 2010, or 2011 had an option to elect to receive a one-time grant in lieu of tax credits.[38] Using tax equity financing arrangements has allowed developers to monetize the tax benefits, essentially trading future tax benefits for upfront capital.

The ITC and PTC were not designed as tax equity incentives. Rather, they were intended to subsidize investment in and production of renewable energy. Unlike the LIHTC and the NMTC, the energy tax credits were not intended to rely on taxpayer investors to deliver the subsidy.[39] In the case of the PTC, when enacted, it was anticipated that tax credits would be claimed for electricity produced at facilities owned by the taxpayer and later sold by the taxpayer.[40] Over time, however, partnerships began to form to efficiently use tax benefits.

Recognizing that tax equity transactions were being undertaken with respect to wind development, in 2007 the IRS released Revenue Procedure 2007-65, which established a safe harbor under which the allocation of tax credits in a tax equity partnership structure would not be challenged as long as certain ownership requirements were met.[41] While separate guidance has not been issued for solar projects claiming the ITC, industry practice has generally been to follow the safe harbor guidance provided to wind projects claiming the PTC.[42]

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[33] Other PTC-eligible technologies include closed-loop biomass, geothermal, qualified hydropower, small irrigation power, municipal solid waste, marine and hydrokinetic, and open-loop biomass.

[34] Credit rates and expirations vary for different technologies.

[35] It is possible for taxpayers to claim the tax credit for progress expenditures associated with the construction of property with a normal construction period of two or more years.

[36] One way to view the ITC is as a tax credit that "vests" over time. Using this perspective, the ITC vests at a rate of 20% per year. After the first year, 20% of the credit cannot be recaptured. After five years, the credit is fully vested, and cannot be recaptured.

[37] This provision is temporary but has regularly been extended along with the PTC.

[38] CRS Report R41635, *ARRA Section 1603 Grants in Lieu of Tax Credits for Renewable Energy: Overview, Analysis, and Policy Options*, by Phillip Brown and Molly F. Sherlock.

[39] Thomas W. Giegerich, "The Monetization of Business Tax Credits," *Florida Law Review*, vol. 12, no. 9 (2012), p. 760.

[40] For background and discussion, see Thomas W. Giegerich, "The Monetization of Business Tax Credits," *Florida Law Review*, vol. 12, no. 9 (2012), pp. 709-826.

[41] IRS Revenue Procedure 2007-65.

[42] Scott W. Cockerham, "Putting U.S. Solar Financing Structures in Perspective," *Tax Notes*, July 23, 2018, pp. 499-

Partnership flips are a common tax equity financing structure in renewable energy markets.[43] Under a partnership flip structure, a renewable energy developer partners with a third-party tax equity investor.[44] The tax equity investor has (or expects to have) sufficient tax liability to use the tax credits associated with the renewable energy investment or production. The tax equity investor and renewable energy developer establish a partnership, which is the project company. The tax equity investor may provide upfront cash to the project company, in exchange for production or investment tax credits, depreciation, interest deductions, and operating income.[45]

During the initial phase of the project, the tax equity investor will receive most of the tax benefits, as well as the income or loss (often the share is 99%). The developer retains a small allocation of tax benefits and income (profit or loss). Once the tax equity investor has achieved a targeted internal rate of return (IRR), the partners' interests in the project company will flip, with the developer now receiving most of the tax benefits and income (profit or loss) associated with the project (typically 95%, leaving the tax equity investor with 5%). The developer may also buy out the tax equity investor, such that the tax equity investor no longer owns any part of the project.

Tax equity generally provides a portion of a project's capital needs—somewhere from 30% to 60%, depending on the specifics of the project.[46] For renewable energy projects, tax equity is generally more expensive than other sources of debt financing. For example, tax equity investors require rates of return that are 7% to 10% higher than the return on a comparable debt product.[47] Tax equity yields (or the after-tax return required by tax equity investors) can vary widely across energy projects, but often fall in the 6% to 8% range, depending on the technology and specifics of the project.[48]

Policy Options and Considerations

There are a range of policy options to consider when it comes to using tax equity markets to monetize tax benefits. For existing programs and new tax policies that could involve tax equity transactions, consideration of various options might ask whether the use of tax equity markets is an efficient and effective means of delivering federal financial support. At first glance, it may appear that the government would get more "bang for its buck" by structuring the subsidy delivery mechanism to eliminate investors. However, such a conclusion overlooks one role that

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[43] Other structures include sale leasebacks and inverted leases. These structures are not discussed here, but more information can be found in Scott W. Cockerham, "Putting U.S. Solar Financing Structures in Perspective," *Tax Notes*, July 23, 2018, pp. 499-503; Keith Martin, "Solar Tax Equity Structures," *Project Finance NewsWire*, September 2015; and various chapters in *Energy and Environmental Project Finance Law and Taxation: New Investment Techniques*, eds. Andrea S. Kramer and Peter C. Fusaro (Oxford University Press, 2010).

[44] More detailed discussions of the partnership flip structure in the context of renewable energy projects can be found in Michelle D. Layser, "Improving Tax Incentives for Wind Energy Production: The Case for a Refundable Production Tax Credit," *Missouri Law Review*, vol. 81 (2016), pp. 453-517.

[45] Some tax equity structures involve a tax equity investor purchasing a share of the developer's membership interest. Tax equity investors may realize income from the sale of their equity interest.

[46] Paul Schwabe, David Feldman, Jason Fields, and Edward Settle, *Wind Energy Finance in the United States: Current Practice and Opportunities*, National Renewable Energy Laboratory, NREL/TP-6A20-68227, August 2017; and Emma Foehringer Merchant, "Renewables Tax Equity Market Fares Fine in Q1, Calming Industry Fears," *Greentech Media*, May 17, 2018, at https://www.greentechmedia.com/articles/read/renewables-tax-equity-market-fares-fine-in-q1.

[47] Paul Schwabe, David Feldman, Jason Fields, and Edward Settle, *Wind Energy Finance in the United States: Current Practice and Opportunities*, National Renewable Energy Laboratory, NREL/TP-6A20-68227, August 2017.

[48] See, for example, CohnReznick LLP / CohnReznick Capital, *U.S. Renewable Energy Brief: The Tax Equity Investment Landscape*, Summer 2017, https://www.cohnreznickcapital.com/usrenewableenergybrief_summer2017/.

tax equity investors often play in addition to providing financing: tax equity investors evaluate the quality of projects before investing, as well as provide continuing oversight and compliance monitoring. Effectively, the tax equity mechanism outsources a portion of the oversight and compliance monitoring to the investors in exchange for a financial return. There may be value to the federal government in being able to rely on outside investors to provide oversight and monitoring. It could be argued, though, that for some tax equity programs that have a government entity overseeing participant compliance, the monitor role of investors is redundant.

This section presents several policy options frequently discussed in debates regarding tax equity. The options are with respect to the general tax equity approach. Due to important differences in the underlying structure of various current or future credits, some options may be better suited for particular credits than others. Careful consideration on a case-by-case basis is part of evaluating the appropriateness of each option. The list of options presented here is by no means exhaustive.

Make the Credits Refundable

Making the tax credits refundable could, in some cases, reduce or eliminate the need for tax equity. In other cases, making the tax credits refundable could reduce the cost of such financing for those who still need to access tax equity markets.

All the tax credits currently using the tax equity approach are nonrefundable. Nonrefundable credits have value only to the extent that there is a tax liability to offset. In contrast, refundable credits have value regardless of tax liability.[49] For example, if a developer has $1,000 in refundable tax credits and no tax liability, they may claim the credits and receive a tax refund of $1,000.[50] Thus, fully refundable credits are similar to direct grants administered through the tax system.

Even if the relevant tax credits were made refundable, there could still be a role for tax equity investment. Current tax credits relying on tax equity are delivered over multiple years or when the investment in qualifying property is complete and tax returns are filed. Project developers, however, typically need upfront capital to make their investments. Thus, developers (for-profit and nonprofit) may still choose to rely on tax equity markets to monetize tax credits even if they were refundable. Alternatively, allowing tax credits to be refundable could make it easier for projects to rely on debt financing. Lenders may be more willing to lend on favorable terms to a project that expects a refundable tax benefit in the future.

Moving to refundable credits could potentially increase the amount of subsidy per dollar of federal revenue loss. That is, it could increase the efficiency of the subsidy delivery mechanism and result in more of the targeted activity taking place. As discussed previously, all else equal, higher tax credit prices imply there is more federal subsidization per dollar loss of federal tax revenue. With refundable tax credits, current tax equity investors would be expected to pay more for each tax credit because the risk of not having sufficient tax liability to use the credits would be removed. Additionally, potential investors who are currently not purchasing tax credits because of uncertainty over their ability to use nonrefundable tax credits may enter the market now that the uncertainty is gone. This would add to the competition among investors and would likely put upward pressure on tax credit prices, further enhancing the subsidy mechanism.

Transitioning to refundable business tax credits raises two potential concerns. The first is the federal cost. Refundable tax credits typically result in a large revenue loss because they may be fully utilized regardless of tax liability, whereas nonrefundable credits may be claimed only to the

[49] Unless the credits are only partially refundable.

[50] Tax-exempt entities that do not file income tax returns are generally not able to claim refundable tax credits.

extent there is a tax liability, which can result in a portion of nonrefundable credits ultimately going unused. This concern is likely less of an issue with LIHTC and NMTC, since few of these tax credits currently go unclaimed.[51] This implies that converting these to refundable credits would likely not result in a significant increase in federal revenue loss.

Making the energy credits (PTC and ITC) refundable could result in considerable federal revenue loss. ITCs and PTCs that are currently carried forward and ultimately go unused under current law could instead be claimed immediately by taxpayers. For energy tax credits, many are claimed without the involvement of tax equity investors. Tax equity investors typically require projects to be of a certain size (i.e., generate a certain amount of tax benefits) to invest. As a result, there are many PTC- and ITC-eligible projects that are not able to monetize tax benefits using tax equity investors. Making energy tax credits refundable could (1) make the tax credits more attractive to developers that are not currently participating in tax equity markets; and (2) reduce the cost of tax equity for developers that are participating. Without a cap on the amount of ITCs or PTCs that can be claimed, if policy changes were made that increased demand for credits, the cost associated with delivering those credits would increase. One option to address concerns about the potential cost associated with an unlimited tax credit would be to limit the amount of tax credits that could be claimed.[52]

There is some experience with refundable energy tax credits. The energy tax credits enacted for wind and solar in the late 1970s were refundable, although legislation was enacted to make the credits nonrefundable in 1980.[53] Also, several states offer tax credits designed to promote renewable energy that are refundable.[54]

The second concern is allowing businesses to claim a refundable tax credit generally. Refundable tax credits are a useful tool for providing income support via the tax code. For this reason, refundable tax credits have generally been reserved for households, and mostly for lower-income households. Some may take issue with allowing businesses to access an income-support tax incentive. Others assert that allowing the credits to be refundable would likely result in each dollar of federal tax revenue loss yielding more subsidy flowing into the intended activity.

Convert to Grants

The tax credits could be replaced with grants. A concern with the current tax equity mechanism is the amount of subsidy that is diverted away from the underlying activity and toward third-party investors and middlemen. Even if the tax credits were fully refundable, as discussed above, tax equity might still be used to monetize tax credits to get upfront financing. Nonprofit entities that do not file federal income tax returns would also not generally benefit directly from an incentive

[51] There is high demand for a limited annual amount of these tax credits. If a potential claimant of these credits, after making a tax equity investment, does not have enough tax liability in a given year, they are allowed to carry back their credits 1 year and carry them forward for up to 20 years. LIHTC also allows states to carry over a given year's tax credit allocation authority for one year. If a state does not allocate all credits after the second year, then the credits are returned to a national pool where they can be reallocated to states that have exhausted their allocation authority.

[52] For example, the advanced energy manufacturing tax credit (IRC §48C) allocated $2.3 billion in tax credits. Investors wanting to claim tax credits were required to submit an application. Tax credits for clean coal have also been allocated (IRC §§48A and 48B).

[53] The Energy Tax Act of 1978 (P.L. 95-618) introduced a temporary 10% refundable tax credit for investment in wind and solar energy property. As part of the Windfall Profit Tax Act of 1980 (P.L. 96-223), the tax credit rate was increased to 15%, but the credit was made nonrefundable.

[54] Thomas W. Giegerich, "The Monetization of Business Tax Credits," *Florida Law Review*, vol. 12, no. 9 (2012), pp. 797-798.

delivered through the tax code. Another concern with the current tax equity structure that has already been mentioned is that it can potentially create a bias toward larger-scale projects because of tax credit investors' appetite for credits combined with the cost savings from evaluating and monitoring fewer projects.[55]

One way to potentially overcome or mitigate these concerns would be to provide lump-sum grants. The effective subsidy would correspond to the federal revenue loss, and there would no longer be a bias toward larger projects resulting from the way the subsidy was delivered.[56] The tradeoff, however, is that there would be no outside investors scrutinizing the long-term feasibility of potential projects or monitoring compliance after construction—though a mechanism such as that used to award NMTCs may help address this concern. Thus, there could be an increase in project failure and noncompliance, without the federal government (and in some cases, state governments) filling the role of tax credit investors. Carefully designed recapture provisions would also be needed in the case of project failure. In the end, replacing tax credits with grants would likely increase government administrative costs that could offset the increased subsidy flowing to the projects from the removal of tax credit investors.

An option for maintaining the role of investors would be to deliver a portion of the tax credits as upfront grants, and deliver the remaining tax credits over time. To maintain a feasible tax credit market and investor participation, the proportion of grant funding would have to be such that enough developers sold their remaining tax credits. It is not clear exactly what proportion would achieve the appropriate balance, although there are several options. The federal government could statutorily determine a particular split, such as 50% grants and 50% tax credits. For programs primarily administered by states, such as the LIHTC, the decision could be left to the states. Alternatively, developers could request that a specific amount of their funding be in the form of grants up to a certain percentage. In any case, if enough developers chose not to sell their credits, then the tax credit market would not function well, and project feasibility assessment and compliance monitoring responsibilities would fall on the government.

There is recent precedent for allowing grants in lieu of tax credits. During the Great Recession, falling corporate tax liabilities reduced investor demand for credits, leading to depressed credit prices.[57] In response to the general macroeconomic conditions at the time, Congress passed the American Recovery and Reinvestment Act (ARRA; P.L. 111-5) in early 2009. The act allowed a portion of LIHTCs to be converted into grants. Renewable energy tax credits also had the option of receiving a grant in exchange for forgoing future tax benefits.

In the case of the LIHTC, the grants were awarded via the competitive process used for awarding the credits. The need to intervene in tax credit markets highlights that the tax equity mechanism can create fluctuations in the subsidy qualified activities receive, as was discussed in the "Subsidy Fluctuations" section.

In addition, ARRA allowed taxpayers who otherwise would have been eligible for the PTC or ITC to elect to receive a one-time grant from the Treasury in lieu of these tax benefits.[58] Initially,

[55] As has also been mentioned, there may be particular restrictions that counteract the bias toward larger projects, as there are in the rules certain states use to make LIHTC awards.

[56] There may still be a bias toward larger projects due to features of the underlying investment. For example, urban areas typically require larger-sized housing structures than nonurban areas. It can also be more costly to build in urban areas, which influences the size of the project in dollar terms.

[57] The Great Recession began in December 2007 and ended in June 2009. See CRS In Focus IF10411, *Introduction to U.S. Economy: The Business Cycle and Growth*, by Jeffrey M. Stupak.

[58] CRS Report R41635, *ARRA Section 1603 Grants in Lieu of Tax Credits for Renewable Energy: Overview, Analysis, and Policy Options*, by Phillip Brown and Molly F. Sherlock.

the grant option was to be available for 2009 and 2010, although the policy was later extended such that projects that began construction before the end of 2011 could qualify. Since the grant was designed to be in lieu of existing tax benefits, tax benefits that could be claimed only by tax-paying entities, tax-exempt entities were not eligible.

Allow the Direct Transfer of Credits

The tax code could be modified to allow the direct transfer of tax credits without having to form a legal partnership. Currently, federal tax law requires tax equity investors to have an ownership interest in the underlying business venture in order to claim the associated tax credits. To meet this requirement, monetization of federal tax credits typically takes place within a partnership structure that legally binds the project's sponsor and investors for a period of time. In contrast, certain states permit state tax credits to be sold directly to investors without the need to establish a legal relationship.

Removing the need to form a partnership to invest in tax equity projects could broaden the pool of potential investors. In turn, this could enhance competition for tax credits, resulting in more equity finance being raised per dollar of forgone federal tax revenue. It is unclear, however, what impact the direct transfer of credits would have on deals involving other tax benefits that are often bundled with the tax credits. For example, the section titled "The Tax Equity Investor's Return" notes that investors may also secure a claim to other state and federal tax incentives, operating income and losses, capital gains when the underlying investment is sold, or goodwill with the community or regulators.

A number of issues would need to be addressed before allowing tax credits to be directly transferred. For example, allowing credits to be sold to anonymous investors with no formal ties to the underlying project potentially removes the tax equity investors' oversight incentives, which are a crucial feature of the current approach. Additionally, procedures would need to be implemented to track who has the right to claim the credits and prevent credits from being claimed (or from being recaptured) in instances of noncompliance or project failure. A decision would also need to be made about whether credits could be transferred only once, or if purchasers could resell credits. This would determine the resources needed to accurately track eligible credit claimants. Policymakers would also face the issue of who could participate in this market. Unsophisticated investors may not fully understand the risks or how to properly scrutinize these investments.[59]

Some of these issues may be resolved by the market itself if direct transfers were permitted. For example, at the state level, tax credit brokers have emerged to facilitate the exchange of transferable credits.[60] There are also a number of online tax credit exchanges where state tax credits are traded. Brokers or exchanges can provide some level of expertise and guidance on the risks of these transactions. Their services also come at a cost that reduces the subsidy directed to the targeted activity. Imposing reporting requirements on brokers or exchanges may help with the administration of a direct transfer regime.

Another option would be to allow more flexibility in transferring tax credits among various project participants. For example, tax-exempt entities engaged in a subsidized activity could be allowed to transfer their tax credit to someone else involved in the project (a designer or builder,

[59] With LIHTC, this would likely also require modification to the passive activity loss rules.

[60] Jennifer Zimmerman, "The Transferability and Monetization of State Tax Credits," *Journal of Multistate Taxation and Incentives*, vol. 25, no. 1 (March/April 2015).

or the provider of financing, for example) without entering into a formal partnership.[61] As was the case with general transferability of credits, even allowing more restricted transfer of credits could impose additional administrative and oversight burdens on both taxpayers and the government.

Accelerate the Credits

Accelerating the credits could potentially reduce the cost of tax equity. This option, however, would not eliminate the need to rely on tax equity markets altogether. Further, this option is most directly applicable to tax credits or other tax benefits that accrue and reduce tax liability over a multiyear period, as opposed to the current tax year.

A straightforward way to accelerate the credits would be to shorten the time period over which they are claimed. Alternatively, acceleration could also be achieved by leaving the claim periods unaltered, and frontloading the credits so that a greater proportion could be claimed in the earlier years. Either of these changes would likely increase the amount of equity a developer could raise from a given tax credit award because tax equity investors would be willing to pay a higher price per dollar of tax credit. This, in turn, would result in more subsidy flowing into the targeted investment, and allow for more projects to be undertaken for the same federal revenue loss.

Tax equity investors would be willing to pay more if credits were accelerated for two reasons. First, a shorter claim period means that investors would reduce the discount applied to the total stream of tax credits, since they could offset tax liabilities sooner. Second, longer claim periods result in more uncertainty (risk) over whether an investor will have sufficient tax liability to use purchased credits. Accelerating the tax credit reduces that risk, and less risk would lead to *current* investors being willing to pay higher prices for tax credits. Less risk could also bring *new* tax equity investors into the market, which would also tend to increase tax credit prices.

A concern with accelerating the tax credits is the potential for participants to lose focus on the investment after they have claimed all the credits. This concern could be addressed with a compliance period that is longer than the claim period and with credit recapture. For example, currently LIHTC is claimed over a 10-year period, but investors and developers are subject to a 15-year compliance period. Should the project fall out of compliance with the LIHTC rules in the last five years, the investors are subject to recapture of previously claimed tax credits. For purposes of this example, the claim period could be shortened to five years while leaving the 15-year compliance period in place.

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[61] This type of policy was enacted with respect to the advanced nuclear production tax credit (IRC §45J) in the Bipartisan Budget Act of 2018 (P.L. 115-123).