

An Overview of Federal Tax Incentives for Green Technology

Contributed by: Michael Haun & Kevin Young, Paul Hastings LLP

As the American economy continues its fragile recovery, "green technology" has been viewed by some as a sort of silver-bullet solution—one which could help us end our dependency on foreign oil, remain competitive in the high-tech arena, address the global climate crisis and create jobs for millions at home. To this end, policymakers have crafted tax and other financial incentives related to Green Technology. While such incentives are established at various levels of government, this article focuses on large-scale Federal incentives for renewable energy.

For several years, the most dominant of these incentives was a credit against tax for generating electricity from renewable resources. However, this became less effective with the economic downturn, as corporate tax burdens fell sharply with corporate earnings and the credit crunch dried up lender-financing for renewable projects. Congress responded with the Energy Improvement and Extension Act of 2008 (the Energy Act)¹ and the American Recovery and Reinvestment Act of 2009 (the Recovery Act).²

Both the Energy Act and the Recovery Act include provisions to create or improve Green Technology incentives. Among these are initiatives such as extended and enhanced tax credits for investing in renewable energy facilities or producing energy therefrom, options to take cash grants in lieu of such credits, deductions for renewable energy expenditures, favorable tax elections and government-sponsored loan or loan guaranty programs. The following is an overview of these initiatives.

Tax Credits

a. The Production Tax Credit

First enacted in 1992, Section 45 of the Tax Code provides a 10-year tax credit for producing electricity from qualified resources; this is referred to as the production tax credit, or the "PTC." Qualified resources include wind, closed-loop biomass and geothermal energy, each of which qualifies for a PTC of 2.1 cents per kilowatt-hour (kWh) of electricity generated and sold, as well as open-loop biomass, landfill gas, municipal solid waste, qualified hydropower production and marine and hydrokinetic energy, for which the credit rate is instead 1.1 cents.³ These amounts are indexed for inflation and may increase for 2010.

Various rules and regulations govern the use of the PTC. For example, electricity generated must be sold to an unrelated party. Additionally, there are restrictions on combining the PTC with other incentives, including grants, tax-exempt bonds and other tax credits. Outside of these restrictions, however, an important aspect of the PTC (as well as the ITC, discussed below) is that it may be used as a source of project financing. This feature has produced sound results as PTC syndicators have been able to bring together the capital of wealthy investors (whose large tax bills

justify dealing for the PTC) with the experience of project developers (whose tax bills are typically smaller than the PTC they would otherwise be allowed).

Marking the fourth extension of the PTC, the Recovery Act extended the credit to encompass wind facilities placed in service through 2012 and other eligible facilities placed in service through 2013.⁴ At an estimated cost of \$13.1 billion over 10 years, this comprises approximately 73 percent of the Recovery Act's business-related energy provisions.⁵ As a result of the changes to the PTC and ITC, the Energy Information Administration (the EIA), the research branch of the Department of Energy (the DOE), predicts a significant expansion of renewable energy, especially in the near-term.⁶

b. The Investment Tax Credit

Section 48 of the Code provides a tax credit based on the cost of energy property placed into service in an eligible year; this incentive is known as the investment tax credit, or the "ITC." Pursuant to the Recovery Act, owners of PTC-eligible property may make an irrevocable election to instead take the ITC.⁷ This is significant, as the ITC allows investors more certain economic returns as it is based on the initial cost of a project rather than production. It is important to note, however, that the election forecloses the availability of the PTC.

For solar energy, qualified fuel cell and small wind projects, the ITC amount is 30 percent of the project's qualifying costs; or geothermal energy, microturbine and combined heat and power projects, the credit amount is instead 10 percent.⁸ The ITC is generally available to projects placed in service before 2017; however, the geothermal credit has no expiration date and the solar credit will (unless extended) revert to 10 percent at the end of 2016. The ITC is realized in the year in which the underlying project begins commercial operations, but vests evenly over 5 years.⁹ Thus, if a project owner sells the project at the end of the 4th year of operation, one-fifth of the credit will be recaptured.

The Recovery Act amended Section 48 to remove a \$4,000 cap on the ITC that applied in the case of small wind energy property. According to the EIA, this could contribute to an increase in commercial sector wind capacity by 120 megawatts by 2016.¹⁰ Additionally, the Recovery Act removed the "double-dipping" penalty once triggered by the use of subsidized energy financing such as tax-exempt bonds.¹¹ These changes, combined with the new option to elect the ITC in lieu of the PTC, carry an estimated cost of \$889 million over 10 years.¹²

c. Qualified Advanced Energy Project Investment Credit

Expanding the array of tax credits available in the Green Technology arena, the Recovery Act amended the Code to include § 48C, the advanced energy manufacturing tax credit (the MTC). In contrast to the ITC and PTC, both of which incentivize generating electricity, the MTC is focused on the development of a Green Technology manufacturing base. As authorized by the Recovery Act, the Treasury Department (Treasury) may award up to \$2.3 billion under this new incentive.¹³

Similar to the ITC, the MTC is equal to 30 percent of the basis of eligible property placed in service in a taxable year as part of an advanced energy project.¹⁴ Such a project is one that establishes, re-equips, or expands a manufacturing facility for the production of:¹⁵

- Property designed to produce energy from the sun, wind, geothermal deposits or other renewable sources;
- Fuel cells, microturbines or energy storage systems for use with electric or hybrid vehicles;
- Electric grids to support the transmission of intermittent sources of renewable energy, including the storage of such energy;
- Property designed to capture and sequester carbon dioxide emissions;
- Property designed to refine or blend renewable fuels or to produce energy conservation technologies (including energy-conserving lighting and smart-grid technologies);
- New qualified plug-in electric drive vehicles or plug-in electric vehicles, as well as components designed specifically for use with such vehicles; or
- Certain other property designed to reduce greenhouse gas emissions.

The qualified investment includes the basis of tangible personal property so long as it is depreciable and necessary for the production of the property listed above. Other tangible property (besides buildings and structural components) will be considered if it meets these same requirements and is an "integral part" of the qualified investment facility.¹⁶

MTC awards are made on a competitive basis, and projects awarded must be completed within 4 years.¹⁷ In making certification decisions, Treasury and the DOE will examine various criteria including, for example, commercial viability, domestic job creation, potential for innovation and commercial deployment, net reduction of air pollution or greenhouse gases and expected completion time.¹⁸ Similar to the ITC, the MTC is subject to recapture if the taxpayer sells its interest in the underlying project within 5 years of placing it in service.¹⁹

The first round of DOE Award announcements are expected by January 15, 2010. The MTC program was intended to distribute credits up to either a cap of \$2.3 billion or until the end of 2 years. Even if, as some expect, the credits are fully allocated in the first round of applications, there would remain a real possibility of reallocations as well as eventual replenishment of the program by Congress.²⁰ Additional information on the MTC is available at <http://www.energy.gov/recovery/48C.htm> and in IRS Notice 2009-72.²¹

Tax Deductions

a. MACRS and Bonus Depreciation

Pursuant to the Recovery Act and other recent legislation, owners of certain renewable energy property may deduct 50 percent of eligible investments in 2008 or 2009, as applicable.²² To qualify, property must satisfy the following criteria: (i) it

must have a recovery period of 20 years or less under normal federal tax depreciation rules; (ii) its original use must have commenced with the taxpayer claiming the deduction; (iii) it must have been acquired during 2008 or 2009; and (iv) it must have been placed in service during 2008 or 2009 (or, in limited instances, in 2010).²³

Green Technology property should meet the first requirement above since it is typically classified as 5-year property (or, in limited cases, 7-year property) under the Modified Accelerated Cost-Recovery System (MACRS).²⁴ If the other requirements are met, then the 50 percent bonus depreciation deduction may be taken up front, with the property's remaining adjusted basis being depreciated normally. Note, however, that adjusted basis must be reduced by half of the eligible ITC for which a project qualifies before calculating depreciation.

b. Energy Efficient Commercial Buildings

Enacted in 2005 and extended through 2013 by the Energy Act, Section 179D of the Code provides a deduction against taxable income for the cost of construction or retrofit of energy-efficient improvements to commercial property. The maximum deduction is \$1.80 per square foot of the building, less any prior deductions taken for the building under the same provision. Since the deduction is effectively an acceleration of depreciation deductions, it reduces the instant property's depreciable basis.²⁵

The deduction generally applies to property installed as part of an interior lighting system, an HVAC (heating, ventilation, and air conditioning) or hot water system, or the building envelope that is certified as reducing the total annual energy and power costs of such systems by at least 50 percent, as compared to a baseline example meeting the minimum requirements of ASHRAE Standard 90.1-2001, a widely used industry standard. An engineer or licensed contractor must inspect the building to this end using the DOE's modeling guidelines and provide a signed certification.²⁶

Even if the 50 percent threshold is not met, a partial deduction for the cost of improvement, up to \$0.60 per square foot, is generally available for an improvement to any of the above-mentioned systems which meets a 16.75 percent threshold (rather than 50 percent). Furthermore, a taxpayer may qualify with more than one system; for example it installs an interior lighting system and an HVAC system, both of which meet the 16.75 percent threshold, a \$1.20 per-square-foot deduction limit would apply.²⁷

While deductions under Section 179D are geared toward property owners, tenants who make construction expenditures may qualify. Additionally, deductions available to tax-exempt public entities (i.e., public schools) may be allocated to the property's responsible designer. The building owner is not required to include any amount in income on account of the deduction allocated to the designer; it is, however, required to reduce the basis of the energy efficient property by the deduction allocated.²⁸

The Internal Revenue Service (IRS) has released interim guidance, Notices 2006-52 and 2008-40,²⁹ to establish a process for obtaining certification that the above requirements are met. Also, it is important to note that recent legislation has increased the carryback period for either 2008 or 2009 net operating losses to up to 5 years;³⁰ therefore, this deduction may provide an immediate benefit even if current-year profitability is down.

Grants in Lieu of Tax Credits

Pursuant to Section 1603 of the Recovery Act, taxpayers may elect to receive a cash grant from Treasury in lieu of the PTC or ITC. This program may be an appealing alternative to tax credits since no tax liability is necessary to utilize the grants. The program should temporarily fill the gap created by the diminished investor demand for tax credits. In this way, the Recovery Act's near-term goal of creating and retaining jobs is achieved, and so too is the long-term benefit of expanding the use of clean and renewable energy.

Grants are available for projects placed in service before 2011, or those that commence construction before 2011 and are placed in service prior to 2013 for wind energy, 2017 for solar energy or 2014 for other qualified technologies. The grant amount will generally be 10 or 30 percent of the property's basis, depending on the type of property placed in service. While the grant is not considered gross income to the applicant, the basis of the underlying property is reduced by half of the grant amount. Also, the grant is subject to recapture rules similar to the ITC.³¹

Applicants interested in receiving a grant may submit an application online at <http://www.treasury.gov/recovery>. Applications may only be submitted after the property is placed in service or is under construction. In either case, applications must be submitted before October 2011. Treasury will generally make payments within 60 days after an application is received or the project is placed in service, whichever is later. Payments are not subject to a competitive award process and the program is not currently capped.

Loan Programs

a. DOE Loan Guarantee Program

In 2005, Congress created a loan guarantee program under which the DOE may issue loan guarantees for projects that "avoid, reduce or sequester air pollutants or anthropogenic emissions of greenhouse gases" and "employ new or significantly improved technologies"³² The Recovery Act extended the program through September 2011 and appropriated to it \$6 billion to be used for (i) renewable energy systems that generate electricity or thermal energy; (ii) transmission systems (including upgrades and reconductoring); or (iii) innovative biofuel projects selected by the DOE.³³

Unlike bids to receive grants in lieu of tax credits (discussed above), participation in the DOE loan guarantee program is subject to a competitive review process. The program is targeted at near-term commercial use of new or improved technologies;

it is not for research, development, and demonstration programs. The DOE believes this focus is best to produce a more secure energy supply and to sustain growth.³⁴

The loan guarantee program requires that the DOE receive either an appropriation for the credit subsidy cost or payment of that cost by the borrower. This cost is the net present value (as of the guarantee execution date) of the expected payments by the government to cover defaults, delinquencies, interested subsidies, fees, and other payments. The recent \$6 billion appropriation covers the credit subsidy costs for loan guarantees; Congress expects this to support more than \$60 billion in loans.

Under the program, the DOE issues technology-specific solicitations for applications. The most recent solicitation, announced on October 7, 2009, was with respect to renewable systems that generate electricity or thermal energy using commercial technology. Under the solicitation, both parts of the two-part application are due no later than January 6, 2011.³⁵ There is also an outstanding solicitation for projects that employ innovative energy efficiency, renewable energy, or transmission and distribution technologies; the first part of this solicitation is due no later than August 24, 2010.³⁶ More information on the program and these solicitations is available at <http://www.lgprogram.energy.gov>.

b. Clean Renewable Energy Bonds

To help finance certain renewable energy projects, Section 54C of the Code allows a tax credit to holders of bonds issued by public power providers, electric cooperative companies, clean renewable energy bond lenders, or certain non-profit electricity utilities. These bonds are referred to as new CREBs. Under the arrangement, the borrower pays back only the bond's principal, while the bond holder receives the tax credit in lieu of traditional bond interest.

Following the Recovery Act, a total of \$2.4 billion is available to new CREBs to finance certain renewable projects including, but not limited to, solar thermal or geothermal electric, photovoltaic, landfill gas, wind, biomass, hydroelectric, municipal solid waste, hydrokinetic power and ocean thermal projects.³⁷ Participants must apply to the IRS for an allocation and issue the bonds within a set timeframe (i.e., a recent solicitation required that bonds be issued within 3 years of allocation). Public power providers, government bodies and electric cooperatives are reserved equal shares of the new CREBs allocation.³⁸

New CREBs, which are governed by Sections 54A and 54C of the Code, are subject to different requirements than "old CREBs," which are governed instead by Section 54. For example, new CREBs bondholders receive only 70 percent of the credit amount otherwise determined under Section 54A. Additionally, credit "stripping" (or separation of the ownership of the bond and the entitlement to the associated tax credit) is permissible for new CREBS, subject to regulations to be issued by Treasury.³⁹

The credit rate for both old and new CREBs is set daily by Treasury,⁴⁰ and the associated credit may be taken quarterly to offset the bondholder's tax liability.⁴¹ Credits exceeding tax liability may be carried forward, but cannot be refunded.

CREBs differ from traditional tax-exempt bonds in that the credits are taxable income to the bondholder. In April 2009, the IRS issued Notice 2009-33 soliciting applications for the new CREBs allocation and providing interim guidance on program rules.⁴² The expiration date for applications under this solicitation was August 4, 2009.

c. Qualified Energy Conservation Bonds

Sections 54A and 54D of the Code provide a tax credit to holders of bonds issued by state or local governments for qualified conservation purposes. These bonds, referred to as QECBs, are tax-credit bonds under Section 54A and are therefore similar to CREBs. Under a QECB, the borrower repays only the instrument's principal while the bondholder receives tax credits in lieu of the traditional bond interest. The Energy Act authorized the issuance of QECBs which may be used by state, local and tribal governments to finance certain energy projects.⁴³ The Recovery Act expanded the allowable bond volume to \$3.2 billion, a marked increase from its prior limit of \$800 million.⁴⁴

Facilities eligible for CREBs are also eligible for QECBs. Likewise, the rules applicable to QECBs mirror those for new CREBs since both are governed by Section 54A of the Code. Thus, the credit may be taken quarterly to offset the bondholder's tax liability. The credit rate is set daily by the Treasury; however, QECB bondholders receive only 70 percent of the full rate.⁴⁵ Credits exceeding a bondholder's tax liability cannot be refunded, but they may be carried forward. QECBs differ from traditional tax-exempt bonds in that the tax credits are taxable income to the bondholder.

Unlike CREBs, QECBs are not subject to Treasury approval. Bond volume is instead allocated to each state based on population. States must then distribute their allocation to large local governments based on population. Such governments include municipalities and counties with populations of 100,000 or more. A list of the QECB allocations by state as well as interim guidance on the program's operation is set forth by the IRS in Notice 2009-29.⁴⁶

Conclusion

In response to a changed economic landscape, Congress has taken significant steps to provide new or reshaped financial incentives for Green Technology. Taxpayers with large federal tax liabilities may choose to take advantage of either extended PTC or ITC. Taxpayers with diminished tax bills may now opt to receive cash grants in lieu of tax credits. Taxpayers who have new or expanded plans for manufacturing components in the renewable industry may take advantage of the MTC. Through these and similar initiatives, it is clear that Congress has acted decisively to get federal dollars into the hands of those who will finance, build, or utilize the future of our Green Technology infrastructure. These tools, combined with incentives that may be available at the state or local level, present valuable opportunities to participants in the Green Technology arena. Whether or not the myriad of renewable incentives established at the federal, state and local government levels will prove to be a boost to the post-recession U.S. economy remains to be seen.

Michael Haun is a partner in the Tax Advisory Practice and a member of the Sustainability and Global Climate Change Group at global law firm Paul Hastings. Kevin Young is an associate in the Tax Advisory Practice. They are resident in the firm's Atlanta office.

-
- ¹ Energy Improvement and Extension Act of 2008, Pub. L. 110-343, 122 Stat. 3765 (2008) [hereinafter "Energy Act"].
- ² American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) [hereinafter "Recovery Act"].
- ³ See I.R.C. § 45(c) (providing a description of qualified resources for the PTC); I.R.S. Notice 2009-40, 2009-19 I.R.B. 931 (providing the PTC amounts for calendar-year 2009).
- ⁴ See Recovery Act, § 1101.
- ⁵ See Joint Committee on Taxation, *Estimated Budget Effects of the Revenue Provisions Contained in the Conference Agreement for H.R. 1*, JCX-19-09 (Feb. 12, 2009).
- ⁶ See Energy Info. Admin. (EIA), Dep't of Energy (DOE), *An Updated Energy Outlook 2009 Reference Case Reflecting Provisions of the American Recovery and Reinvestment Act and Recent Changes in the Economic Outlook*, SR/OIAF/2009-03 (Apr. 2009), available at <http://www.eia.doe.gov/oiaf/servicerpt/stimulus/index.html>. The report updates a reference case used as a starting point for pending and future analyses of proposed energy and environmental legislation. The impact of the Recovery Act's energy provisions is measured relative to the "business as usual" reference case. Wind generation is expected to double by 2012. Geothermal, biomass and photovoltaic capacity are projected to increase, each between 15 and 18 %.
- ⁷ See Recovery Act, § 1602.
- ⁸ See I.R.C. § 48(a)(2).
- ⁹ See I.R.C. § 50(a)(1).
- ¹⁰ See EIA, *supra* note 6.
- ¹¹ See Recovery Act, § 1103.
- ¹² See Joint Committee on Taxation, *Estimated Budget Effects of the Revenue Provisions Contained in the Conference Agreement for H.R. 1*, JCX-19-09 (Feb. 12, 2009).
- ¹³ See Recovery Act, § 1302.
- ¹⁴ See I.R.C. § 48C(a).
- ¹⁵ See I.R.C. § 48C(c).
- ¹⁶ See I.R.C. § 48C(c)(2).
- ¹⁷ Under I.R.C. § 48C(d)(2)(B), an applicant has 1 year from the date of acceptance by the IRS to provide evidence that the requirements of the certification have been met. Section 48C(d)(2)(C) further provides that an applicant has 3 years from the date of issuance of the certification to place the project in service. Thus, an applicant that uses the full year to provide the evidence for certification has 4 years from the date of acceptance of the application by the IRS to place the project in service.
- ¹⁸ See I.R.C. § 48C(d).
- ¹⁹ See I.R.C. § 50(a)(1).
- ²⁰ See Lauren Gardner, *Energy Credit Program Participants Laud Government Effort, Offer Critique*, Daily Tax Report, BNA, Inc., Oct. 22, 2009.
- ²¹ See I.R.S. Notice 2009-72, 2009-37 I.R.B. 325.
- ²² See Recovery Act, § 1201.
- ²³ See I.R.C. § 168(k).
- ²⁴ See I.R.C. § 168(e)(3).
- ²⁵ See I.R.C. § 179D(e).
- ²⁶ See I.R.S. Notice 2006-52, 2006-1 C.B. 1175 (clarified and amplified by Notice 2008-40, 2008-14 I.R.B. 725).
- ²⁷ See I.R.S. Notice 2006-52, 2006-1 C.B. 1175 (clarified and amplified by Notice 2008-40, 2008-14 I.R.B. 725).
- ²⁸ See I.R.S. Notice 2008-40, § 3.07, 2008-14 I.R.B. 725.

²⁹ See I.R.S. Notice 2006-52, 2006-1 C.B. 1175 (clarified and modified by Notice 2008-40, 2008-14 I.R.B. 725).

³⁰ The Worker, Homeownership, and Business Assistance Act of 2009, H.R. 3548, 111th Cong. § 13 (amending I.R.C. § 172(b)(1)(H)).

³¹ See Recovery Act, § 1603(f).

³² See Energy Policy Act of 2005, Title XVII, 42 U.S.C. §§ 16511 to 16514 (2005).

³³ See Recovery Act, § 406.

³⁴ See DOE, *Loan Guarantee Program*, <http://www.lgprogram.energy.gov/index.html> (last visited Dec. 22, 2009).

³⁵ See DOE Loan Guarantee Solicitation Announcement, No. DE-FOA-0000166 (Oct. 7, 2009) (for commercial technology renewable energy generation projects), <http://www.lgprogram.energy.gov/CTRE.pdf>.

³⁶ See DOE Loan Guarantee Solicitation Announcement, No. DE-FOA-0000140 (Jul. 29, 2009) (for projects that employ innovative energy efficiency, renewable energy, and advanced transmission and distribution technologies), <http://www.lgprogram.energy.gov/2009-ren-energy-sol.pdf>. Also, note that the DOE issued a solicitation, DE-FOA-0000132 (Jul. 29, 2009), <http://www.lgprogram.energy.gov/2009-CPLX-TRANS-sol.pdf>, for transmission infrastructure projects; the due date for the submission was Oct. 26, 2009.

³⁷ See Recovery Act, § 1111; I.R.C. § 54C.

³⁸ See I.R.C. § 54C(c).

³⁹ See I.R.C. § 54A(i).

⁴⁰ The daily rates can be found at <http://www.treasurydirect.gov>.

⁴¹ I.R.C. §§ 54(b) and 54A(b).

⁴² See I.R.S. Notice 2009-33, 2009-17 I.R.B. 865.

⁴³ See Energy Act, § 301(a).

⁴⁴ See Recovery Act, § 1112.

⁴⁵ See I.R.C. § 54D(b).

⁴⁶ See I.R.S. Notice 2009-29, 2009-16 I.R.B. 849.