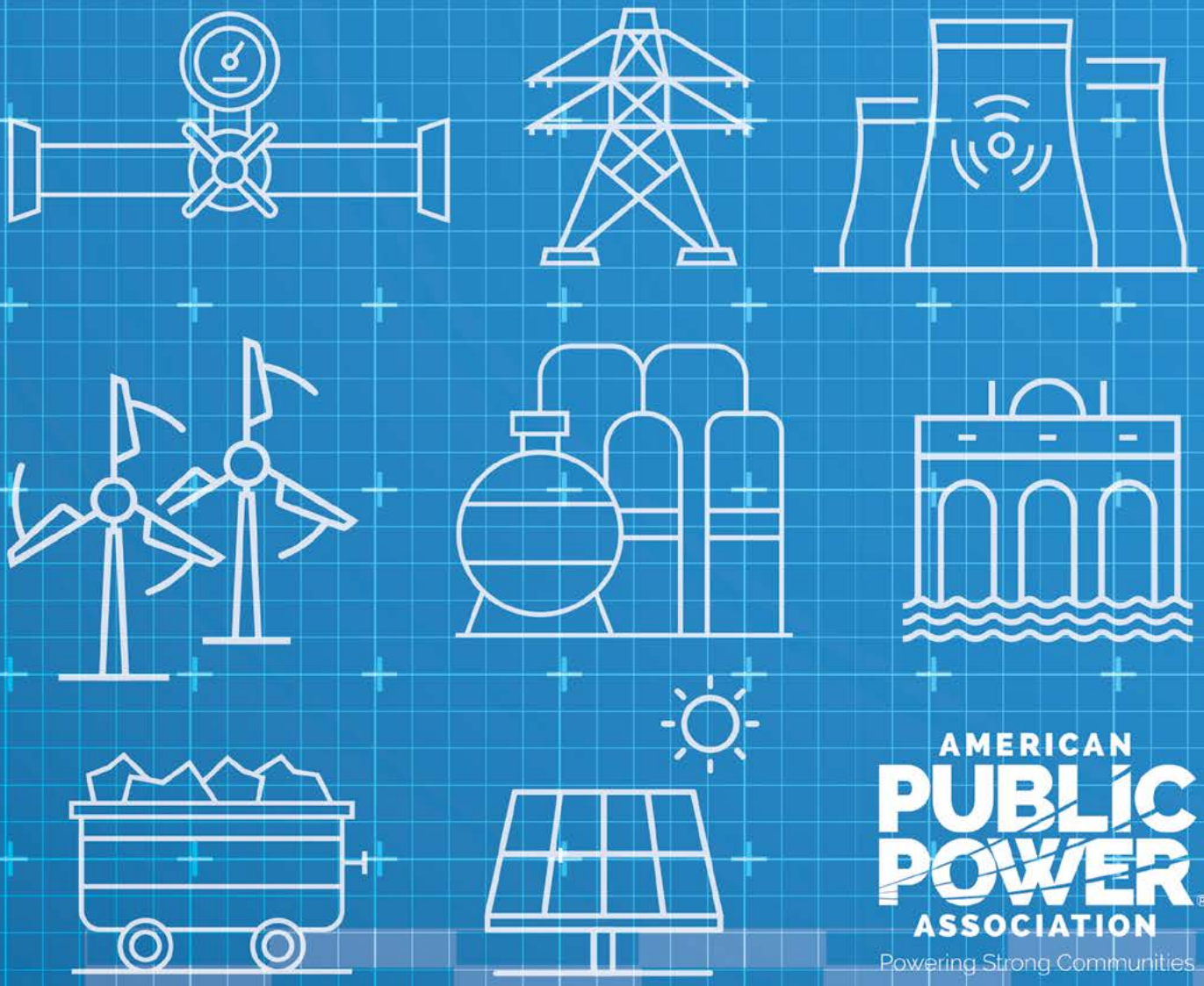
ELECTIVE PAY BLUEPRINT FOR PUBLIC POWER

APRIL 2025



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Acknowledgements

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Executive Summary

Federal incentives for energy investments and energy production have increasingly been delivered through federal tax incentives. In the past, public power utilities have benefited only indirectly from these energy tax credits through the purchase of electricity from developers claiming these credits. In such arrangements – often long-term power-purchase agreements – much of the value of the credits is retained by the taxable project developer and its tax equity partner. Additionally, the public power utility purchaser is denied the substantial operational benefits of direct ownership.

Elective Payment: Starting in 2023, tax-exempt entities, including public power utilities, can monetize certain energy tax credits through a mechanism called "Elective Payment." Specifically, if certain types of energy projects, commercial electric vehicles, and electric vehicle charging equipment would otherwise qualify for a tax credit, then a tax-exempt entity can elect to treat the credits as a "deemed" payment of federal income tax. In turn, the entity then can claim a refund of this deemed "payment" as part of an annual return.

Tax Return: Entities that already file annual tax returns (such as rural electric cooperatives) would claim their refund as part of their usual annual tax return. Governmental entities that typically do not file federal tax returns, including public power utilities, are required to file an Exempt Organization Business Income Tax Return (IRS Form 990-T) to make the election and claim the refund with respect to any "qualifying credit." The due date for this return is the 15th day of the fifth month after the end of the organization's taxable year. For example, a city operating on a calendar year would have May 15 as its Form 990-T filing deadline, although a six-month extension is available.

Pre-Filing Registration: As an anti-fraud measure and to speed processing of elective pay returns, properties or facilities for which a credit is going to be claimed must be "pre-filing" registered with the Internal Revenue Service (IRS). This is done through an online portal maintained by the IRS and generally requires the filer to prove: that they are who they say they are; that the facility or property actually exists; and that the filer owns it. The IRS recommends that pre-filing registration begin as soon as possible after the property or facility is placed in service. Once the IRS has processed the request, it will issue a pre-filing registration number, which must be included on the tax return.

Qualifying Entities: Generally, any public power utility owned by a state or local government, including tribal governments, can qualify. Rural electric cooperatives and Alaska Native Corporations also qualify.

Credits Qualifying for Elective Payment: For a public power utility, the Elective Payment option will be most relevant for the following credits:

- Renewable electricity production tax credit (PTC) (section 45) and clean electricity PTC (section 45Y);
- Energy investment tax credit (ITC) (section 48) and clean electricity ITC (section 48E);
- Credits for commercial electric vehicles and other alternative fuel vehicles (section 45W) and credits for electric vehicle and other alternative fuel vehicle refueling property (section 30C);
- Zero-emission nuclear power production credit (section 45U); and
- Clean hydrogen production credits (section 45V).

The table below summarizes the energy credits that qualify for Elective Payment. It also indicates whether a credit's Base Credit rate is increased if the project meets Prevailing Wage and Apprenticeship Requirements. For example, all but the commercial clean vehicles credit provide an "Increased Credit" if certain Prevailing Wage and Apprenticeship Requirements are satisfied.

The PTCs and ITCs also qualify for bonus-credit amounts for locating in an "energy community" or 'the' Domestic Content Requirement. An additional bonus credit is available for the projects located in certain low-income communities, but only by advance application to the IRS.

Domestic Content Requirement for Elective Payment: To claim Elective Payment for the full value of certain tax credits, the Domestic Content Requirement must be met. These credits include the:

- Section 45 PTC;
- Section 45Y clean electricity PTC;
- Section 48 ITC; and
- Section 48E clean electricity ITC.

With a few key exceptions, the rules for meeting the Domestic Content Requirement for Elective Payment are the same as the rules for qualifying for the Domestic Content Bonus Credit.

First, the effect of the Domestic Content Requirement for Elective Payment is phased in. For projects that begin construction in 2024 or 2025 and do not meet the Domestic Content Requirement, the amount of credit that can be claimed is reduced. However, for projects construction of which begins after 2025, no Elective Payment is available for these four credits unless the Domestic Content Requirement is met.

Inflation Reduction Act Energy Credits Available to Public Power

Credit	Increased Credit for Prevailing Wage and Apprenticeships	Bonus Credit(s)	Details in Blueprint Section
Renewable Electricity PTC (Section 45)	Yes	– Energy Community Bonus Credit – Domestic Content Bonus Credit	B.1.a. Renewable Electricity PTC
Tech-Neutral Clean Electricity PTC (Section 45Y)	Yes	– Energy Community Bonus Credit – Domestic Content Bonus Credit	B.1.b. Tech-Neutral Clean Electricity PTC
Energy ITC (Section 48)	Yes	– Energy Community Bonus Credit – Domestic Content Bonus Credit – Low-Income Communities Bonus Credit (by application only; for wind and solar only)	B.2.a. Energy ITC
Tech-Neutral Clean Electricity ITC (Section 48E)	Yes	– Energy Community Bonus Credit – Domestic Content Bonus Credit – Low-Income Communities Bonus Credit (by application only; tech-neutral)	B.2.b. Tech-Neutral Clean Electricity ITC
EV & Alternative Fuel Vehicle Refueling Property ITC (Section 30C)	Yes	n/a	B.3.a. Alternative Fuel Vehicle Refueling Property Credit
Qualified Commercial EV & Clean Vehicle (Section 45W)	n/a	n/a	B.3.b. Qualified Commercial Clean Vehicle
Carbon Capture Credit (Section 45Q)	Yes	n/a	B.4.a. Carbon-capture Credit
Zero Emission Nuclear Power PTC (Section 45U)	Yes, but only the prevailing wage requirement (not the apprenticeship requirement) applies.	n/a	B.4.b. Zero-emission Nuclear Power PTC
Clean Hydrogen Credit PTC (Section 45V)	Yes	n/a	B.4.c. Clean-Hydrogen Credit
Clean Hydrogen Credit ITC (Section 48(a)(15))	Yes	n/a	B.4.c. Clean-Hydrogen Credit

Second, there are three exceptions to the Domestic Content Requirement for Elective Payment provided under the Code (Statutory Exceptions). These Statutory Exceptions are available:

- For a facility that has a maximum output of less than one megawatt (MW);
- When inclusion of the Domestic Content Requirement would increase the overall cost of construction by more than 25 percent; or
- When relevant steel, iron, or Manufactured Products that are not produced in United States in "sufficient and reasonably available quantities or of a satisfactory quality."

Penalties: Partly because the value of Elective Payment could be so high, policymakers wanted to create a substantial disincentive to overstate credits owed. Specifically, where the IRS determines that an Elective Payment claim exceeds the otherwise permitted amount, a 20-percent penalty may apply.

Elective Pay Blueprint: Energy tax credits are complicated, and Elective Payment can make them even more so. Some of these complexities can be avoided by limiting the size of the project to less than one MW of capacity, thus avoiding the complexity of meeting the Domestic Content Requirement and the Prevailing Wage and Apprenticeship Requirement. Suppliers can also be enlisted to help.

This Elective Payment Blueprint for Public Power (Blueprint) is designed to provide guidance to public power utilities considering developing projects relying on Elective Payment. Even after outside resources become more readily available to help public power utilities, the Blueprint should be a useful resource.

The Blueprint does not attempt to answer every possible question about energy tax credits or project developments. Instead, it provides detailed explanations when an issue relates specifically to Elective Payment but provides a more generalized explanation for issues not relating specifically to Elective Payment. However, in all instances, the Blueprint also endeavors to point readers to additional resources and definitive guidance when available.

Introduction

The federal government's role in incentivizing energy investments and energy production is as old as the nation itself.[1] Government support has been provided through direct federal grants, subsidized loans, and loan guarantees, but the most significant and consistent incentives have been provided through the federal tax code. According to the most recent Joint Committee on Taxation estimate, energy-related tax incentives will be worth $60 billion in 2025 alone.[2]

As a matter of policy, both the Treasury Department and Joint Committee on Taxation consider these tax incentives to be equivalent to direct federal expenditures but happen to be administered through the tax code (i.e., tax expenditures). For example, an Investment Tax Credit (ITC) is tantamount to the federal government paying a portion of the initial cost of investment in a qualified property type, while a Production Tax Credit (PTC) is tantamount to a federal price subsidy for power sales from certain types of generation.

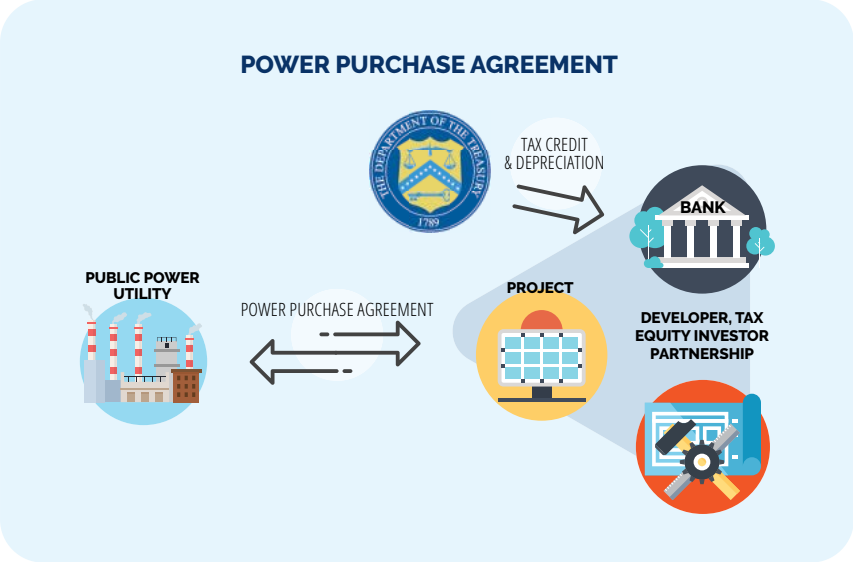
Historically, because tax-exempt entities have no tax liability against which to offset a tax credit, they could not directly receive these federal incentives for projects they owned. This includes public power utilities, which as units of state or local government, are exempt from the federal income tax, and rural electric cooperatives, which are also exempt from tax. These entities serve roughly 14.5 percent and 12.9 percent, respectively, of retail electric customers in the United States.

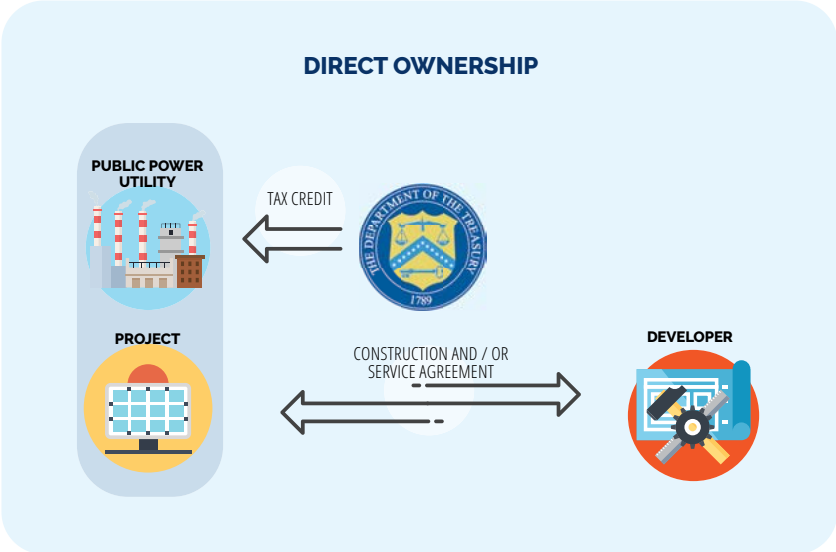
In effect, the federal government would pay a portion of the investment cost of a new solar facility if it was owned by a private corporation, but not if it were owned by a public power utility. Likewise, the federal government would provide a price subsidy for generation from a wind turbine owned by a private corporation, but not by a public power utility.

As a result, public power utilities have only indirectly benefited from energy tax credits, generally by entering into long-term power-purchase agreements with for-profit, taxable project developers. Under these arrangements, the project developer – or a tax-equity partner to the project developer – receives the tax credit, and some portion of the value of that credit flows to the public power utility in the price of the power sold to the public power utility. However, the transactional costs of such agreements can be high; only a portion of the value of the tax credit is generally considered to be passed on to the purchaser (thus muting the incentive effect); and the

[1] Nancy Fund and Ben Healey, DBL Investors, "What Would Jefferson Do? The Historical Role of Federal Subsidies in Shaping America's Energy Future" Sept. 2011 at 6.

[2] Jt. Comm. Taxation, JCX-48-24, "Estimates of Federal Tax Expenditures for Fiscal Years 2024-2028" (Dec. 11, 2024) at 22-24.





public power utility is denied the substantial operational benefits of direct ownership.

Now through the mechanism of Elective Payment, public power utilities and other tax-exempt entities can claim energy tax credits for projects they own. In effect, these entities – referred to collectively as "Applicable Entities" – have the option to "elect" to convert certain energy tax credits into a deemed payment of tax, thus the term "Elective Payment." The Applicable Entity then files a tax return to receive a refund of this deemed payment.[3]

Elective Payment took effect for projects placed in service in 2023, and the first tax filing season for those projects has been completed. Based on that experience, the single greatest hurdle to the use of Elective Payment

[3] This process is also known as "direct payment" and credits eligible for Elective Payment are sometimes referred to as "refundable" tax credits. However, for clarity and consistency the Blueprint will use "Elective Payment" throughout.

is uncertainty. Again, this is a new approach to delivering federal energy incentives previously unavailable to tax-exempt entities. This requires the novel marriage of energy tax policy and public project development and procurement. Applicable Entities are having to get up to speed on the mechanics of not just filing an income tax return, but also the complicated process of developing projects that meet the strict requirements for qualifying for an energy tax credit. Conversely, project developers are having to switch business practices to accommodate Applicable Entity owners with substantially different financial and operations practices than traditional for-profit owners and investors.

This Elective Payment Blueprint for Public Power (Blueprint) is intended as a guide for public power utilities to develop projects that make use of Elective Payment. It includes a deep dive into the technical aspects of claiming an energy tax credit through Elective Payment, and a checklist review of the project development process as uniquely shaped by Elective Payment.

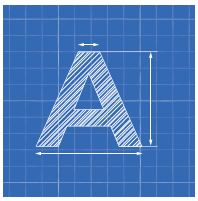
Energy tax credits are complicated, and Elective Payment can make them even more so. We believe that, over time, outside resources will be readily available to help public power utilities through this process. In the meantime, this Blueprint will provide initial guidance on how to avoid some of these complexities and/or make use of the acquisition process to put the onus of meeting those needs on suppliers.

Even then, this Blueprint could not, nor does it attempt to, answer every possible question about energy tax credits or project developments. Instead, it provides detailed explanations when an issue relates specifically to Elective Payment but provides a more generalized explanation for issues not relating specifically to Elective Payment. For example, the document provides an extensive discussion of the Domestic Content Requirement that must be met to qualify for Elective Payment, but it includes a more general overview of the existing nuclear tax credit for which Elective Payment can be claimed. However, in all instances, the Blueprint also points readers to additional resources and definitive guidance when available.

Where possible the Blueprint uses terms as they are used in the Internal Revenue Code (Code) and in official Internal Revenue Service (IRS) guidance. The intention is to provide clarity through consistency, but also to ensure that the reader is familiar with the same "language" as will be used by the IRS in its guidance and communications. For example, while "facility," "property," and "project" may seem synonymous, they have distinct definitions and uses under the various energy-tax provisions under the Code. By using technical, rather than generic, terms, the Blueprint may also be of use to other "Applicable Entities" seeking to claim Elective Payment. The Blueprint will also capitalize terms of art to provide as much clarity to the reader as possible. A glossary of the defined terms used in the Blueprint is included in Appendix 1

The Blueprint can be printed but will be most useful when viewed as a digital document, which allows the reader to use hyperlinks to access supporting documents and information.

Who Qualifies for Elective Payment?



As discussed in the introduction, under current law an Applicable Entity can claim Elective Payment of certain energy tax credits. The Code[4] and related tax regulations define an Applicable Entity as:

- Any organization exempt from tax, including an organization exempt from tax because it is the government of any U.S. territory or a political subdivision of such a government;[5]
- Any state, or any political subdivision thereof, including a joint action agency or joint powers agency;
- The Tennessee Valley Authority, but not the federal Power Marketing Administrations;
- Federally recognized tribal governments, their subdivisions, and their agencies, including wholly owned tribal entities chartered or organized by one or more tribes;
- Any Alaska Native Corporation (as defined in section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602(m)); or
- Any corporation operating on a cooperative basis that is engaged in furnishing electric energy to persons in rural areas.[6]

Despite the optionality implied by the term "elective," Elective Payment is really the only means by which a public power utility can directly access the benefits of energy tax credits. Specifically, while an "eligible taxpayer" – typically a for-profit business – can claim Elective Payment of three specific tax credits, transfer those three credits and nine others, or claim any eligibletax credits as part of its regular return, an Applicable Entity generally is prohibited from transferring (or selling) credits to another taxpayer and cannot – without Elective Payment – use credits to offset a tax liability it does not have.[7]

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[4] Unless otherwise provided, all references to section or § are to the Internal Revenue Code of 1986, as amended (Code), and the Treasury regulations issued thereunder.

[5] However, for the territories with mirror codes, the territory must elect to have section 6417 and the proposed regulations apply.

[6] 26 CFR 1.6417-1(c).

[7] *See* 26 USC 6418(f)(2), which defines an "eligible taxpayer" for purposes of transfer election eligibility as "any taxpayer which is not described in section 6417(d)(1)(A)."

While any organization that is uncertain as to its status should check with legal counsel, generally any public power utility should qualify as an Applicable Entity. Additionally, while this Blueprint is primarily targeted to public power utilities, it will use the term Applicable Entity where relevant to align with the language that the IRS uses with respect to provisions of broader application to other types of taxpayers.

SIDEBAR: Partnerships and Elective Payment

While a partnership is generally treated as an eligible entity for purposes of claiming energy tax credits, a partnership (as defined in the Code) cannot be an Applicable Entity.[8] However, an Applicable Entity can be a co-owner of a property and claim Elective Payment if the ownership structure meets certain requirements. Specifically, the property must be owned through an arrangement treated as a tenancy-in-common or pursuant to a joint operating arrangement that has properly elected out of treatment as a partnership under the Code.[9] In that case, each owner is considered to own an undivided interest in or share of the underlying Applicable Credit property, and thus any Applicable Credits are determined separately with respect to each owner based on its ownership share. (For an explanation of Applicable Credit, see below, Blueprint Section B. What Credits Qualify for Elective Payment?)

Note that these restrictions apply to a partnership as defined in the Code, and not necessarily to arrangements that are informally referred to as a "partnership." For example, a public power utility might say that it is "partnering" with the community by seeking input into a small project in a neighborhood park. Likewise, a utility might say that it is "partnering" with a project developer when negotiating a power purchase agreement. In neither case would such a "partnership" actually mean co-ownership of the project in a legal sense that would trigger the partnership restrictions under the Elective Payment rules.

The tenancy-in-common ownership structure is familiar for public power utilities that have been co-owners of generation with non-public power entities. Generally, under such an arrangement, the facility is jointly operated, but each owner has a separate ownership right to the offtake from the facility, separate financing of their ownership interest, and is individually responsible for meeting the financial costs of operating the facility. One test for whether such an arrangement qualifies is whether each owner owns, and is individually responsible for, its share of the offtake from the facilities. However, the co-owners may temporarily delegate authority to sell their share of the offtake, but for no longer than one year. However, in developing regulations for Elective Payment, the IRS further provided that once the authority is delegated, the offtake can be sold for any period. For example, five municipal co-owners of Solar Project A delegate the authority for the sale of the renewable energy certificates (RECs) from Solar Project A to the project developer for one year. The project developer then negotiates a 15-year agreement with a third party to collectively purchase the RECs.

While partnerships are not eligible to claim Elective Payment, the use of partnerships may still be beneficial in monetizing energy tax credits for projects that are ultimately owned by an Applicable Entity. As discussed below, Applicable Entities are required to satisfy a Domestic Content Requirement as a prerequisite to claiming Elective Payment of tax credits. For projects where meeting the Domestic Content Requirement is either not possible or subject to substantial risk, some Applicable Entities have explored the alternative of forming a partnership, not for the purpose of claiming Elective Payment, but for the purpose of transferring credits. Unlike Elective Payment, transferability allows an entity to sell a tax credit, typically at a discount, to an unrelated entity, which can then use the credit to offset a tax liability on its income tax return. However, pursuant to the final transferability regulations,[10] the recapture rules may limit certain tax credits claimed by a partnership owned by Applicable Entity partners.[11] While a detailed discussion of this approach is beyond the scope of this Blueprint, Applicable Entities should be aware of the option and its potential flexibility.

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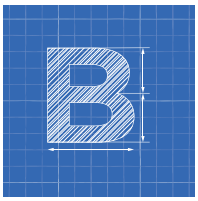
[8] 26 CFR 1.6417-2(a)(iv); Some tax credits can be claimed via Elective Payment by taxable entities, including partnerships. These are referred to as "electing taxpayers" and are not addressed in this Blueprint.

[9] *See* 26 USC 761.

[10] *See* 26 CFR 1.6417-1 and –5(d).

11 26 USC 50(b)(3) and (4)(A)(i)

What Credits Qualify for Elective Payment?



Elective Payment is only available for certain energy credits – referred to in IRS guidance and this Blueprint as "Applicable Credits."[12] The Applicable Credits most likely relevant to a public power utility[13] are listed below along with a high-level summary of each credit, including the technology for which the credit is available, credit rates, effectives dates, and other pertinent issues.

A table summarizing the energy credits available to public power utilities and subject to Elective Payment is included in the Executive Summary above.

B.1. Energy Production Tax Credits

The Code has historically provided a production tax credit ("PTC") to incentivize electricity produced from certain renewable resources. Until its expiration for new projects at the end of 2024, the section 45 PTC applied to specified technologies and provided an annual credit amount based on the kilowatt hours ("kWh") of renewable electricity produced by and sold from the qualifying facility. For projects beginning construction in 2025 or later, the traditional section 45 PTC is replaced by section 45Y, which provides a per-kilowatt-hour credit for electricity production but on a technology-neutral basis.

After amendments enacted in the Inflation Reduction Act (IRA),[14] both PTCs are structured as providing a Base Credit amount and an alternative Increased Credit equal to five times the Base Credit. The Increased Credit applies to projects that meet Prevailing Wage and Apprenticeship Requirements discussed below. It is worth noting that projects having a capacity of less than one megawatt ("MW") automatically qualify for the Increased Credit, without having to meet the Prevailing Wage and Apprenticeship Requirements.

Finally, Applicable Entities qualifying for the PTC may be able to "stack" additional bonus credits. Bonus credits are discussed in section E below.

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[12] 26 CFR 1.6417-1(d).

[13] Elective Payment is also available for the advanced-manufacturing PTC (section 45X), the clean-fuel PTC (section 45Z), and the qualifying advanced energy project credit (section 48C).

[14] An act commonly referred to as the Inflation Reduction Act of 2022, P.L. 117-169, Aug. 16, 2022, 136 Stat. 1818.

B.1.a. Renewable Electricity PTC (section 45)

For electricity generated from landfill gas, open-loop biomass, municipal solid waste resources, and small irrigation power facilities, the Base Credit in 2024 for facilities placed in service after 2022 was 0.3 cents per kWh, and the Increased Credit was 1.5 cents per kWh.[15] Electricity generated from wind, solar, hydropower, marine and hydrokinetic, closed-loop biomass, and geothermal resources, qualified for a 2024 based credit of 0.6 cents per kWh, and an Increased Credit of 3.0 cents per kWh.[16]

For both categories of energy resources, the PTC is available for 10 years from the taxable year that the equipment is placed in service. The credit expired for energy projects that begin construction after December 31, 2024.

Bonus credits available (see section E below)

- Energy Community Bonus Credit
- Domestic Content Bonus Credit

B.1.b. Tech-Neutral Clean Electricity PTC (section 45Y)

The new, tech-neutral clean electricity PTC is intended to apply to electric power from any technology with carbon emissions – measured as grams of carbon dioxide equivalent (CO_2e) emitted per kWh generated – that are not greater than zero. The Code, and IRS in guidance, refers to carbon emissions as greenhouse gas (GHG) emissions. Under the final regulations, wind, hydropower, marine and hydrokinetic, solar, geothermal, nuclear, and certain waste energy recovery property are effectively deemed to have zero emissions.[17] **Note that while electricity from an energy storage project is not eligible for the section 45Y PTC, energy storage projects specifically qualify for the section 48E ITC.**

As with the historical section 45 PTC, the new section 45Y PTC has a Base Credit rate and an Increased Credit rate. The Increased Credit rate is the same as that for the current PTC and is adjusted annually for inflation. The Base Credit rate is set at one-fifth of the Increased Credit rate. For example, for 2024, the section 45 PTC rate is set at 3.0 cents per kWh, so the section 45Y PTC increased rate would be the same, while the Base Credit would be 0.6 cents per kWh.[18] The credit is available for 10 years beginning in the year that the qualified facility is placed in service.

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[15] IRS, Credit for Renewable Electricity Production and Publication of Inflation Adjustment Factor and Reference Price for Calendar Year 2024, 89 Fed. Reg. 56924 (Jul. 11, 2024), https://www.federalregister.gov/documents/2024/07/11/2024-15226/credit-for-renewable-electricity-production-and-publication-of-inflation-adjustment-factor-and. The credit amounts are adjusted annually for qualifying energy facilities.

[16] IRS, Credit for Renewable Electricity Production and Publication of Inflation Adjustment Factor and Reference Price for Calendar Year 2024, 89 Fed. Reg. 56924 (Jul. 11, 2024), https://www.federalregister.gov/documents/2024/07/11/2024-15226/credit-for-renewable-electricity-production-and-publication-of-inflation-adjustment-factor-and. The credit amounts are adjusted annually for qualifying energy facilities.

[17] 26 CFR 1.45Y-5(c)(2).

On January 15, 2025, the Treasury Department and IRS issued the first Annual Table of qualifying technologies for the clean-electricity credits.[19]

Table B.1. IRS Greenhouse Gas Emission Rates for 2025[20]

Type or Category of Facility	Greenhouse Gas Emissions Rate
Wind	Not Greater than Zero
Hydropower	Not Greater than Zero
Marine and Hydrokinetic Solar	Not Greater than Zero
Geothermal	Not Greater than Zero
Nuclear Fission	Not Greater than Zero
Fusion Energy	Not Greater than Zero
Waste Energy Recovery Property*	Not Greater than Zero

*Waste energy recovery property that derives energy from a source that is a type or category of facility described in this table.

For facilities described on the Annual Table, no lifecycle GHG emissions analysis is required to establish that the facility has an emissions rate of not greater than zero. Other types of facilities may request a provisional emissions rate based on a lifecycle GHG analysis of the facility.

The credit is available for projects that are placed in service after December 31, 2024. Therefore, for projects that started construction prior to 2025, but were placed in service after 2024, the owner may have the option of claiming either the section 45 or section 45Y PTC.

The section 45Y PTC begins to phase out after the applicable year which is the later of:

- 2032 or
- The year in which the Treasury Secretary certifies that the electric-power sector emits 75 percent less carbon dioxide as compared to 2022 levels.

[18] The section 45Y credit amounts will be adjusted for inflation annually beginning after 2024. The IRS typically publishes such rates in October or November of the applicable year and has not announced the 2025 amounts as of the publication of this Blueprint. See https://www.irs.gov/newsroom/inflation-adjusted-tax-items-by-tax-year.

[19] Rev. Proc. 2025-14, Table 1, https://www.irs.gov/pub/irs-drop/rp-25-14.pdf.

[20] Rev. Proc. 2025-14, https://www.irs.gov/pub/irs-drop/rp-25-14.pdf.

For facilities that start construction after the first calendar year following the commencement of the phase-out, the section 45Y PTC base rate is reduced depending upon the calendar year when construction begins. Specifically, the Base Credit and Increased Credit amounts will be multiplied by the following phaseout percentages depending on when the project begins construction:

- In the first year after the applicable year (2033 or later) – 100 percent;
- In the second year – 75 percent;
- In the third – 50 percent; or
- After the third year – 0 percent.

For example, if the applicable year is 2035, the percentage of the Base Credit applicable to qualifying facilities that begin construction in 2035 and 2036 is 100 percent, while the credit amount for a project beginning in 2038 would be reduced by 50 percent.

However, it is worth noting that under most scenarios considered by the Energy Information Administration, the 75-percent threshold will not be met in this timeframe, and in one scenario, the applicable year is not projected to occur until 2047.[21] Thus, while the credits may theoretically phase-out for projects that begin construction as early as January 2034, that result seems unlikely given current forecasts of electric sector emissions.

Bonus credits available (see section E below)

- Energy Community Bonus Credit
- Domestic Content Bonus Credit

Additional Resources

- Section 45Y Final Regulations – https://www.federalregister.gov/documents/2025/01/15/2025-00196/section-45y-clean-electricity-production-credit-and-section-48e-clean-electricity-investment-credit
- IRS Revenue Procedure 2025-14 – https://www.irs.gov/pub/irs-drop/rp-25-14.pdf

[21] Energy Information Administration, Annual Energy Outlook 2023, Table 18. Energy-Related Carbon Dioxide Emissions by Sector and Source (https://www.eia.gov/outlooks/aeo/data/browser/#/?id=17-AEO2023&region=1-0&cases=ref2023-highmacro~lowmacro~highZTC~lowZTC&start=2021&end=2050&f=A&linechart=~~~~~ref2023-d020623a.40-17-AEO2023.1-0~highmacro-d020623a.40-17-AEO2023.1-0~lowmacro-d020623a.40-17-AEO2023.1-0~highZTC-d020623a.40-17-AEO2023.1-0~lowZTC-d020623a.40-17-AEO2023-1-0&map=highmacro-d020623a.3-17-AEO2023.1-0&ctype=linechart&sourcekey=0).

B.2. Investment Tax Credits for Electricity

The Code has also historically provided an investment tax credit (ITC) to incentivize investments in renewable energy property. Until its expiration at the end of 2024, the section 48 ITC applied to specified technologies and provided a credit amount based on a percentage of the owner's basis in the energy property (generally the amount of capital invested by the owner in the property). Beginning in 2025, the section 48 ITC was replaced by section 48E, which provides a percentage-of-basis credit for clean electricity production facilities on a technology-neutral basis. For both the traditional and the new tech-neutral ITC, the credit generally is claimed only in the year in which the property is placed in service.[22]

After amendments enacted in the IRA,[23] both ITC credits are structured as a Base Credit amount and an alternative Increased Credit equal to five times the Base Credit. The Increased Credit applies to projects that meet Prevailing Wage and Apprenticeship Requirements (with an exception for projects having a capacity of less than one MW), discussed below.

Like the PTCs, Applicable Entities qualifying for an ITC may be able to "stack" additional bonus credits. Bonus credits are discussed in section E below.

B.2.a. Energy ITC (section 48)

Prior to 2025, the section 48 ITC applied to specific technologies for energy production and storage property ranging from wind and solar property to combined heat and power and waste energy recovery properties to fuel cells and energy storage technology. The ITC also applied to biogas property and microgrid controllers. Appendix 2 includes a complete list of the specific technologies qualifying under section 48.

The Base Credit for energy property is six percent of the qualifying basis of the property, with an Increased Credit of 30 percent for small capacity projects (i.e., less than one MW) and projects satisfying the Prevailing Wage and Apprenticeship Requirements. Special rates apply to microturbines and geothermal heat pump property (see Appendix 2 for additional details).

Rules apply to the ITC requiring recapture of some or all the credit amount if certain events occur within the five-year period after the facility is placed in service. Recapture events include the sale of the facility, failure to comply with the prevailing wage and apprenticeship rules for subsequent repairs, or the facility ceasing to qualify for the investment credit.[24]

The section 48 credit only applies to projects beginning construction before January 1, 2025 (except for geothermal heat pump property, which continues to qualify for the section 48 ITC through 2032, see Appendix 2).

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[22] Projects with long construction timeframes may qualify for progress expenditure rules that allow partial amounts of the ITC to be claimed over the construction timeframe. See 26 USC 48E(d).

[23] An act commonly referred to as the Inflation Reduction Act of 2022, P.L. 117-169, Aug. 16, 2022, 136 Stat. 1818.

[24] *See* 26 USC 50(a).

Bonus credits available (see Section E below)

- Energy Community Bonus Credit
- Domestic Content Bonus Credit
- Low-Income Communities Bonus Credit (wind and solar property only)

Additional Resources

- Section 48 Final Regulations – https://www.federalregister.gov/documents/2024/12/12/2024-28190/definition-of-energy-property-and-rules-applicable-to-the-energy-credit

B.2.b. Tech-Neutral Clean Electricity ITC (section 48E)

The new tech-neutral clean electricity ITC is intended to apply to any facility generating electric power from technology with carbon dioxide emissions – measured as grams of CO_2 e emitted per kWh generated – that are not greater than zero. Under the final regulations, wind, hydropower, marine and hydrokinetic, solar, geothermal, nuclear, and certain waste energy recovery property are effectively deemed to have zero emissions.[25] Investments in energy storage technology qualify for the section 48E credit regardless of any emissions.[26]

The Base Credit rate is six percent of the facility's qualifying basis, and the Increased Credit is 30 percent of basis for projects with a maximum net output of less than one MW and larger projects satisfying the Prevailing Wage and Apprenticeship Requirements. The credit generally is claimed in the year that the qualified facility is placed in service, unless an election is made to claim progress expenditures applicable to projects with extended construction periods.[27]

Recapture rules apply to the ITC requiring recapture of some or all the credit amount if certain events occur within the five-year period after the facility is placed in service. Recapture events include the disposition of the facility, failure to comply with the Prevailing Wage and Apprenticeship Requirements for subsequent repairs, or the facility ceasing to qualify for the investment credit.[28] In the case of the section 48E ITC, any qualified facility that has a GHG emissions rate of greater than 10 grams of CO2e per kWh during the five-year period after the facility is originally placed in service is treated as a recapture event.[29]

The credit is available for projects that are placed in service after December 31, 2024. Therefore, for projects that started construction prior to

[25] 26 CFR 1.48E-5(c) (by cross reference to 26 CFR 1.45Y-5(c)(2)).

[26] 26 USC 45(a)(1)(B).

[27] *See* 26 USC 48E(d).

[28] *See* 26 USC 50(a).

[29] *See* 26 CFR 1.48E-4(f).

2025, but were placed in service after 2024, the owner may have the option of claiming either, but not both, the section 48 or section 48E PTC as is most beneficial to the Applicable Entity.

The section 48E ITC phases out starting after the applicable year, which is the later of: (a) 2032 or (b) the year that the Treasury Secretary certifies that the electric-power sector emits 75 percent less carbon dioxide as compared to 2022 levels. See the phase out limitations described above with respect to the section 45Y PTC.

On January 15, 2025, the Treasury Department and IRS issued the first Annual Table of qualifying technologies for the clean-electricity credits. See table in the discussion of the section 45Y PTC above.[30]

Bonus credits available (see Section E below)

- Energy Community Bonus Credit
- Domestic Content Bonus Credit
- Low-Income Communities Bonus Credit (all qualifying property)

Additional Resources

- Section 48E Final Regulations – https://www.federalregister.gov/documents/2025/01/15/2025-00196/section-45y-clean-electricity-production-credit-and-section-48e-clean-electricity-investment-credit
- IRS Revenue Procedure 2025-14 – https://www.irs.gov/pub/irs-drop/rp-25-14.pdf

B.3. Transportation-Related Credits

Applicable credits include two transportation-related incentives. While the provisions are intended to apply to a variety of alternative fuels, the vast majority of interest will likely be on electric vehicles (EV) and EV charging stations. For example, one is designed to encourage the development of refueling stations for alternative-fuel vehicles, such as electric and hydrogen fuel-cell vehicles. Applicable Entities can also access tax credits available for the purchase of commercial vehicles, including sedans and light-duty trucks, as well as heavier vehicles including buses, trucks, street sweepers, and certain other industrial vehicles, provided such vehicles are used for business purposes. Again, the commercial vehicle credit is available for several alternative fuels, but most are likely to be EVs.

B.3.a. Alternative Fuel Vehicle Refueling Property Credit (section 30C)

The 30C credit is an ITC that applies to facilities for the recharging of motor vehicles propelled by electricity and other clean fuels. For example, qualifying EV charging stations can include bi-directional charging

[30] Rev. Proc. 2025-14, Table 1, https://www.irs.gov/pub/irs-drop/rp-25-14.pdf.

equipment, as well as electric charging stations for electric two- and three-wheeled motor vehicles manufactured for use on public roads. The credit also applies to facilities for the storage or dispensing of a clean-burning fuel (e.g., hydrogen) into the fuel tank of a motor vehicle propelled by such fuel.

The credit rate is two tiered: a Base Credit of six percent of the cost each charging station or refueling pump, and an Increased Credit of 30 percent of the qualifying costs if the Prevailing Wage and Apprenticeship Requirements are satisfied with respect to the refueling station project. The maximum credit per item of qualifying property is limited to $100,000.

Qualifying refueling property may only be located in rural areas and not urban areas, unless they are designated as a low-income community.[31] The credit is generally available for property placed in service after December 31, 2022, and before December 31, 2032.

B.3.b. Qualified Commercial Clean Vehicle (section 45W)

The 45W credit applies to two types of commercial clean-fuel vehicles:

- Plug-in EVs that have a battery capacity of at least:
  - 7 kilowatt hours if the gross vehicle weight rating (GVWR) is under 14,000 pounds, generally passenger vehicles and light trucks, buses, and vans; or
  - 15 kilowatt hours if the GVWR is 14,000 pounds or more, generally full-sized buses, ambulances, bucket trucks and other heavier commercial vehicles; or
- Fuel-cell electric vehicles (FCEV) such as a hydrogen fuel vehicle.

The credit is equal to the *lesser of:*

- 30 percent of the basis of a vehicle not powered by gasoline or diesel, such as an EV or FCEV, or 15 percent for a vehicle that is powered (even partially) by gasoline or diesel, such as a plug-in-hybrid electric vehicle (PHEV); or
- The incremental cost of the vehicle (i.e., purchase price of a qualified commercial clean vehicle over the price of a comparable vehicle, that is powered solely by a gasoline or diesel internal combustion engine).
- The maximum credit amount is limited by the size of the vehicle. For a GVWR of less than 14,000 pounds, the maximum credit is $7,500, and for vehicles with a GVWR of 14,000 pounds or more, the credit is capped at $40,000.

[31] Qualifying areas can be identified by using the DOE's "30C Tax Credit Eligibility Locator" found here: https://experience.arcgis.com/experience/3f67d5e82dc64d1589714d5499196d4f. For additional information, see IRS, Alternative Fuel Vehicle Refueling Property Credit, https://www.irs.gov/credits-deductions/alternative-fuel-vehicle-refueling-property-credit.

The IRS, in consultation with the Department of Energy (DOE), annually determines whether the incremental cost of various classes of vehicles is less than the foregoing maximum credit amounts. To date, the IRS has determined that vehicles with a GVWR of less than 14,000 pounds qualify for the full credit amount of $7,500. Some heavier vehicles have lower incremental costs than the maximum credit amount, and the IRS has provided various pathways to determine the appropriate credit amount.[32]

The IRS has provided standardized methods for determining the incremental cost and retail price equivalent ("RPE") of qualified commercial clean vehicles under section 45W[33]

Incremental-Cost Safe Harbors

- ***New Vehicles:*** Taxpayers may rely on the modeled incremental-cost figures in Table ES-2 of DOE's January 2025 Report for various vehicle classes.[34] This safe harbor applies to vehicles placed in service on or after January 1, 2025.
- ***Used Vehicles:*** For clean vehicles previously placed in service by another person or entity, taxpayers may use the incremental cost of the vehicle when new, adjusted by a residual value factor that corresponds to the vehicle's age, as outlined in the newly proposed regulations under section 45W. This method applies to vehicles placed in service after December 31, 2022.

For model year 2023 vehicles, taxpayers may rely on pre-determined safe harbor amounts provided in IRS Notice 2023-9[35] or use values published in the DOE December 2022 Report,[36] and for model year 2024 vehicles, taxpayers may rely on IRS Notice 2024-5[37] or DOE December 2023 Report.[38]

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[32] *See* IRS Notice 2024-5 (extending the safe-harbor relief initially provided in IRS Notice 2023-9). https://www.irs.gov/pub/irs-drop/n-24-05.pdf. The Treasury Department and IRS also issued proposed regulations under section 45W on January 10, 2025, which propose various pathways for taxpayers to determine the incremental cost of a qualifying commercial clean vehicle for purposes of calculating the amount of 45W credit. See Treasury Department, Notice of Proposed Rulemaking Section 45W Credit for Qualified Commercial Clean Vehicles, REG-123525-23, Jan. 14, 2025, https://www.federalregister.gov/public-inspection/2025-00256/credit-for-qualified-commercial-clean-vehicles.

[33] IRS Notice 2025-9, https://www.irs.gov/pub/irs-drop/n-25-09.pdf.

[34] DOE, Vehicle Technologies Office, 2025 Incremental Purchase Cost Methodology and Results for Clean Vehicles, Jan. 2025, https://www.energy.gov/sites/default/files/2025-01/2025.01.13_DOE_Incremental_Cost_Report_for_publication.pdf.

[35] IRS Notice 2023-9, https://www.irs.gov/pub/irs-drop/n-23-09.pdf.

[36] DOE, Vehicle Technologies Office, 2022 Incremental Purchase Cost Methodology and Results for Clean Vehicles, Dec. 2022, https://www.energy.gov/sites/default/files/2022-12/2022.12.23%202022%20Incremental%20Purchase%20Cost%20Methodology%20and%20Results%20for%20Clean%20Vehicles.pdf.

[37] IRS Notice 2024-5, https://www.irs.gov/pub/irs-drop/n-24-05.pdf.

[38] DOE, Vehicle Technologies Office, Incremental Purchase Cost Methodology and Results for Clean Vehicles, Originally published December 2022 and amended December 2023, https://www.energy.gov/sites/default/files/2023-12/2023.12.18%20Incremental%20Purchase%20Cost%20Methodology%20and%20Results%20for%20Clean%20Vehicles%20pub%2012-2022%20amd%2012-2023%20Final_2.pdf.

RPE Safe Harbor

For purchasers electing not to use the incremental-cost safe harbors, the RPEs provided in Table 4 of DOE's January 2025 Report may be used. Since it may be difficult to determine the "incremental" amount by which a qualifying clean vehicle exceeds the cost of a comparable combustion-engine vehicle, the RPEs enable a purchaser to determine the incremental cost of qualified clean vehicles across various classes reflected on the table. The RPE safe harbor is applicable to vehicles placed in service after December 31, 2022.[39]

The clean commercial vehicle credit is generally available for vehicles acquired after December 31, 2022, but placed in service before December 31, 2032.

Additional Resources

- IRS Commercial Clean Vehicles Credit homepage – https://www.irs.gov/credits-deductions/commercial-clean-vehicle-credit.
- IRS Frequently asked questions about Qualified Commercial Clean Vehicle Credit – https://www.irs.gov/newsroom/topic-g-frequently-asked-questions-about-qualified-commercial-clean-vehicle-credit.
- DOE, Vehicle Technologies Office, 2025 Incremental Purchase Cost Methodology and Results for Clean Vehicles, Jan. 2025, https://www.energy.gov/sites/default/files/2025-01/2025.01.13_DOE_Incremental_Cost_Report_for_publication.pdf.

B.4. Other Clean Energy Credits

B.4.a. Carbon Capture Credit (section 45Q)

The 45Q credit for carbon oxide sequestration is available for facilities and equipment that capture and sequester carbon oxide from industrial and other facilities, including electric generating units. The credit can also apply to the use of captured carbon oxide for certain permitted purposes. The credit also applies to the addition of carbon capture equipment installed on existing qualified facilities. Qualifying facilities and equipment can benefit from the credit over a 12-year period beginning with the taxable year that the facility or equipment is placed in service.

The amount of the credit depends generally on whether the captured carbon is from an industrial source or through direct air capture (DAC) and whether the captured carbon is sequestered permanently in underground wells or utilized for commercial purposes. Like the other energy credits, the credit amount is two-tiered with a Base Credit ranging from $12 to $17 per metric ton for industrial capture to $26 to $36 per metric ton for DAC, and an Increased Credit of $60 to $85 per metric ton for industrial capture and $130 to $180 per metric ton for DAC. The Increased Credit applies to projects that meet Prevailing Wage and Apprenticeship Requirements.

[39] IRS Notice 2023-9, https://www.irs.gov/pub/irs-drop/n-23-09.pdf.

The credit generally applies to facilities or equipment placed in service after December 31, 2022, provided the project begins construction before January 1, 2033.

Additional Resources

- Section 45Q Final Regulations – https://www.federalregister.gov/documents/2021/01/15/2021-00302/credit-for-carbon-oxide-sequestration
- IRS Notice 2024-60 – https://www.irs.gov/pub/irs-drop/n-24-60.pdf

B.4.b. Zero-emission Nuclear Power PTC (section 45U)

The 45U PTC applies to existing facilities (i.e., placed in service prior to August 16, 2022) that use nuclear energy to produce electricity.

The amount of the credit is based on a two-tier formula with a Base Credit of 0.3 cents per kWh and an Increased Credit of 1.5 cents per kWh for projects satisfying the Prevailing Wage Requirements.[40] The credit functions effectively as a price floor, with the amount of the credit decreasing as prices paid for the power from an existing nuclear facility increase. The formula is complicated and hinges on the definition of "gross receipts" from the sale of power from the facility.[41]

As a result of the credit formula, the maximum credit is available when gross receipts from the sale of power from the facility are 2.5 cents per kWh or less and the facility is eligible for no credit when gross receipts exceed 4.375 cents per kWh. The Treasury Department and IRS, however, have not issued guidance implementing the credit, and utilities seeking to claim the credit are reported to be relying on the guidance of outside counsel.

The provision applies to electricity produced and sold in taxable years beginning after December 31, 2023, and before January 1, 2033.

Additional Resources

- A detailed explanation of the provision is available here: Joint Committee on Taxation, Description of Energy Tax Changes Made by Public Law 117-169, April 1, 2023, at 74, https://www.jct.gov/getattachment/78d3be25-92c5-4004-b2a3-09c389af5c1c/x-5-23.pdf.

B.4.c. Clean-Hydrogen Credit (section 45V/section 48(a)(15))

Current law provides both a PTC (section 45V) and ITC (section 48(a)(15)) for the production of qualifying clean hydrogen, although an Applicable Entity may only claim one version of the credit or the other. In general, these

[40] The 0.3 cent and 1.5 cent amounts are indexed for inflation, but in contrast to the ITC and PTC, which are indexed from 1992, the zero-emission nuclear power production credit is indexed from 2023. Accordingly, the statutory rate is currently the effective rate. Apprenticeship requirements do not apply for section 45U.

[41] Note that as of the date of this Blueprint, the IRS has not provided guidance with respect to the definition of "gross receipts" for purposes of determining the section 45U credit amount.

credits apply to hydrogen that is produced through a process that results in a lifecycle GHG emissions rate of not greater than 4 kilograms of CO_2e per kilogram of hydrogen. Applicable Entities may also qualify for improvements and retrofits to existing hydrogen-production facilities.

The credit has a two-tier structure with a Base Credit and an Increased Credit amount (five times the base) for projects satisfying the Prevailing Wage and Apprenticeship Requirements. The amount of the credit is also determined by the GHG emissions rate of the hydrogen produced.

For the clean hydrogen PTC, the credit applies for a 10-year period beginning with the taxable year that the facility is placed in service. The credit amounts per kilogram are as follows:

GHG Emissions Rate	PTC Base Credit (per kg)	PTC Increased Credit (per kg)
4 – 2.5 kg CO2e/kg H2	$0.12	$0.60
<2.5 – 1.5 kg CO2e/kg H2	$0.15	$0.75
<1.5 – 0.45 kg CO2e/kg H2	$0.20	$1.00
<0.45 kg CO2e/kg H2	$0.60	$3.00

For the clean hydrogen ITC, the credit is claimed in the year that the facility is placed in service, and the percentage of the qualifying basis of the project that applies for purposes of determining the credit amount is as follows:

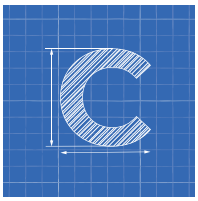
GHG Emissions Rate	ITC Base Credit	ITC Increased Credit
4 – 2.5 kg CO2e/kg H2	1.2%	6%
<<2.5 – 1.5 kg CO2e/kg H2	1.5%	7.5%
<<1.5 – 0.45 kg CO2e/kg H2	2%	10%
<0.45 kg CO2e/kg H2	6%	30%

The clean hydrogen PTC applies to hydrogen produced after December 31, 2022, provided construction of the facility begins before January 1, 2033. For the clean hydrogen ITC, the credit applies to property placed in service after December 31, 2022, and for any property the construction of which began prior to January 1, 2023, but only to the extent of the basis of such property attributable to the construction, reconstruction, or erection after December 31, 2022. Like the section 45V PTC, the clean hydrogen ITC expires and no longer applies for facilities that begin construction after 2032.

Additional Resources

- Joint Committee on Taxation, Description of Energy Tax Changes Made by Public Law 117-169, April 1, 2023, at 31, https://www.jct.gov/getattachment/78d3be25-92c5-4004-b2a3-09c389af5c1c/x-5-23.pdf/.
- Section 45V Final Regulations – https://www.federalregister.gov/documents/2025/01/10/2024-31513/credit-for-production-of-clean-hydrogen-and-energy-credit

Meeting Prevailing Wage and Apprenticeship Requirements



As discussed above, most of the energy tax credits for which Elective Payment can be claimed provide two different credit values: a Base Credit and an alternative Increased Credit equal to five times the Base Credit. The Increased Credit applies to projects that meet Prevailing Wage and Apprenticeship Requirements, described below. An Applicable Entity generally must satisfy both requirements to receive the Increased Credit rate. Otherwise, the entity may only claim the relevant credit at the base rate. The Prevailing Wage and Apprenticeship Requirements apply to projects that begin construction on or after January 29, 2023.[42]

C.1. Prevailing Wage Requirements

Under the prevailing wage requirements,[43] an Applicable Entity must ensure laborers and mechanics are paid prevailing wage rates during the construction of a qualifying project, and in most cases, for any alteration and repair of the project for a defined period after the project is placed in service. The prevailing wage rates are established based upon the type of work performed and the locality in which the project is located and are published by the Department of Labor (DOL).[44] The applicable prevailing wages are determined with reference to either the start of the project's construction (for Applicable Entities able to rely on the proposed regulations[45]) or the contract date for the work (under the final regulations[46]). For developers and employers that have experience with federal infrastructure grants and contracts subject to the Davis-Bacon rules, the prevailing wage requirements will be similar in many respects.

Nonetheless, some Applicable Entities may face challenges in meeting the requirements because their employees do not fit neatly into existing wage categories. For example, the applicable county may not have published a wage rate for a particular labor classification, or the employee

[42] 26 USC 45(b)(6)(B)(ii); 26 CFR 1.45-6(b)(2).

[43] *See* 26 USC 45(b)(7); 26 CFR 1.45-7.

[44] System for Award Management (SAM.gov), Wage Determinations, https://sam.gov/wage-determinations.

[45] *See* Prop. Treas. Reg. 1.45-7(b)(2), https://www.federalregister.gov/documents/2023/08/30/2023-18514/increased-credit-or-deduction-amounts-for-satisfying-certain-prevailing-wage-and-registered.

[46] *See* 26 CFR 1.45-7(b)(2), https://www.federalregister.gov/documents/2024/06/25/2024-13331/increased-amounts-of-credit-or-deduction-for-satisfying-certain-prevailing-wage-and-registered#sectno-reference-1.45-8.

may perform a task that is unique to the utility industry. In such instances, the owner or its contractor may need to request a supplemental wage determination or request a prevailing wage rate for an additional classification from DOL.

In the event the Applicable Entity fails to satisfy these requirements, the taxpayer may cure the discrepancy (and thus still claim credits at the increased rate) generally by compensating each worker for the difference between actual wages paid and the prevailing wage, plus interest. If such payments are made outside of the applicable grace period,[47] the taxpayer must remit an additional $5,000 penalty to the IRS for each worker paid less than the prevailing wage during the taxable year.[48] If the IRS determines that the discrepancy is due to intentional disregard, the taxpayer must compensate each worker at three times the difference in wages, and the penalty is increased to $10,000 per worker.[49]

Once the IRS determines that a discrepancy has occurred, the taxpayer must make payments to the employees and the IRS within 180 days of the determination to remain in compliance with the prevailing wage requirements.[50] The risk of penalties for failure to satisfy the prevailing wage requirements can be limited if the project is subject to a project labor agreement with one or more labor organizations.[51]

C. 2. Apprenticeship Requirements

Under the apprenticeship requirements,[52] the Applicable Entity must ensure that qualified apprentices perform no less than the applicable percentage of total labor hours of the project ("labor hours requirement"). The applicable percentage for purposes of this requirement is 10 percent for projects beginning construction prior to 2023. This rate increased to 12.5 percent in 2023 and increases to 15 percent thereafter. The Applicable Entity and any contractor or subcontractor that employs four or more individuals to perform construction on a qualifying project must also employ at least one qualified apprentice to perform such work ("participation requirement"). Limited exceptions apply to cases in which apprentices are not available or in sufficient numbers to meet the apprenticeship requirements for a particular

[47] The penalty for a failure to satisfy the prevailing wage requirements can be waived if the Applicable Entity corrects the underpayment of wages by the last day of the month following the end of the quarter in which the failure occurred. 26 CFR 1.45-7(c)(6).

[48] 26 USC 45(b)(7)(B); 26 CFR 1.45-7(c).

[49] 26 USC 45(b)(7)(B); 26 CFR 1.45-7(c). If the Applicable Entity makes the correction and any required penalty payments before receiving notice of an examination from the IRS with respect to the credit, the entity generally will be presumed not to have intentionally disregarded the prevailing wage requirements. 26 CFR 1.45-7(c)(3)(v).

[50] 26 CFR 1.45-7(c)(4).

[51] 26 CFR 1.45-7(c)(6).

[52] *See* 26 USC 45(b)(8); 26 CFR 1.45-8.

energy project or location.[53] For any apprentice used on a project, the Applicable Entity must also ensure that their employment complies with the requirements of the applicable apprenticeship agreement (i.e., wage rates and ratios).

In the event an Applicable Entity fails to satisfy these requirements and still wishes to claim credits at the Increased Rate, the entity may cure the discrepancy by paying a penalty to the IRS equal to $50 multiplied by the total labor hours for which the requirements are not satisfied.[54] This penalty applies independently to both the labor hours and participation requirements. This penalty is increased to $500 per hour in the event the IRS determines that such discrepancy was due to intentional disregard.[55]

Applicable Entities that have made a good-faith effort to hire qualified apprentices are deemed to satisfy the requirement and are eligible for the Increased Credit rate.[56] A good-faith effort generally occurs when the Applicable Entity requests apprentices and receives a denial or receives no response within five business days.[57]

C.3. Safe Harbor for Small Projects

A project with a maximum net output of less than one MW of electric or thermal energy is deemed to have met the Prevailing Wage and Apprenticeship Requirements.[58] As discussed above, special anti-abuse rules require aggregation of multiple facilities in certain cases to prevent the exception for projects of less than one MW from being used to avoid complying with the Prevailing Wage and Apprenticeship Requirements. (See Section I.1. Aggregation: Projects with Multiple Facilities).

C.4. Recordkeeping Requirements

For each energy project for which an Applicable Entity claims the Increased Credit amount, the entity must maintain and preserve records sufficient to demonstrate compliance with the Prevailing Wage and Apprenticeship Requirements.[59] At a minimum, such records must include payroll records for each laborer and mechanic (including each qualified apprentice) employed by the Applicable Entity, contractor, or subcontractor in the construction, alteration, or repair of the qualified facility. Where the construction, alteration,

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[53] *See* 26 CFR 1.45-8(f).

[54] 26 CFR 1.45-8(f)(2).

[55] 26 CFR 1.45-8(f)(2). If the Applicable Entity makes the correction and any required penalty payments before receiving notice of an examination from the IRS with respect to the credit, the entity generally will be presumed not to have intentionally disregarded the apprenticeship requirements. 26 CFR 1.45-8(f)(2)(ii)(E).

[56] 26 CFR 1.45-8(f)(1).

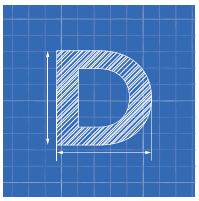
[57] 26 CFR 1.45-8(f)(1).

[58] 26 USC 45(b)(6)(B)(i); 26 CFR 1.45-6(b)(1).

[59] *See* 26 CFR 1.45-12.

or repair of the energy project is performed by a contractor, it is important to note that the Applicable Entity must maintain the records to demonstrate that the Prevailing Wage and Apprenticeship Requirements were satisfied and may not rely on representations by the contractor or any subcontractor. Construction contracts should include provisions for accessing necessary records and ensuring their preservation.

ITC versus PTC

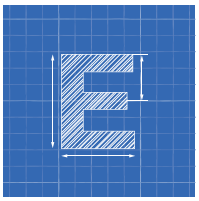


Public power utilities that are contemplating using Elective Payment as part of the installation of most renewable energy facilities have a decision to make about the form of federal tax incentive to pursue. The primary decision is whether to claim the Section 48/48E ITC or Section 45/45Y. Each has different characteristics and time horizons, and a thorough economic and financial analysis of each incentive can influence the ultimate decision of how to proceed with the renewable energy project.

For example, the relative value of the credits depends on the cost of the facility and the expected production from the facility. Likewise, bonus credits are calculated differently – and generally more generously -- for the ITC than the PTC. Also, the time value of money can factor in these analyses in several respects. Finally, there are shared risks to developing a project for purposes of claiming the ITC or PTC, but there are also risks unique to each.

For a more comprehensive discussion, including several sample calculations, see Appendix 4 – ITC vs. PTC.

What Bonus Credits Are Available?



Applicable Entities claiming the Section 45/45Y PTC or Section 48/48E ITC may qualify for bonus credits designed to encourage the development of energy projects in certain geographic areas and to incentivize the use of domestic content in the construction of the energy project. (See Table. E.1. below.) These bonus credits require the particular energy project to qualify for an underlying tax credit and are not independently available. For example, a solar project can only qualify for the Energy Community Bonus Credit if it otherwise qualifies for the underlying PTC or ITC. Bonus credits are refunded through Elective Payment in conjunction with the underlying credit.

Table E.1. – PTC/ITC Bonus Credits

Bonus Credit	Eligible PTC/ITC	Bonus Credit Value
Energy Community Bonus Credit – available for projects located in areas with brownfield sites, areas with significant employment or local tax revenues from fossil fuels and higher than average unemployment, or closed coal mines or coal-fired power plants.	Electricity PTCs (sections 45 & 45Y) Electricity ITCs (sections 48 & 48E)	10% increase in the PTC amount up to 10 percentage point increase in the ITC amount
Domestic Content Bonus Credit – available for projects or facilities that meet Domestic Content Requirements		
Low-Income Communities Bonus Credit Allocation – available for clean electricity facilities on Indian land or federally subsidized housing, in low-income communities, or benefiting low-income households (requires IRS application and award of credit allocation amount)	Section 48 ITCs (for small scale solar and wind) Section 48E ITCs (qualifying tech-neutral technologies)	10 percentage point increase for low-income communities and Indian lands 20 percentage point increase for low-income residential buildings and economic benefit projects

In addition, the bonus credits are "stackable." For example, a solar project that meets the Prevailing Wage and Apprenticeship Requirements, meets the Domestic Content Requirement and is located in an energy community would qualify for a 50 percent ITC – 30 percent for the Increased Credit, plus 10 percentage points for the Domestic Content Bonus Credit, plus another 10 percentage points for the Energy Community Bonus Credit.

Credits are also – to an extent – stackable with grants. Taking the example in the paragraph above, assume the public power utility building the solar project also receives a federal or state grant to pay for part of the cost of the project. The utility could still claim the ITC for costs covered by that grant, up to the point where 100 percent of the project cost is either covered by the grant or recovered through the ITC.[60] However, to the extent the total of the ITC and the grant would exceed the project cost, the ITC is reduced. So, for example, the project could receive a grant of up to 50 percent of the project cost and still claim the full 50 percent ITC in the example. However, if the grant were for 60 percent of the project cost, the ITC would have to be reduced to 40 percent (to bring the total back to 100 percent).

This "no excess benefit" rule can limit the amount of the credit when grants are received to purchase, construct, reconstruct, erect, or otherwise acquire the facility qualifying for an ITC.[61] The rule does not apply in the case of a PTC. In other words, a project could be fully funded with grants at the time it is placed in service, and the Applicable Entity owner could still receive the PTC for which the project would otherwise be qualified.

One final further complication is the reduction of energy credits where a project is financed with tax-exempt debt. This reduction will be discussed in greater detail in Blueprint Section G., Tax-Exempt versus Taxable Financing, below, but for the purpose of stacking, it is worth noting that this credit reduction is calculated before the calculation of whether the total of grants and credits for tax-exempt financing exceeds 100 percent of the project cost.[62]

E.1. Energy Community Bonus Credit

Applicable Entities can increase the renewable energy or clean electricity PTC (sections 45 and 45Y) or the corresponding ITC (sections 48 and 48E) if the property is placed in service within a designated Energy Community.[63] An Energy Community includes:

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[60] 26 CFR 6417-2(c)(3)(ii).

[61] Id. The rule is limited to "investment-related credit property."

[62] *See* 89 Fed. Reg. at 17563 ("The Treasury Department and the IRS confirm that the [no-excess-benefit] rule applies after application of any rule, such as [the reduction for tax-exempt bonds in] sections 45(b)(3), 45Q(f)(8), 45V(d)(3), 45Y(g)(8), 48(a)(4), and 48E(d)(2), that relates to the determination of the underlying applicable credit.")

[63] *See* 26 USC 45(b)(11); 26 USC 45Y(g)(7); 26 USC 48(a)(14); and 26 USC 48E(a)(3)(A).

- Brownfield sites (generally limited to areas with hazardous-chemical contamination and so-called Mine Scarred Lands);[64]
- Areas with significant fossil-fuel employment and above average unemployment rates; and
- Census tracts (including any immediately adjacent census tract) in which a coal mine closed after December 31, 1999, or a coal-fired electric generating unit has been retired after December 31, 2009.[65]

To assist in identifying an Energy Community, DOE maintains the IRA Energy Community Tax Credit Bonus website, which includes an online mapping tool.

For energy projects qualifying for the PTC, if the facility is placed in service within an Energy Community, the credit is increased by 10 percent. For example, for a wind project located in an Energy Community, the section 45Y Base Credit of 0.3 cents per kWh would increase by 0.03 for a combined credit 0.33 cents per kWh, and the Increased Credit would be increased from 1.5 cents per kWh to 1.65 cents per kWh.

For the ITC, if the energy property is placed in service within an Energy Community, the Base Credit percentage is increased by two percentage points and the Increased Credit amount by 10 percentage points.

For example, for a wind project located in an Energy Community, the Base Credit of six percent would be increased by two percentage points for a combined credit of eight percent, and if the project satisfied the Prevailing Wage and Apprenticeship Requirements, the Increased Credit would go up by 10-percentage points to 40 percent.

Since the Energy Community Bonus Credits are tied to the underlying PTC and ITC, the effective dates and expiration dates are the same.

Additional Resources

- DOE, IRA Energy Community Tax Credit Bonus website – https://energycommunities.gov/energy-community-tax-credit-bonus/
- DOE, IRA Energy Community Tax Credit Bonus online mapping tool – https://arcgis.netl.doe.gov/portal/apps/experiencebuilder/experience/?id=a2ce47d4721a477a8701bd0e08495e1d

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[64] *See* U.S. Department of Energy, Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization, Energy Community Tax Credit Bonus FAQs, Q&A 39 "What is the main difference between how a brownfield site is defined for the Energy Community Bonus Credit and for federal Brownfield funding purposes?", https://energycommunities.gov/energy-community-tax-credit-bonus-faqs/.

[65] Note that because the designation is based on an electric generation unit, a census tract with a multi-unit facility may qualify if only one unit is retired in the applicable timeframe.

E.2. Low-Income Communities Bonus Credit

An additional incentive based on low-income communities is available as an enhancement to the ITCs in section 48 and tech-neutral section 48E. For section 48 credits, the bonus credit is limited to solar and wind facilities (and related storage).[66] For section 48E credits, the bonus credit applies to any qualifying technology.[67] In both cases, the bonus is limited to projects with maximum net output of less than five MW

This bonus credit, however, is not an automatic addition to the underlying ITC for qualifying projects. Instead, interested Applicable Entities are required to apply for a credit allocation. The program is scheduled to accept applications annually – the 2025 rolling application period closes on August 1, 2025 – with applications for a bonus credit amount approved on a rolling basis throughout the program year.[68] Applicable Entities seeking to include a low-income credit amount in an energy project should factor the application dates into the front-end of the Elective Payment timeline allowing sufficient time for preparation of the application and the IRS processing period.

The amount of energy capacity (referred to in the IRA as "environmental justice capacity") for which bonus credits can be awarded is 1.8 gigawatts for each calendar year through at least 2032 under current law. Unused allocations from one calendar year are carried over to the next, increasing the capacity limit for the following year.

Projects receiving an allocation receive a bonus credit depending on the type of project – see Table E.1. above. For projects located in low-income communities or on Indian lands, the credit is an additional 10 percentage points on the underlying ITC.[69]

Projects qualifying as a (1) low-income residential building project or (2) low-income economic benefit project will receive a bonus credit of an additional 20 percentage points on the underlying credit. A facility may qualify as a low-income residential building project if the energy project is installed on a residential building that participates in one of the following programs, provided the financial benefits of the electricity produced by such facility are allocated equitably to the occupants of the dwelling units of the building:

- Covered housing program (as defined in section 41411(a) of the Violence Against Women's Act of 1994);

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[66] 26 USC 48(e).

[67] 26 USC 48E(h).

[68] *See* IRS, Clean Electricity Low-Income Communities Bonus Credit Amount Program, https://www.irs.gov/credits-deductions/clean-electricity-low-income-communities-bonus-credit-amount-program. The initial 30-day application period for 2025 closed on Feb. 14, 2025.

[69] For additional information on low-income communities and Indian lands, see IRS, Clean Electricity Low-Income Communities Bonus Credit Amount Program, https://www.irs.gov/credits-deductions/clean-electricity-low-income-communities-bonus-credit-amount-program

- Multifamily housing program under the U.S. Department of Agriculture's Rural Housing Service;
- Housing program administered by a tribally designated housing entity (as described in section 4 of the Native American Housing Assistance and Self-Determination Act of 1996); or
- Other affordable housing programs designated by the Treasury Department.

A facility may qualify as part of a low-income economic benefit project if at least 50 percent of the financial benefits of the electricity produced by the facility are provided to low-income households, specifically with incomes of less than 200 percent of the poverty line or at or below 80 percent of the area median income (such as through a community solar agreement).

Since the enactment of the low-income communities bonus credit in 2022, two rounds for applications to the program have been held and credit allocations have been awarded to qualifying applicants.

The low-income communities bonus credit program will generally be available as long as the underlying section 48E clean-electricity ITC is in effect. See the discussion in Section B.2.b. above regarding the section 48E expiration date.

Additional Resources

- IRS, Clean Electricity Low-Income Communities Bonus Credit Amount Program – https://www.irs.gov/credits-deductions/clean-electricity-low-income-communities-bonus-credit-amount-program
- DOE, Clean Electricity Low-Income Communities Bonus Credit Program - https://eco.energy.gov/licbonus/s/

E.3. Domestic Content Bonus Credit

E.3.a. Domestic Content Bonus Credit Overview

For energy projects qualifying for the renewable energy or clean electricity PTC (sections 45 and 45Y) or the corresponding ITC (sections 48 and 48E), a bonus credit is available if the project meets the Domestic Content Requirement. This requirement is are challenging from a supply chain and compliance standpoint, including layers of exceptions, and complexity at almost every level. However, as will be discussed in "Section F. The Domestic Content Requirement for Elective Payment," this requirement must be met to claim Elective Payment for the full value of the energy ITCs and PTCs. There are three Statutory Exceptions to this Elective Payment requirement, including for projects of less than one MW of capacity, but otherwise a familiarity with the domestic content regime is needed for any project for which the energy ITC or PTC project will be claimed. The Blueprint attempts

to describe this regime as clearly as possible along with its multiple exceptions and safe harbors, but Applicable Entities are encouraged to use additional guidance where available and outside professional guidance in any case.

Table E.2. –Domestic Content Bonus Credit for Section 45/45Y PTC Projects

	For a Project Eligible for the Base 0.6 cents / kWh Credit	**For a Project Eligible for the 3.0 cents / kWh Increased Credit** (See Section C. Meeting Prevailing Wage and Apprenticeship Requirements)
Domestic Content Bonus	0.06 cents / kWh	0.30 cents / kWh
Total Credit	0.66 cents / kWh	3.30 cents / kWh

Table E.3. Domestic Content Bonus Credit for Section 48/48E ITC Projects

	For a Project eligible for the Base Credit of 6%	**For a Project Eligible for the Increased Credit of 30%** (See Section C. Meeting Prevailing Wage and Apprenticeship Requirements)
Domestic Content Bonus	2 percentage points	10 percentage points
Total Credit	8%	40%

To satisfy the Domestic Content Requirement, 100 percent of the structural steel and iron used in an energy facility must be produced completely in the United States (Steel or Iron Requirement). In addition, a certain Adjusted Percentage of the Manufactured Products in an energy facility must be sourced from the United States.[70] Taxpayers confirm compliance when filing a return claiming the Applicable Credit. For example, line 9 of Form 8835, Renewable Electricity Production Credit, asks "Does the property qualify for the Domestic Content Bonus Credit?" If the answer is "yes," the taxpayer is instructed to attach a statement affirming that the requirement has been met, and that taxpayer, under penalty of perjury, affirms that to the best of their knowledge and belief that the statement "is true, correct, and complete."

For projects meeting the Domestic Content Requirement, the Applicable Credit amounts can be found in Table E.2. and E.3. above.

Finally, the terminology relevant to the Domestic Content Requirements can be quite confusing. The following table provides a "taxonomy" of the terms used to describe a project and its components.

70 26 USC 45(b)(9)(B)(i).

Table E.4. "Taxonomy" of an Applicable Project

IRS Terms	Explanation	Example #1	Example #2
Applicable Project	Includes qualified facilities, energy projects or storage technologies. It generally refers to the portion of the construction project that generates a credit under the respective section of the IRA.	A single solar facility, or collection of such facilities.	A single wind facility, or collection of such facilities.
Property and/or Facility	Includes components of the Applicable Project that are operated together, but that can be operated apart from other property.	A single facility, e.g. solar panels connected to a common inverter	A single wind generating unit.
Applicable Project Component	Any article, material or supply that is directly incorporated into the Applicable Project, which may include Manufactured Products or steel or iron products.	• PV Module • Inverter • Racking • Foundation	• Wind turbine • Wind tower flanges • Tower • Foundation
Manufactured Product Component	Component of a Manufactured Product that is integral to the functioning of the project.	Inverter components include: • Printed circuit board assemblies • Thermal management • Enclosure	Wind turbine components include: • Nacelle • Blades • Rotor • Hub • Power converter
Manufactured Product Subcomponents	Component of a component of a Manufactured Product that is integral to the functioning of the project.	Printed circuit board assembly components: • Printed circuit board • Capacitors • Resistors	Wind turbine nacelle components: • Drive train assembly • Generator • Main bearing

E.3.b. Steel or Iron Requirement

Under the Steel or Iron Requirement of the Domestic Content Requirement, 100 percent of the steel or iron used in the project must be produced in the United States. The Steel or Iron Requirement generally aligns with the Federal Transit Administration (FTA) regulations implementing BABA requirements.[71] Under exiting IRS guidance, the Steel or Iron Requirement "applies to Applicable Project Components that are construction materials made primarily of steel or iron and are structural in function."[72]

The Steel or Iron Requirement does not include steel or iron used as components or subcomponents of other Manufactured Products. For example, items such as nuts, bolts, screws, washers, cabinets, covers, shelves, clamps, fittings, sleeves, adapters, tie wire, spacers, door hinges, and similar items that are made primarily of steel or iron but are not structural in function are not subject to the Steel or Iron Requirement.[73]

E.3.c. Manufactured Products

As noted above, an Adjusted Percentage of the Manufactured Products in an energy facility must be sourced from the United States. The Adjusted Percentage is measured as a share of the total costs of a facility's Manufactured Products. The required percentage differs by the year of the facility's construction, the credit being claimed, and the type of energy facility. This calculation may take into consideration not only the source and costs of Manufactured Products used in the project, but the components of those Manufactured Products as well.

For additional details on Manufactured Products, Adjusted Percentage requirements, and sample calculations, refer to Appendix 3 – Domestic Content Bonus Credit.

E.3.d. Safe Harbor Categorization of Steel/Iron and Manufactured Products

It can be challenging to determine what project components of a project must be taken into consideration for purposes of the Domestic Content Requirement and whether to characterize those components as steel or iron or as a Manufactured Product. The IRS has released guidance providing safe-harbor classifications of certain project components as either steel/iron or a Manufactured Product for major project types, including:

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[71] 49 CRF 661.5. While the IRS has looked to the FTA's regulations to assist in evaluating certain project components, the IRS has not indicated that the FTA regulations or related guidance may be relied upon for purposes of determining the Domestic Content Bonus Credit. See IRS Notice 2023-38, 3.04, https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

[72] IRS Notice 2023-38, 3.02, https://www.irs.gov/pub/irs-drop/n-23-38.pdf..

[73] IRS Notice 2023-38, 3.02, https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

- Ground-mount and rooftop photovoltaic systems;
- Land-based wind facilities;
- Offshore wind facilities;
- Battery energy storage; and
- Hydropower or pumped hydropower storage facilities.[74]

This safe-harbor list also serves to define the project components which must be taken into consideration for purposes of meeting the Domestic Content Requirement. For more information about this safe harbor see Appendix 3 – Domestic Content Bonus Credit.

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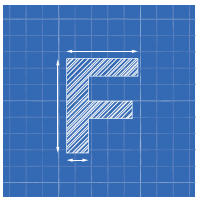
[74] *See* IRS Notice 2023-38, 3.04 and Table 2, https://www.irs.gov/pub/irs-drop/n-23-38.pdf.; IRS Notice 2024-41, 3.02 and Table 2, https://www.irs.gov/pub/irs-drop/n-24-41.pdf.##; IRS Notice 2024-41, 3.02 and Table 2, https://www.irs.gov/pub/irs-drop/n-24-41.pdf.

The Domestic Content Requirement for Elective Payment



F.1 Overview

In addition to providing the basis for a bonus credit, the Domestic Content Requirement discussed in Section E and Appendix 4 also serves as a major limitation on Elective Payment for certain tax credits. These credits are the:

- Section 45 PTC;
- Section 45Y clean electricity PTC;
- Section 48 ITC; and
- Section 48E clean electricity ITC.

Specifically, for projects that fail to meet the Domestic Content Requirement (and which do not qualify for one or both of the exceptions discussed below), an Applicable Entity will see its Elective Payment reduced (for projects beginning construction before January 1, 2026) or receive no Elective Payment at all (for projects beginning construction after December 31, 2025). No comparable reduction applies to taxpayers claiming credits on a regular income tax return or in cases where the credit is monetized through a transferability election.

An Applicable Entity affirms that it has met the Domestic Content Requirement at the time of filing a return claiming Elective Payment in the same way that a taxpayer affirms it meets the requirement for purposes of claiming the Domestic Content Bonus Credit as discussed above in section E.3. Domestic Content Bonus Credit.

The effect of the Domestic Content Requirement for Elective Payment is phased in over time.[75] Specifically, for a project failing to meet the Domestic Content Requirement (or failing to qualify for one of its exceptions), the Elective Payment is limited as follows:

[75] IRS guidance generally refers to this reduction as the "Elective Payment phaseout." This tends to understate the severity of failing to meet the Domestic Content Requirements – no Elective Payment for projects that begin construction after 2025. It also makes no specific reference to domestic content, obscuring its purpose. As a result, the Blueprint instead uses the term "Domestic Content Requirement for Elective Payment."

Table F.1. – Elective Payment Phase-out

Projects Beginning Construction	Elective Payment Reduction
Before January 1, 2024	0 percent
In calendar year 2024	10 percent
In calendar year 2025	15 percent
After December 31, 2025	100 percent (no credit received)

F.2. Statutory Exceptions

Current law provides limited exceptions to the Domestic Content Requirement for Elective Payment to account for the challenges in meeting the Domestic Content Requirements in general. Exceptions are available:

- For a facility that has a maximum output of less than one MW (1 MW Exception);
- When "inclusion of steel, iron, or Manufactured Products which are produced in the United States increases the overall costs of construction by more than 25 percent" (Increased Cost Exception); or
- When relevant steel, iron, or Manufactured Products are not produced in the United States in "sufficient and reasonably available quantities or of a satisfactory quality" (Non-Availability Exception).[76]

These exceptions are referred to collectively as Statutory Exceptions. Under current IRS guidance, an Applicable Entity may qualify for either of the last two Statutory Exceptions if it makes an attestation that it has made a good-faith determination that it qualifies.[77] This guidance applies to projects placed in service through 2026, until further guidance is released, (whichever is later), or until the current guidance is modified or revoked..

Specifically, an Applicable Entity attests, under penalties of perjury, that it has reviewed the requirements for the Increased Cost Exception and/or the Non-Availability Exception and made a Good Faith Determination that the project qualifies for the Increased Cost Exception, the Non-Availability Exception, or both.[78] This attestation is attached to the return claiming Elective Payment in lieu of a statement affirming compliance with the Domestic Content Requirement discussed in sections C.3 – Domestic Content Bonus Credit and D.1 – Overview, above.

[76] See 26 USC 45Y(g)(12); 26 USC 48E(d)(5).

[77] IRS Notice 2024-84, https://www.irs.gov/pub/irs-drop/n-24-84.pdf.

[78] IRS Notice 2024-84, 3, https://www.irs.gov/pub/irs-drop/n-24-84.pdf.

The attestation must be signed by a person with the legal authority to bind the Applicable Entity in federal tax matters and must be attached to the applicable IRS form required to be filed by the Applicable Entity to make an Elective Payment election.[79] In addition, the Applicable Entity is required to meet the general recordkeeping requirements and associated regulations to be able substantiate its attestation if requested by the IRS.[80]

Beyond the requirements described above, the IRS has provided no further guidance as to how to make such a Good Faith Determination, or the standard by which a determination will be held to have been made "in good faith." As noted in the introduction, one of the purposes of this Blueprint is to provide Applicable Entities with a simple, clear, and actionable explanation of the guidance that is available or to direct the reader to additional resources where that guidance goes beyond the scope of the Blueprint or is not available. For purposes of making the Good Faith Determination, several approaches should be considered with advice from accounting and legal advisors.

One potential parallel to the Good Faith Determination is found in the IRS regulations relating to the accuracy-related penalties[81] and the associated "reasonable cause and good faith exception" to those penalties provided under IRS regulations.[82] In that case, the regulations provide:

> Reliance on an information return, professional advice, or other facts, however, constitutes reasonable cause and good faith if, under all the circumstances, such reliance was reasonable, and the taxpayer acted in good faith.[83]

"Advice" does not have to be delivered in any particular form and can be:

> Any communication, including the opinion of a professional tax advisor, setting forth the analysis or conclusion of a person, other than the taxpayer, provided to (or for the benefit of) the taxpayer and on which the taxpayer relies, directly or indirectly, with respect to the imposition of the section 6662 accuracy-related penalty.[84]

For purposes of determining whether the Applicable Entity qualifies for one or both exceptions, IRS Notice 2024-9 is suggestive of the kinds of factors under consideration for final rules at some point in the future.

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[79] *See* IRS Form 8835, Renewable Electricity Product Credit, https://www.irs.gov/forms-pubs/about-form-8835; IRS Form 3468, Investment Credit, https://www.irs.gov/forms-pubs/about-form-3468.

[80] *See* 26 USC 6001.

[81] 26 USC 6662.

[82] *See* 26 CFR 1.6664-4.

[83] 26 CFR 1.6664-4(b).

[84] 26 CFR 1.6664-4(c)(2).

Specifically, the Notice indicates that, in considering implementing the Statutory Exceptions to the Domestic Content Requirement for Elective Payment, the IRS is considering procedures used by other federal programs with similar requirements.[85] A number of federal agencies currently interpret provisions comparable to the exceptions to the Domestic Content Requirements for Elective Payment, including for purposes of implementing the Buy American Act,[86] the "Buy America" provisions of various authorizing statutes,[87] and the Build America, Buy America Act (BABA)[88] – collectively referred to in this Blueprint as the Buy American provisions).

Below is a brief review of how these agencies interpret key aspects of provisions comparable to the two Elective Payment exceptions to the Domestic Content Requirements under their Buy American provisions. While not binding on the IRS, these examples may serve as analogous precedents to support an Applicable Entity's effort to demonstrate a Good Faith Determination that it qualifies for one or both exceptions. A more detailed discussion of each exception follows.

F.2.a. - Non-Availability Exception

Generally, non-availability of products subject to Buy American provisions is determined by the taxpayer's own due diligence, or by relying on an agency-supplied blanket "non-availability" waiver. While due diligence could rely on comprehensive market research, such an undertaking may not be practical for an individual entity. As a result, agency-supplied blanket waivers can operate as a more manageable approach.

A common safe harbor provision for non-availability provisions is provided where a solicitation for a component receives no responsive or responsible bids. In general, responses to solicitation are considered "responsive" if they comply in all material respects with the solicitation.[89] A "responsible bidder" is one that possess the experience, facilities, reputation, financial resources, and capability to perform the contract.[90]

For example, the FTA provides that:

> It will be presumed that the conditions exist to grant this non-availability waiver if no responsive and responsible bid is received offering an item produced in the United States.[91]

[85] IRS Notice 2024-9, https://www.irs.gov/pub/irs-drop/n-24-09.pdf.

[86] Buy American Act, Pub. L. 72–428, 47 Stat. 1489.

[87] See 49 USC 5323(j)(1) (Federal Transit Administration); 23 USC 313 (Federal Highway Administration); 7 USC 903 (Rural Utilities Service).

[88] Build America, Buy America Act, Pub. L. 117-58, 135 Stat. 429.

[89] See 48 CFR 14.301(a).

[90] See 48 CFR 9.104-1.

[91] 49 CFR 661.7(c)(1).

Likewise, the Office of Rural Utility Services within the Department of Agriculture provides that:

> A lack of responsive and responsible bids to a well-publicized request for bids will be presumed to meet the conditions of a non-availability waiver.[92]

In practice, these precedents have been applied to bids in response to both requests for proposals and invitations to bid.

Other agencies follow a similar requirement. For example, DOE proposed granting a project-specific nonavailability waiver for BABA requirements for the distribution system battery energy storage system ("BESS") for four projects. DOE justified the waiver by stating:

> **Description of Market Research and Justification:** The recipients and subrecipients listed above conducted market research and extensive industry outreach to identify BABA-compliant Distribution System BESS. In some cases, *this included issuing requests for proposals* (emphasis added), followed by industry outreach to multiple manufacturers. The recipients determined that no manufacturer could provide a BABA-compliant product at the size, type, and voltage required for each of the projects.[93]

In instances where there is a single source for a product, or where a contract is not required to be bid, some agency rules provide for a more facts-and-circumstances approach. For example, the FTA provides:

> In the case of a sole source procurement, the Administrator will grant this non-availability waiver only if the grantee provides sufficient information which indicates that the item to be procured is only available from a single source or that the item to be procured is not produced in sufficient and reasonably available quantities of a satisfactory quality in the United States.[94]

Likewise, the Office of Rural Utility Services within the Department of Agriculture provides that:

> With respect to contracts that are not required to be bid, sufficient evidence must be presented to the Administrator in order to make a determination.[95]

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[92] 7 CFR 1787.12.

[93] U.S. Department of Energy, "Build America, Buy America Act Project Specific Nonavailability Waiver" (Waiver Number: 2025-01) (Dec. 17, 2024) https://www.madeinamerica.gov/waivers/federal-financial-assistance/676309eafd6c1cd7bd8383b9.

[94] 49 CFR 661.7 (c)(2).

[95] 7 CFR 1787.12.

Generally, these procedures require not just assembling the information to justify a non-availability waiver from the relevant agency, but submitting an application, and receiving approval for such a waiver from the agency. As noted above, however, in the case of the Domestic Content Requirement for Elective Payment, there is no opportunity for the Applicable Entity to apply for a waiver from the IRS. Rather, the Applicable Entity files its return seeking Elective Payment and an attestation based on its good-faith determination.

Federal agencies also broadly provide available non-availability waivers, both to project owners, but also to other agencies seeking to comply with Federal Acquisition Regulations (FAR).[96] For example, on December 13, 2024, DOE, the Department of Agriculture, and Environmental Protection Agency issued "Build America Buy America Act Proposed Nonavailability Waiver for Domestically Assembled Solar Modules."[97] The waiver is effective through December 31, 2025, for panels installed before June 30, 2026. While nothing in these proposed waivers provide that they apply for purposes of the Statutory Exceptions to the Domestic Content Requirement for Elective Payment, they indicate the agencies' determination of whether the product is currently available in sufficient quantity or quality and provide extensive discussion of how this conclusion was reached.

Similarly, under FAR, a list of domestically non-available articles under the Buy American statute is maintained and updated every five years.[98] A non-availability determination is made "not necessarily (when) there is no domestic source for the listed items, but (when) domestic sources can only meet 50 percent or less of total U.S. Government and nongovernment demand."[99] While this list does not mention the Statutory Exceptions to the Domestic Content Requirement for Elective Payment, it indicates the substantial research done by the federal government to determine the listed products' scarcity.

Further, items found to meet Non-Availability Exceptions are deemed to be domestic content for calculations comparable to the Adjusted Percentage calculation.[100] A similar conclusion in the context of the Domestic Content Requirement for Elective Payment could greatly simplify compliance.

Take for example, a ground mounted, fixed solar PV project. Assume the purchaser – or contractor – determines that solar PV modules qualify for the Non-Availability Exception. Solar PV modules represent 92.5 percent of

[96] See Federal Acquisition Regulation, https://www.acquisition.gov/browse/index/far.

[97] U.S. Department of Energy, Notice and Request for Comment, "PROPOSED Nonavailability Waiver applicable to Domestically Assembled Solar Photovoltaics (PV) panels referred to as 'Solar Modules' under Build America, Buy America Manufactured Product Provisions as Applied to Recipients of Department of Energy Programs incorporating solar to include Congressionally Directed Spending (CDS) for Fiscal Years 2024," https://www.energy.gov/sites/default/files/2024-12/BABA%20WAV%202025-07%20Industrial%20programs%20Proposed%20Nonavailability%20Solar%20Waiver%2012.12.2024%20CLEAN.pdf.

[98] 48 CFR 25.104.

[99] 48 CFR 25.103(b)(1)(i).

[100] 49 CFR 661.7(f).

the project total manufactured cost under the IRS Notice 2024-84 domestic content percentage safe harbor. Thus, the applicable percentage threshold would be satisfied, and all the Manufactured Products would be deemed to be domestically produced.

F.2.b. - Increased Cost Exception

As noted above, the Increased Cost Exception applies when "the inclusion of steel, iron, or Manufactured Products which are produced in the United States increases the overall costs of construction of qualified facilities by more than 25 percent." Read literally, and consistent with the interpretation of comparable provisions, the calculation is not whether a) an individual component will increase overall project costs by 25 percent, but b) whether the *overall cost* of meeting the Domestic Content Requirement will increase overall project costs by 25 percent.[101] The term "costs" here refers to costs to be paid by the purchaser, not the "direct cost" concept incorporated in the Adjusted Percentage calculation discussed in E.3.a. above. For example, agencies have concluded that this cost calculation can include "reasonable administrative costs associated with complying with the BABA requirements, such as staff, contractor, and technological resources to collect and track BABA compliance documentation."[102]

Less clear is what happens if the 25 percent threshold is exceeded. On its face, it appears that if the Increased Cost Exception applies, then the taxpayer is exempted from meeting the Domestic Content Requirement for the facility.

However, the Office of Management and Budget (OMB) has interpreted a comparable provision of the BABA more narrowly. Specifically, a General Services Administration form provides relief for projects that qualify for an Increased Cost Exception by allowing the owner to select specific items to be exempted from the requirement to reduce costs below the 25 percent cost increase threshold.[103] Thus, in effect, OMB is interpreting the exception as allowing the purchaser to use non-domestic goods only to the extent necessary to keep the overall project costs from increasing more than 25 percent. For example, assume a project consisting of three items A, B, and C, additional project costs, and a cost of BABA compliance as provided in Example Table X below.

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[101] See Shalanda D. Young, Office of Management and Budget, Memorandum for the Heads of Executive Departments and Agencies, Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure (M-24-02) (Oct. 25, 2023) at 10, https://www.whitehouse.gov/wp-content/uploads/2023/10/M-24-02-Buy-America-Implementation-Guidance-Update.pdf.

[102] Environmental Protection Agency, Office of the Greenhouse Gas Reduction Fund, Memorandum, "Build America, Buy America Act (BABA) Implementation Procedures for EPA Office of the Greenhouse Gas Reduction Fund (OGGRF)" (January 2025), https://www.epa.gov/system/files/documents/2025-01/ggrf-baba-faqs-implementation-procedures.pdf.

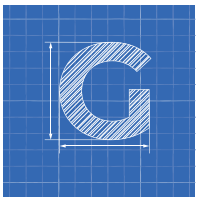
103 General Services Administration, Build America Buy America Waiver Request Data Collection, OMB Control No: 0505-0028 (Expires: 09/30/2026), https://www.gsa.gov/system/files/2024-07/OF2211-24.pdf.

Example Table X:

	BABA Compliant	Non-BABA Compliant	BABA Compliant after the Application of the Increased Cost Exception
Item A	$30	$20	$20
Item B	$30	$20	$30
Item C	$30	$20	$30
Additional Project Costs	$40	$40	$40
BABA Compliance	$4	NA	$4
Total	$134	$100	$124 (<$100 + 25%)

The cost of obtaining domestically sourced Manufactured Product items A, B, and C increases the total cost of the project by 34 percent, and thus the project qualifies for an Increased Cost Exception. Under the General Services Administration form, the purchaser could bring the project under the 25 percent threshold by picking an item (or items if appropriate) to except from the requirement. For example, in Example Table X above, the owner decides to have item A excepted from the Domestic Content Requirement and purchased it for $20 instead of $30. In turn, this reduces the overall project cost from $134 to $124, and thus under the 25 percent threshold.

Tax-Exempt versus Taxable Financing



G.1 Tax-Exempt versus Taxable Financing Overview

There are several issues that will affect an Applicable Entity's decision to use taxable or tax-exempt debt to finance an energy project. These include:

- Provisions that reduce the value of credits for tax-exempt bond financed projects;
- Projects costs that may not be includable in basis for purposes of calculating an ITC, but nonetheless need to be financed as part of the project, and
- Private-use restrictions for tax-exempt debt.

First, the value of certain tax credits is reduced for projects financed with tax-exempt debt. This affects the energy ITCs and PTCs, the section 45Q credit for carbon capture and sequestration, and the section 45V credit for clean hydrogen. The formula for calculating that reduction varies, but Elective Payment tax credits generally are reduced by up to 15 percent for a project financed with tax-exempt debt. Specifically, with respect to bond-financed facilities, any credit for which Elective Payment is to be claimed is reduced by the lessor of:

- 15 percent; or
- The percentage comprised of:

$$\frac{\text{Amount of tax-exempt financing of the facility (for the taxable year and all prior years)}[104]}{\text{Aggregate amount of additions to the capitol account for such facility (for the taxable year and all prior years)}}$$

For example, assume Project X costs $10 million, qualifies for a $3 million ITC, and is financed entirely with tax-exempt bonds. Under the limitation above, the $3 million credit would be reduced by 15 percent or $450,000. Conversely, if only $1 million of the project were financed with tax-exempt bonds, then the credit would be reduced by $300,000 ($1 million divided by $10 million is 10 percent, and 10 percent of $3 million is $300,000).

[104] For purposes of this calculation, the numerator includes bond proceeds that are used for capital expenditures of qualified facilities but does not include proceeds that are used for other purposes, such as reserve funds.

At its simplest level, the decision to finance with tax-exempt versus taxable debt falls to a comparison of the amount of the credit reduction versus the increased expense of financing with taxable debt (in lieu of tax-exempt financing). Appendix 5 provides samples demonstrating this calculation.

Second, it may make sense to use both taxable and tax-exempt financing for a project. Take, for example, a carport solar project. It may make sense to avoid the "haircut" discussed above by issuing taxable debt for project costs that will be includable in the basis for purposes of calculating an ITC. However, project costs that are not includable in the basis could be financed with tax-exempt debt without triggering the haircut. While the IRS has not issued guidance on allocating projects costs for purposes of the "haircut" described above, comparable cost allocation is permitted elsewhere in the Code, for example, for purposes of the private-use rules for tax-exempt bonds.[105]

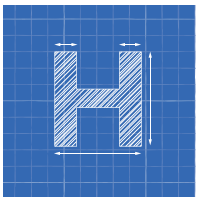
G.3. Other Considerations of the Type of Debt to Use

Other factors, besides cost, can and should influence the form of debt issued to finance a project. These can include, but are not limited to:

- **Timing of the project.** How long the project will take to build and how the timing will affect the borrowing cost during the construction period.
- **Timing of when the financing is needed.** If financing is needed in the near term, when there is uncertainty about the final cost or production levels, it is likely to make more sense to issue tax-exempt debt given this will very likely have a lower borrowing cost.
- **Political Risk.** If there are policy changes on the horizon that could impact the ability to issue tax-exempt debt, these point to issuing tax-exempt debt as soon as the issuer is comfortable with the cost estimates and timing of the project.
- **Habit.** Municipal entities are comfortable with issuing tax-exempt debt, which could lead to more familiarity with the debt issuance process.

[105] 26 CFR 1.141-6(b).

Special Concepts



H.1. What Are "Qualifying" Property and Facilities?

H.1.a. Qualifying Property Overview

The scope of an Applicable Credit turns largely on the type of credit. PTCs are typically based on the units of energy produced by an energy facility (kilowatt hours) at the specified rate set out in the particular credit. For ITCs, the credit is typically based on the "basis" of the energy facility – generally the cost to acquire the associated property and to place the energy facility in service. The definition of a facility will also include individual requirements specific to each *energy* that must be considered.

For example, under the section 48E tech-neutral clean electricity ITC, the credit is based on a "qualified facility," which includes tangible personal property (not including real estate or improvements), with respect to which depreciation is allowable, provided the property is constructed or acquired by the Applicable Entity.[106] A qualified facility does not include any electrical transmission equipment, such as electrical transmission lines and towers, or any equipment beyond the electrical transmission stage, although certain interconnect property may be included provided it has a maximum net output of not greater than five megawatts (as measured in alternating current).[107]

The property also must be an integral part of the qualified facility – property "used directly in the intended function of the qualified facility and is essential to the completeness of such function."[108] Examples of integral parts include:

- Power conditioning equipment and transfer equipment; and
- Roads that are used to operate and maintain the qualified facility, for example, roads within a solar project used to reach equipment that needs to be serviced.
- *However, roads used primarily to get to the facility, or roads used primarily for employee or visitor vehicles, are considered not integral to the intended function of the qualified facility. For example, a road from the highway to the front gate or parking lot for the facility is not considered "integral."*[109]

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[106] *See* 26 CFR 1.48E-2(a) and (c).

[107] 26 CFR 1.48E-2(a)(2)(ii).

[108] 26 CFR 1.48E-2(d)(3).

[109] 26 CFR 1.48E-2(d)(3)(ii) and (iii).

Examples of property not considered to be an integral part include:

- Fences; and
- Buildings, unless the structure houses components of property that are integral to the intended function of a qualified facility and the structure is so closely related to the use of the components of property housed within it that the structure clearly can be expected to be replaced if the components of the property it initially houses are replaced.[110]

Where integral property is shared among multiple qualified facilities, it may be counted as integral property of each facility. Since each facility must be claimed separately, the cost of the shared property must be properly allocated to each qualified facility and the credit claimed only with respect to the qualifying facility's portion of the shared property. For example:

> X constructs and owns a wind facility that is co-located with battery storage that X also constructs and owns. The wind facility and battery storage share transfer equipment that is integral to both. X assigns 50 percent of the cost of the shared transfer equipment to the wind facility and 50 percent of the cost to the battery storage.[111]

In addition to the property that is an integral part, a unit of qualified facility includes all "functionally interdependent components" of property owned by the Applicable Entity that are operated together and that cannot operate apart from other property to produce electricity. Under the regulations, "[c]omponents of property are functionally interdependent if the placing in service of each of the components is dependent upon the placing in service of each of the other components to produce electricity."[112]

The total basis amount of the qualified facility for purposes of determining the ITC is the sum of:

1. the basis of all qualified property integral to and functionally interdependent with the qualified facility and placed in service during the taxable year; and
2. the amount of any expenditures paid or incurred for qualified interconnection property placed in service during the taxable year in connection with a qualified facility (only if the interconnection property has a maximum net output of not greater than five MW (as measured in alternating current))[113]

[110] 26 CFR 1.48E-2(d)(3)(iv) and (v).

[111] 26 CFR 1.48E-2(d)(3)(vii)(C), Example 3.

[112] 26 CFR 1.48E-2(d)(2)(ii).

[113] 26 CFR 1.48E-2(a)(2).

H.1.b. Multiple Owners of a Qualified Facility

The above discussion of the scope of the qualifying property and the basis on which an ITC is determined assumes the qualifying facility is owned by a single party. Where multiple taxpayers hold direct ownership in a qualified facility (and such arrangement is not treated as a partnership for federal income tax purposes – see Section A. Who Qualifies for Elective Payment), each taxpayer or Applicable Entity determines its basis based on its fractional ownership interest in the qualified facility.

Where a qualified facility is owned through an unincorporated organization (such as a partnership), the organization can make an election under section 761(a),[114] which treats each member as an independent owner based on its undivided ownership share in the qualified facility. In such case, each owner's share of the facility will be treated as a separate qualified facility owned by such member.[115] This special rule allows an Applicable Entity that owns a qualifying facility in conjunction with another party, whether taxable or tax-exempt, to claim a tax credit through Elective Payment using their ownership share of the facility as the basis for calculating the credit amount.

H.1.c. Retrofits

A special rule applies for determining the cost basis of a facility that is retrofitted to meet the requirements for an Applicable Credit – commonly known as the 80/20 Rule. In general, an existing facility may effectively qualify as a new qualified facility if the fair market value of the used components are not more than 20 percent of the total value of the qualified facility (i.e., the cost of the new components of property plus the value of the used components of the qualified facility).[116]

H.1.d. Expansions of Existing Facilities

A special rule also applies to the expansions of existing facilities (generally referred to as the "Incremental Production Rule"), which allow for the expanded facility to qualify for an additional ITC but only to the extent of the additional production capacity resulting from the expansion.[117]

H.2. Aggregation: Projects with Multiple Facilities

PTCs and ITCs are generally determined on a facility-by-facility basis with the definition of the qualified facility based on the property that is an integral part of the facility and the functionally interdependent components, as described in the preceding section. As a result, projects with multiple facilities generally are not aggregated for purposes of determining the Base Credit or Increased Credit amounts nor with respect to applicable bonus credits.

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[114] 26 USC 761(a).

[115] *See* 26 CFR 1.48E-4(d)(3).

[116] *See* 26 CFR 1.48E-4(c). For purposes of the section 48E ITC, the 80/20 Rule also applies to energy storage technology.

[117] *See* 26 CFR 1.48E-4(b).

A special rule, however, applies for determining whether a project meets the prevailing wage and apprenticeship exception for facilities that have a nameplate capacity of less than one MW.[118] To prevent circumvention of this exception by counting multiple small facilities independently, the regulations require the aggregation of qualified facilities that have "integrated operations," which is defined as facilities meeting the following three-part test:

- Owned by the same or related parties;
- Placed in service in the same taxable year: and
- Transmitting electricity generated by the facilities through the same point of interconnection or, if the facilities are not grid-connected or are delivering electricity directly to an end user behind a utility meter, are able to support the same end user.[119]

The special rule for integrated operations only applies to the one MW exception to the Prevailing Wage and Apprenticeship Requirements. While it does not directly affect qualification for the Domestic Content Bonus Credit or Energy Community Bonus Credit, the value of either bonus credit will depend on whether a project satisfies or is exempt from the Prevailing Wage and Apprenticeship Requirements (e.g., the Domestic Content Bonus Credit will increase from two percent to 10 percent with respect to an ITC for a project meeting the Prevailing Wage and Apprenticeship Requirements or that is exempt from them).[120]

For purposes of the now-expired section 48 ITC, a broader aggregation rule applies with respect to "energy projects." For this credit only, multiple energy properties will be treated as one energy project if they are owned by a taxpayer or a related party and any *four or more* of the following factors are present:

(i) The energy properties are constructed on contiguous pieces of land;

(ii) The energy properties are described in a common power purchase, thermal energy, or other offtake agreement or agreements;

(iii) The energy properties have a common intertie;

(iv) The energy properties share a common substation, or thermal energy off-take point;

(v) The energy properties are described in one or more common environmental or other regulatory permits;

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[118] *See* 26 USC 45Y(a)(2)(B)(i); 26 USC 48E(a)(2)(A)(ii)(I).

[119] *See* 26 CFR 1.45Y-3(c)(3); 26 CFR 1.48E-3(c)(4).

[120] *See* section 45Y Clean Electricity Production Credit and section 48E Clean Electricity Investment Credit Final Regulations, Summary of Comments and Explanation of Revisions, TD 10024 (Jan. 15, 2025) VI (https://www.federalregister.gov/d/2025-00196/p-357) and VII (https://www.federalregister.gov/d/2025-00196/p-359).

(vi) The energy properties are constructed pursuant to a single master construction contract; or

(vii) The construction of the energy properties is financed pursuant to the same loan agreement.[121]

The determination of an energy project under the above criteria can be made at any point during the construction of the multiple energy properties, or during the taxable year in which the last such energy property is placed in service.[122]

This special aggregation rule for the section 48 ITC applies to the Prevailing Wage and Apprenticeship Requirements for the Increased Credit amount.

Less clear is whether aggregation rules might apply for purposes of determining eligibility for the One MW Exception to the Domestic Content Requirements for Elective Payment. The aggregation regulations discussed above do not mention the Domestic Content Requirement for Elective Payment. Conversely, the Elective Payment rules as drafted apply on a single facility basis, which is underscored by the pre-filing registration process described below. Moreover, the Elective Payment rules refer to "qualified facilities" rather than energy projects, which suggests that the One MW Exception to the Elective Payment rules applies separately to each energy facility.[123] However, there is no formal guidance relating to the One MW Exception to the Domestic Content Requirement, and so it remains to be seen what Treasury and IRS might do. [124]

H.3. When Is "Beginning of Construction"?

In most cases, whether an energy project qualifies for a specific tax credit will be based on when construction commences – often referred to as the beginning of construction date (BOC) – although the credit typically cannot be claimed until the facility is placed in service, as discussed in the following section.

The IRS has issued a range of guidance for determining the BOC for the IRA energy incentives.[125] Applicable Entities typically establish the BOC date in one of two ways: (i) by starting significant physical work (Physical Work Test), or (ii) by paying or incurring five percent or more of the total cost of the facility (Five Percent Safe Harbor). In both cases, the Applicable Entity must continue work or payments consistently through the completion of the project.

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[121] 26 CFR 1.48-13(d)(1).

[122] 26 CFR 1.48-13(d)(2).

[123] *See* 26 USC 48(a)(13), which cross references to 26 USC 45(b)(10).

[124] From a practical perspective, applying the Elective Payment process to an energy-project aggregation approach will often be impracticable when the individual energy facilities are places in service in different taxable years, and the election requires a pre-filing registration number, which is assigned on a single facility basis.

[125] IRS Notice 2022-61, 5, https://www.govinfo.gov/content/pkg/FR-2022-11-30/pdf/2022-26108.pdf.

H.3.a. Physical Work Test

Under the Physical Work Test, construction of a facility begins when physical work of a significant nature commences, provided that the taxpayer maintains a continuous effort of construction through the completion of the project. This is a fact-specific test that focuses on the nature of the work performed, rather than the amount of work or costs associated with the work. Significant work does not need to meet a minimum number of hours, cost, or percentage threshold to satisfy the Physical Work Test. Preliminary activities are excluded from the test, even if those activities are properly included in the facility's basis.[126] Preliminary activities include planning, designing, securing financing, exploring, researching, obtaining permits, licensing, surveying, conducting environmental or engineering studies, clearing a site, as well as certain test drilling, excavation, and removal of existing structures and equipment.[127]

All work performed by the Applicable Entity or by a contractor pursuant to a binding written contract with the Applicable Entity that is entered into prior to the manufacture, construction, or production of the facility is generally taken into consideration to determine when construction began.[128] This includes both on-site and off-site work.

H.3.b. Five Percent Safe Harbor

Under the Five Percent Safe Harbor, a facility will be considered to have begun construction if: (i) an Applicable Entity pays or incurs five percent or more of the total cost of the facility, and (ii) thereafter, the Applicable Entity makes continuous efforts to advance towards completion of the facility. All costs included in the facility's depreciable basis are generally considered in determining whether the Five Percent Safe Harbor has been met.[129]

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[126] *See* IRS Notice 2013-29, 4.02(1), https://www.irs.gov/pub/irs-drop/n-13-29.pdf; IRS Notice 2016-31, 5.03 (relating to the 45 production tax credit), https://www.irs.gov/pub/irs-drop/n-16-31.pdf; IRS Notice 2020-12, 5.03 (relating to the 45Q carbon-capture credit), https://www.irs.gov/pub/irs-drop/n-20-12.pdf; and IRS Notice 2018-59, 4.03 (relating to the 48 investment tax credit), https://www.irs.gov/pub/irs-drop/n-18-59.pdf.

[127] *See* IRS Notice 2013-29, 4.02(1), https://www.irs.gov/pub/irs-drop/n-13-29.pdf; IRS Notice 2016-31, 5.03 (relating to the 45 production tax credit), https://www.irs.gov/pub/irs-drop/n-16-31.pdf; IRS Notice 2020-12, 5.03 (relating to the 45Q carbon-capture credit), https://www.irs.gov/pub/irs-drop/n-20-12.pdf; and IRS Notice 2018-59, 4.03 (relating to the 48 investment tax credit), https://www.irs.gov/pub/irs-drop/n-18-59.pdf.

[128] *See* IRS Notice 2013-29, 4.01 and 4.03 (relating to 45), https://www.irs.gov/pub/irs-drop/n-13-29.pdf; IRS Notice 2020-12, 8.02 (relating to 45Q), https://www.irs.gov/pub/irs-drop/n-20-12.pdf; and IRS Notice 2018-59, 7.03 (relating to 48), https://www.irs.gov/pub/irs-drop/n-18-59.pdf.

[129] *See* IRS Notice 2013-29, 5.01(1) (relating to?45), https://www.irs.gov/pub/irs-drop/n-13-29.pdf; IRS Notice 2020-12,?6.02 (relating to 45Q), https://www.irs.gov/pub/irs-drop/n-20-12.pdf; and IRS Notice 2018-59, 5.02 (relating to 48), https://www.irs.gov/pub/irs-drop/n-18-59.pdf.

For property that is manufactured, constructed, or produced for the Applicable Entity by a contractor under a binding written contract, costs incurred with respect to the property by the contractor before the Applicable Entity takes possession are typically treated as incurred by the Applicable Entity.[130]

H.3.c. Continuity Requirement and Continuity Safe Harbor

For both the Physical Work Test and the Five Percent Safe Harbor, Applicable Entities must demonstrate either continuous construction or continuous efforts, through the completion of the project. In both cases, the continuous efforts are determined on a facts-and-circumstances basis.

Under the Five Percent Safe Harbor, Applicable Entity may also be deemed to satisfy the continuity requirement if a qualified facility is placed in service no more than four calendar years after the calendar year during in which construction began for purposes of the section 45 PTC.[131] In some instances, offshore wind projects and projects built on federal land under the section 45 PTC or the section 48 ITC may satisfy the continuity requirement if the project is placed into service no more than 10 calendar years after the calendar year during which construction of the project began.[132] Exceptions to the continuity requirements are available for certain excusable disruptions such as delays due to severe weather conditions and natural disasters, delays in obtaining permits or licenses, delays in the manufacture of custom components or availability of specialized equipment, financing delays, and delays due to supply shortages.[133]

H.3.d. Effect on Elective Payment

The BOC date is particularly important for Applicable Entities planning to access the PTC or ITC through the Elective Payment option. To qualify for Elective Payment, the Applicable Entity must satisfy the Domestic Content Requirements with respect to the energy project.[134] Depending on the date that the project begins construction, the Elective Payment is limited to the following amounts if the project fails to meet the Domestic Content Requirement:[135]

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[130] *See* IRS Notice 2013-29, 5.01(2) (relating to 45), https://www.irs.gov/pub/irs-drop/n-13-29.pdf; IRS Notice 2020-12, 8.02 (relating to 45Q), https://www.irs.gov/pub/irs-drop/n-20-12.pdf; and IRS Notice 2018-59, 7.03 (relating to 48), https://www.irs.gov/pub/irs-drop/n-18-59.pdf.

[131] IRS Notice 2016-31, 3, https://www.irs.gov/pub/irs-drop/n-16-31.pdf.

[132] *See* IRS Notice 2021-5, https://www.irs.gov/pub/irs-drop/n-21-05.pdf.

[133] *See* IRS Notice 2018-59, 6.03, https://www.irs.gov/pub/irs-drop/n-18-59.pdf.

[134] *See* below for a discussion of the Domestic Content Requirements appliable to the Elective Payment option and the Domestic Content Bonus Credit.

[135] *See* 26 USC 45Y(g)(12)(C).

Table H.1 - Elective Payment Phase-out

Projects Beginning Construction	Elective Payment Amount
Before January 1, 2024	100 percent
In calendar year 2024	90 percent
In calendar year 2025	85 percent
After December 31, 2025	0 percent

Similarly, an attestation process provided as transition relief for an Applicable Entity seeking to claim a Statutory Exception to the Domestic Content Requirement for Elective Payment also depends on the BOC date. Specifically, this relief is only available to projects the construction of which begins before January 1, 2027, or the issuance of further IRS guidance (whichever is later) (see discussion in Section F, Domestic Content Requirement for Elective Payment).[136]

H.4. What Is the "Placed in Service" Date?

Applicable tax credits are generally available only after the energy project is placed in service. For example, the Section 48/48E can only be claimed with respect to a solar facility when it is placed in service. Similarly, the 10-year credit period under the Section 45/45Y does not begin until a wind facility, for instance, is placed in service.

The placed-in-service date is a facts-and-circumstances determination of the date that occurs in the *earlier of* either:

- The taxable year in which the depreciation of the property making up the energy property begins; or
- The taxable year in which the property is placed in a condition or state of readiness and availability for a "specifically assigned function."[137]

With respect to the second factor above, it is important to note that property may be considered placed in service before it is actively used or deployed at full capacity. For example, the regulations include an example in which operational farm equipment that is acquired during taxable year 2025 and is not practicable to use until taxable year 2026 is still considered

[136] IRS Notice 2024-84, 3.02, https://www.irs.gov/pub/irs-drop/n-24-84.pdf.

[137] 26 CFR 1.46-3; See also 26 CFR 1.48E-2(b)(2). The tax regulations provide examples of property that is considered in a condition or state of readiness and availability for a specifically assigned function. See 26 CFR 1.46-3(d)(2).

ready and available for its assigned function in taxable year 2025.[138] Similarly, equipment that is operational but is still undergoing testing to eliminate any defects is still considered ready and available for its assigned function.[139]

The IRS generally applies a five-factor test to determine when a facility is placed into service. Those factors are:

1. whether the necessary permits for operation have been obtained;
2. whether critical preoperational testing has been completed;
3. whether the taxpayer has control of the facility;
4. whether the unit has been synchronized with the transmission grid; and
5. whether daily or regular operation has begun.[140]

No single factor is dispositive, and the Applicable Entity is required to make the determination based on the particular facts and circumstances, typically in consultation with its accounting and legal advisors.

The placed-in-service date is particularly important to the pre-filing registration process for claiming an Applicable Credit by Elective Payment. As described in greater detail in Section I below, an Applicable Entity can only initiate the pre-filing registration process for a qualifying energy project in the taxable year that the project is placed in service. The pre-filing registration process must be completed, and a registration number is received, prior to making an Elective Payment election.

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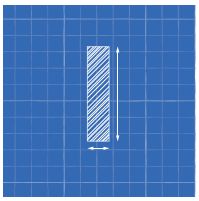
[138] *See* 26 CFR 1.46-3(d)(2)(ii).

[139] *See* 26 CFR 1.46-3(d)(2)(iii).

[140] *See* Ampersand Chowchilla Biomass, LLC v. United States, 150 Fed. Cl. 520 (2020).

Mechanics of Filing an Elective Payment Return



Any entity that wants to make an Elective Payment election for one or more energy credits under section 6417 must register the intention to make the election and apply for a registration number.[141] The registration of intent does not obligate the Applicable Entity to file and collect a refund via the elective pay program, but it is an essential first step to monetize a qualifying credit referred to as pre-filing registration. Once an Applicable Entity has registered and received the registration number, the Elective Payment election can be made on a timely filed IRS Form 990-T.

The sections below go into more detail surrounding the process, but it can be broken down into the following steps:

1. Project is placed in service.
2. Determine the tax year in which the project was completed.
3. Pre-file your intention to claim the credit with the IRS.
4. File the tax return, making a valid elective pay election.
5. Once the return is processed, the IRS will issue the direct payment.

I.1. What Is My Tax Year?

Any entity seeking to monetize an energy credit must make an election to do so by filing a tax return for the year in which the credit was generated (i.e., the taxable year in which a property is placed in service, or the taxable year in which tax-creditable energy production is generated). For public power utilities that do not currently file an income tax return, generally that will be a Form 990 T, Exempt Organization Business Income Tax Return. Public power utilities that already file an income tax return – such as a public power utility

[141] 26 CFR 1.6417-5T.

organized as an electric cooperative[142] – will use the return they currently file. (More on the return filing process can be found below.)

A taxpayer's taxable year generally must align with its accounting year (i.e., either a calendar year or fiscal year). However, to accommodate certain Elective Payment transition issues, an Applicable Entity that is not otherwise required to file a federal income tax return but is filing solely to make an Elective Payment election, may choose whether to file its first return (and thus adopt a taxable year) based upon a calendar or fiscal year. With Elective Payment fully in effect, the need to have a tax year different from an accounting year seems unlikely. Nonetheless, if so, then the entity must maintain adequate book and records, including a reconciliation of any difference between its regular books of account and its chosen taxable year, to support making an Elective Payment election on the basis of taxable year selected.[143] An Applicable Entity may find it most efficient to adopt as its taxable year the fiscal or calendar year used for its accounting functions and other state or local regulatory reporting requirements.

I.2. Pre-Filing Registration

An Applicable Entity that wants to make an Elective Payment election for one or more energy credits must register the intention to make the election and apply for a registration number ("Pre-filing registration").[144] The registration of intent does not obligate the Applicable Entity to file and collect a refund via the elective pay program, but it is an essential first step to monetize a qualifying credit

Pre-filing registration involves creating an IRS ID.me account, providing company and tax-related information, and submitting a pre-registration form. The purpose of pre-filing registration is to ensure that the IRS has accurate and up-to-date information about the applicant, which helps in the efficient processing of the Applicable Entity's elections and other tax-related submissions. Following successful completion of the pre-filing registration process, the Applicable Entity will receive a registration number(s) that will be necessary for making the Elective Payment election on a timely filed IRS Form 990-T.

To facilitate the process, the IRS has created a pre-filing registration tool guide.[145] The most critical aspect of the pre-filing registration process is the timing. An Applicable Entity wishing to make an Elective Payment election on its IRS Form 990-T must complete the pre-filing registration after the eligible project is placed in service. However, the Applicable Entity also must leave sufficient time to have a valid registration number by the time the tax return is

[142] See 26 USC 501(c)(12).

[143] 26 CFR 1.6417–2(b)(3).

[144] 26 CFR 1.6417-5T.

[145] IRS Publication 5884, https://www.irs.gov/pub/irs-pdf/p5884.pdf.

required to be filed. The IRS recommends completing pre-filing registration 120 days before the filing deadline. A separate registration number must be obtained for each property/facility that generates a credit.

The information and documentation required for pre-filing registration will vary depending on the specific circumstances of the Applicable Entity and the energy project. See below for further discussion of the steps to complete the pre-filing registration and where to find more details about specific information required.

The following is an overview of the mechanics for completing the required pre-filing registration (see Appendix 6 for additional details):

Access the IRA Pre-Filing Registration Tool: The IRA/CHIPS pre-filing registration tool can be found at www.irs.gov/eptregister. The IRS uses ID.me to verify and sign-in users. The individual performing the pre-filing registration must either sign into the user's personal ID.me account or create an ID.me account to verify the user's personal, rather than the business or entity, identity. This process requires personal photo identification. This person must be an authorized officer of the organization or have an executed power of attorney.

The user will then select either "Authorize a clean energy account" if the individual is a first-time user or the user may select "Access a clean energy account" if the individual is a returning user.

Registrant Authorization: To authorize a clean-energy account (first time user registrant), a user accessing Energy Credits Online for the first time will need to provide certain personal and entity information.

- **EIN:** The first step is providing the entity employer identification number (EIN).
- **Personal Information:** The next step requires the user to provide personal information including a phone number and mailing address that appeared on the user's latest personal income tax return.
- **Entity Information:** Next the user will provide taxpayer information, including the name, phone number, email address, entity type, user's title with the entity, and street address.
- **Attestations:** Finally, the user must complete attestations to the accuracy of the information, and that the user has legal authority to execute the authorization on behalf of the taxpayer.

Accessing Energy Credits Online Account: After a user authorizes the account, the user can access the pre-filing registration tool and will be taken directly to the account(s) landing page. From here, authorized users may authorize additional taxpayers by selecting "Add clean energy business account."

To access a specific tool, the users can select the tile for an authorized entity, which will take the user to the IRS Clean Energy landing page.

IRA/Chips Credit Dashboard: Authorized users should select the "Get Started" button under the "Clean Energy and Semiconductor Manufacturers" tile to access the pre-filing registration dashboard. Users will then have three tiles to select from:

- **Email Notifications:** Authorized users may elect to receive email notifications on the status of their pre-filing registration submission. A user who does not opt-in to receive email notifications will be responsible for checking on the status of the registration by returning to the account and reviewing the information periodically.
- **Your Registrations:** Here authorized users may review the status of registrations they submitted.
- **IRA/CHIPS Credit Registration:** This will bring the user to the pre-filing registration form. Progress may be saved as this form is completed. Information required to complete this process falls into the broad categories of general entity information, credit specific information, and facility and property information.

Additional supporting documentation may be required through the registration process and will be requested by the system based on credit information the user identifies. Detailed information and supporting documentation required to complete a pre-filing registration is dependent on the type of Applicable Credit and is beyond the scope of this discussion. Please see IRS Publication 5884 for further details.

After Submission of Pre-Filing Registration: The status of a registration will progress from "Awaiting Assignment" then move to "Pending" once a reviewer has been assigned. When the review process is complete, the status will appear as either:

- "Returned – Open" meaning additional information is required, or
- "Returned – Closed" meaning the registration is complete and the registration number has been issued.

A taxpayer has 35 days from the date the submission was returned as "Open" to provide additional information or correct any errors.

I.3. Tax Return Filing

As mentioned above, after obtaining the appropriate registration number(s) using the IRS pre-filing registration tool, an Applicable Entity seeking an Elective Payment must make the election on a timely filed IRS Form 990-T. In addition to the main Form 990-T, the entity will also need to submit IRS Form 3800, General Business Credit, and the applicable source credit form(s), for example IRS Form 8911 for Section 30C credits (alternative-fuel vehicle refueling property credit), IRS Form 8835 for Section 45 credits (PTCs), Form 3468 for Section 48 credits (ITCs), etc.

Specific instructions on how an Applicable Entity may be required to complete the necessary forms are beyond the scope of this discussion. For further information, taxpayers should consult with their tax advisers and carefully review the instructions provided for each of the forms referenced above and the source credit documents. Below is a discussion of the general forms required and an overview of necessary information to make the Elective Payment election successfully.

Source Credit Forms: There are many different forms depending on the specific credit being claimed. Each credit has its own form. Review the instructions carefully to ensure you provide all necessary information.[146] These source credit forms are used to calculate each credit.

IRS Form 3800, General Business Credit: After the source credit forms are prepared and the credits are calculated, IRS Form 3800[147] may be prepared. Use a single Form 3800 to compute the Elective Payment election amount. If each type of credit earned is based upon a single facility or property, only complete Part III of Form 3800. The registration number for the relevant credit should be placed in column B of Part III, next to the relevant credit based on the source document on which the credit was calculated.

If multiple registration numbers are obtained for a single credit, for example if there are multiple properties or facilities at which the credit was generated, then:

- Only enter a single pre-filing registration number in column B of Part III;
- Enter the total number of credits of that type the taxpayer earned in column C;
- In Column E enter the total of all of that type of credit earned for all the year; and
- In Part V enter the detail showing each pre-filing registration number and the amount of credit associated with each registration number.

[146] See IRS Form 3800 Instructions (https://www.irs.gov/forms-pubs/about-form-3800) for detailed information about source credit forms required for each credit.

[147] IRS Form 3800, General Business Credit, https://www.irs.gov/forms-pubs/about-form-3800.

Each pre-filing registration number should be entered on its own line on Part V, with the relevant information for that pre-filing registration credit entered on that line as well.

As stated above, these are very general instructions intended to illustrate Elective Payment election information only. Further information will be required depending on the Applicable Entity's specific circumstances and the credit at issue.

IRS Form 990-T: On Page 1, Item H of IRS Form 990-T[148] is the box to check to make the Elective Payment election. The Applicable Entity should check the box next to the words "Elective Payment amount from Form 3800."

Part II of Form 990-T may be required depending on the type of entity filing the form. Please review the applicable instructions to Form 990-T.

Part III is where the Applicable Entity enters the total net Elective Payment election amount from Form 3800, Part III. Including the election payment amount on line 6g of Part III is critical in avoiding delayed processing of the return.

I.4. Due Dates

Credit for which an Elective Payment election has been made must be claimed on the IRS Form 990-T for the tax year that the credit is generated, including the required registration numbers as described above. The due date for Form 990-T is the fifteenth day of the fifth month after the close of the Applicable Entity's tax year – e.g., for an entity on a calendar year, the Form 990-T would be due by May 15. A six-month extension is also available, which is automatic when the entity is not otherwise required to file a return.[149] Accordingly, a PTC generated in 2024 by a calendar year entity must be claimed on the entity's 2024 Form 990-T, which is due no later than November 15 (assuming the extension is elected). The credit generally may not be claimed on an amended Form 990-T filed after the relevant due date.

I.5. Potential Penalties for Incorrect Elective Payment

In the event the IRS determines that an Applicable Entity received an overpayment – referred to as an "excessive payment" – with respect to an energy credit claimed through Elective Payment, the excess amount is subject to repayment and, in the absence of reasonable cause, a 20 percent

[148] IRS Form 990-T, Exempt Organization Business Income Tax Return (and proxy tax under section 6033(e)), https://www.irs.gov/forms-pubs/about-form-990-t.

[149] IRS, Elective pay and transferability frequently asked questions: Elective pay, FAQ #22, https://www.irs.gov/credits-deductions/elective-pay-and-transferability-frequently-asked-questions-elective-pay#q22.

penalty.[150] An excessive payment generally is the amount of the Elective Payment received minus the amount of the credit that the IRS determines should otherwise have been allowed for the taxable year. In the case of an excessive payment, the amount required to be repaid is equal to the excess amount plus 20 percent of such excess. The excessive payment penalty can be avoided if the Applicable Entity files an amended return correcting the excessive payment prior to an IRS examination.

[150] See 26 USC 6417(d)(6); 26 CFR 1.6417-6.

Project Development from the Perspective of Elective Payment

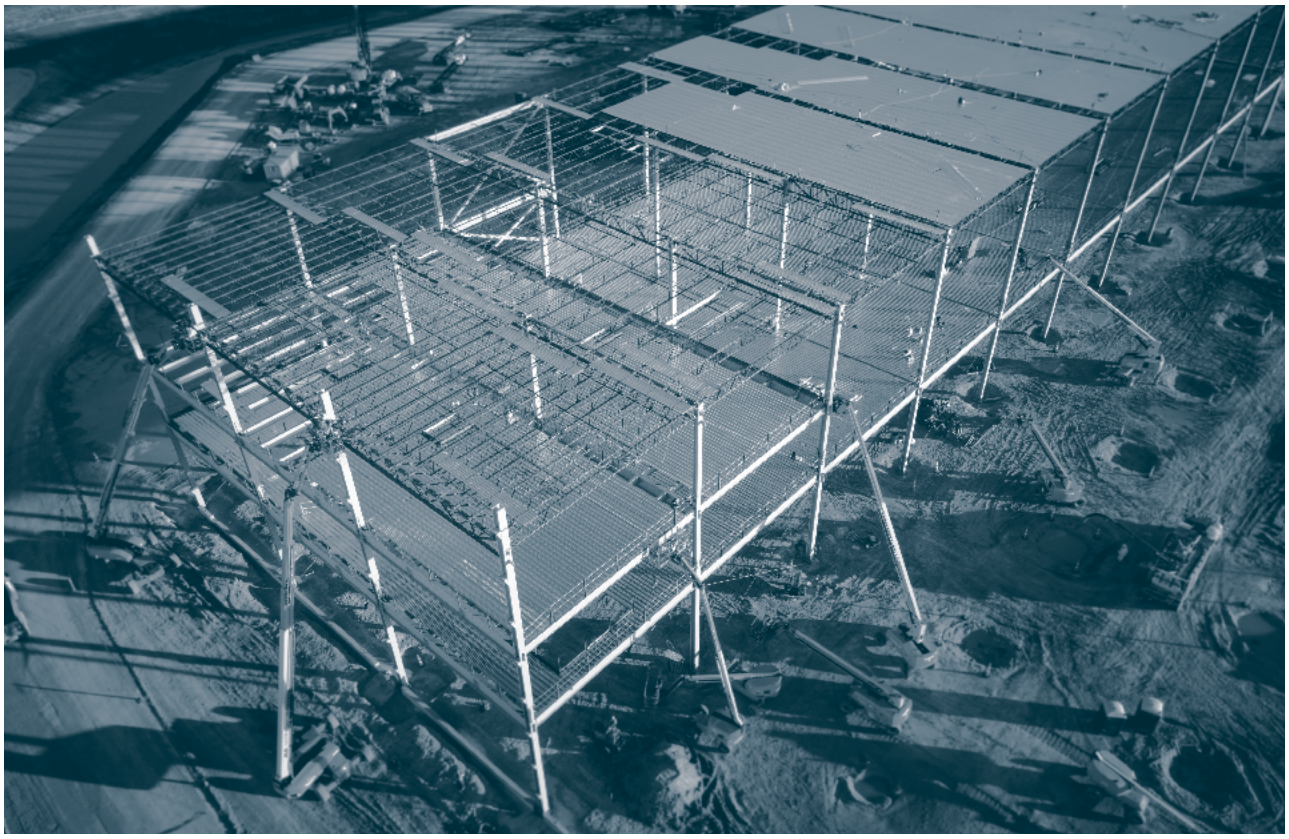
As noted above, the Blueprint is primarily intended to guide public power utilities through the highly complex issues surrounding the process of claiming Elective Payment of energy tax credits. However, while elective pay is new to public power, capital investments and project development are not. Roughly half of all public power utilities own some form of generation and public power utilities also own more than 35,000 miles of bulk power transmission lines; thousands more miles of local distribution lines; approximately 8,000 distribution substations; and a myriad of other equipment including cyber and physical security assets. As such, in contrast to other non-utility Applicable Entities, public power utilities are expected to have at least some experience and expertise with energy-related project development. Nonetheless, elective pay adds unique concerns to every stage of project development. To help public power utilities negotiate this process, the project development "checklist" below touches on all the key aspects of project development. It builds on the substantial work already done by DOE, refined to be of better use to a public power utility and dive in greater detail into issues of unique concern to Elective Payment.

Project development takes place in three phases: design, construction, and operation.[151] With pre-planning of such key importance, this can be broken down further into five broad steps:[152]

- Assessing project potential;
- Developing project options (preliminary design);
- Refining options prior to construction (final design selection and development);
- Implementing construction; and
- Operating and maintaining the facility.

[151] U.S. Department of Energy, Better Climate Challenge, Fact Sheet, Assembling an Effective Team for Renewable Generation and Storage Projects (March 2024), https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/AssemblingEffectiveTeams.pdf.

[152] Department of Energy, Office of Indian Energy, "The Five-Step Process Framework for Project Development" (Aug. 17, 2025) (https://www.energy.gov/sites/prod/files/2015/08/f25/5-Step%20Project%20Development%20Overview.pdf).



At each step, information gathering and decision-making help clarify the project's direction and reduce uncertainties. However, elective pay introduces additional complexities, requiring developers to meet specific conditions throughout the design, construction, and operational phases to ensure receipt of credits. Because elective pay is new and professional expertise in this area is still developing, public power utilities may struggle to find definitive answers or reliable resources.

This guide is intended to help you identify and address the requirements for elective pay and build a team that can help you manage that process at each step of the project. Because Elective Payment is not guaranteed unless implemented correctly, perhaps the most important action is the one taken before any steps have been taken at all: building the project team. Team members should be identified in advance: first, to identify potential hurdles in advance; and second, to have expertise on hand to overcome hurdles when they occur. Table J.1. below details groups, skill sets, and specific responsibilities for each project phase. Some of these skills and responsibilities may be provided by a single person or entity, others may be shared by multiple parties. Likewise, projects of less than one MW of capacity can have a simplified team because they do not need to meet Domestic Content Requirements to qualify for Elective Payment or Prevailing Wage and Apprenticeship Requirements to qualify for the enhanced ITC and PTC.

Section J.1. Project Team Breakdown

Table J.1. – Project Team Breakdown: Design Phase

Group	Skillset	Responsibilities
Planning	Vision/ Leadership	Establish project scope, objectives, and structure.
		Champion the project from scoping to operation.
		Define project success, such as energy delivery, financial performance, environmental impact, and resilience.
		Manage the project from scoping to operation.
	Project Management	Oversee design, incentive, and regulatory considerations, including site-dependent bonus credits and application-based bonus credits.
		Facilitate proactive communication.
	Procurement / Contract Management	Assess and advise on procurement options, including contractor ability to meet prevailing wage and apprenticeship and Domestic Content Requirements. *Note: procurement will be simplified for projects below 1 MW in capacity.*
		Review and develop contract language.
		Ensure that the utility's best interests are communicated to, and appropriately addressed by, contractors.
Permitting and Permit Compliance	Local Permitting	Review and approval of any local siting and permitting requirements.
	State	Review and approval of any state siting and permitting requirements.
	Federal	Review and approval of any federal siting and permitting requirements.
Finance	Tax Credit Expertise	Navigate available renewable energy tax credits, elective pay options, and other financial incentives.
	Financial Management	Advise on project financing options.
		Provide project accounting expertise.
		Define capacity requirements, including system needs and target project generation and/or storage.
		Consider technology options, including generation type, and storage.

Table J.1. – Project Team Breakdown: Design Phase (continued)

Group	Skillset	Responsibilities
Design / Engineering	Technical Knowledge of Generation and Storage Systems	Anticipate project interaction with attached facilities, local distribution system, or bulk power grid (as appropriate).
		Provide preliminary project cost estimate.
		Provide technical expertise on component level decisions that may affect other project decisions (budget, permitting, regulation, Domestic Content Requirements, etc.).
		Evaluate likely supply chain concerns and provide design options to accommodate.
	Site Evaluation	Evaluate sites for: generation and storage system installations; interconnection considerations; and applicability of location-based energy credit bonuses.
	Non-Renewable-Specific Technical Considerations	Specify interconnection requirements including the max system size, inverter requirements, and battery storage requirements.
		Update grid infrastructure (transformers, distribution) as required by project scope.

Table J.2. – Project Team Breakdown: Construction Phase

Group	Skillset	Responsibilities
Procurement	Procurement	Oversee construction contract, and/or project components acquisition as appropriate. Meet elective pay procurement requirements as needed.
	Construction Management	Oversee system installation, permitting, commissioning of infrastructure, and safety requirements where construction is outsourced. Meet elective pay wage and apprenticeship requirements as needed.
Installation	Installing Systems	Install hardware and monitoring software according to system design and associated specifications, this includes any monitoring needed to receive elective pay credits.
		Provide training to operations team.
		Verify proper equipment installation after construction.
		Scrutinize installation's adherence to safety requirements and manufacturer specifications.
Approval	Commissioning	Confirm monitoring systems are operational, and all users have access.
		Consider possible tax consequences to placed-in-service date.
		Complete pre-filing registration once the property is placed in service.
	Local Permitting Jurisdiction (External)	Complete final facility/system inspection and issue approval after construction.

Table J.3. – Project Team Breakdown: Operations Phase

Group	Skillset	Responsibilities
Operations	Operation & Maintenance	Advise on system design requirements and options for operations and maintenance.
		Develop plan to ensure proper operation and maintenance of the system, including whether maintenance will be internal or external (if not included within installation contract).
	Repair	Manage the regular operation and maintenance of the system after development. Ensure a process in place to report required information to collect relevant credits.
		Perform repairs as needed.

Section J.2. – Project Development Step-by-Step

The project team breakdown tables above in some respects presages the step-by-step process below:

Step 1: Assessing Project Potential:

a) Assess ability to assemble a team that can meet elective pay project requirements along with traditional project factors.

b) Assess project need and feasibility from a system and operations perspective.

c) Determine additional requirements, such as load growth, plant retirements, or clean energy targets.

d) Identify the relevant credits and associated requirements to factor into project analyses.

e) Assess project capacity potential:

   a. Consider the one MW threshold for domestic content and Prevailing Wage and Apprenticeship Requirements.

   b. The National Renewable Energy Lab has a suite of data sites to assess by geographic location the potential for various renewable energy technologies found here: https://maps.nrel.gov/node/57.

   c. A map for assessing the local solar resource can be found here: https://www2.nrel.gov/gis/solar-resource-maps

   d. A map for assessing the local wind resource can be found here: https://www2.nrel.gov/gis/wind-resource-maps

f) Consider potential project locations:

   a. A governmental owner may have access to sites that a private developer might not. For example, a water treatment plant may be considered critical infrastructure to which access by third-party operators might not be appropriate.

   b. Location determines access to energy community and low-income community bonus credits, and to section 30C EV charging credit.
   c. Permit-related site due diligence:
      i. Wetlands and waterways
      ii. Soils
      ii. Wildlife, habitat, and flora
      iv. Access

g) Assess procurement abilities:
   a. Meeting the Domestic Content Requirement can provide a bonus credit but for projects beginning construction in 2026 or later, is mandatory for qualifying for Elective Payment.
   b. The project owner must either have the ability to meet these requirements – or have the expertise to negotiate the Statutory Exception process – or be able to locate contractors that can.

h) Consider financing costs
   a. Consider the tradeoff from using tax-exempt debt versus taxable debt.
   b. Consider different financing tools needed for ITC vs PTC projects.
   c. Consider the cost of tax risk insurance for ITC vs PTC projects.
   d. Consider appropriate financial mitigations for the project financial risk/uncertainty in credit capture timeline and percentages.

i) Consider ownership options.
   a. Elective Payment
      i. Solitary direct ownership.
      ii. Joint ownership with other Applicable Entities.
      iii. Joint ownership with mixed entities.
   b. Third party ownership
      i. Power purchase agreement.
      ii. Option to own after tax assets have been "consumed."

j) Define project success, such as energy delivery, financial performance, environmental impact, and resilience.

Step 2: Develop Project Options

1. Determine the project type and size.
   a. Balance load needs, project capacity, and project goals identified in Step 1.
   b. Consider the one MW threshold for both the Statutory Exception to Domestic Content Requirement for Elective Payment and Prevailing Wage and Apprenticeship Requirements.
   c. A series of smaller projects might accomplish the same goal, while avoiding costly compliance expenses for projects larger than one MW in capacity.

2. Determine possible ownership structures and eligibility for Elective Payment.
    a. Direct ownership.
    b. Partnership with other Applicable Entities.
    c. Mixed co-ownership as tenants in common.
    d. Third party ownership with a PPA.
3. Determining project funding
    a. Most funding for a project is likely to be recovered through customer rates.
    b. There are no restrictions on the use of ITC and PTC Elective Payment amounts once they are received from the IRS so they could be dedicated to project costs.
    c. State or federal grants may also be available but be aware of the cap on elective pay where the combined total of grants and credit would exceed 100 percent of qualified costs (No Excess Benefit rule).
    d. Commercial customers may wish to enter bespoke contracts for renewables that the utility – without Elective Payment – could not otherwise directly provide.
4. Determine project financing
    a. The type of credit being claimed may affect how the project is financed (e.g., since credits cannot be released until after project completion, a utility may opt for bridge financing, before securing long-term debt for projects claiming the ITC, but traditional up front long-term debt may be more appropriate for projects claiming the PTC).
    b. Given the various risks that might jeopardize the ability to eventually claim Elective Payment after a project is placed in service, the owner should at least consider tax insurance.
5. Determine the availability of qualifying labor to meet Prevailing Wage and Apprenticeship Requirements.
6. Permitting and other potential external limitations.

Step: 3 Pre-Construction Project Refinement

1. Secure project site.
    a. Purchase or lease.
    b. Secure access.
    c. Finalized plan to address ancillary concerns.
2. Finalize project engineering.
3. Finalize funding and financing plan.

4. Finalize all required permitting.
5. Identifying procurement resources
    a. Finalize procurement contracts.
    b. Domestic Content.
        i. Confirm with suppliers whether the Domestic Content Requirement will be met. Confirm processes to support meeting requirement needed to claim Elective Payment or to support qualifying for one of the Statutory Exceptions to the Domestic Content Requirement for Elective Payment.
6. Assess your own resources and contracts for compliance with Wage and Apprenticeship Requirements.
7. Additional resources: https://www.nrel.gov/docs/fy14osti/59037.pdf

Step 4: Implementation

1. Finalize pre-construction activities including project agreements – financial, contractual, and interconnection.
2. Start construction and equipment installation.
3. Monitor activities to ensure Prevailing Wage and Apprenticeship Requirements compliance and substantiation.
4. Monitor procurement to ensure continued Domestic Content Requirement (or Statutory Exception) compliance and substantiation.
5. Document continuous construction for certain tax benefits.
6. Remain aware of critical filing deadlines and associated requirements – e.g., the need to provide notice to the IRS (pre-filing registration) by a certain timeline to ensure process compliance.

Step 5: Operations and Maintenance

1. Engineering.
2. Ongoing tax compliance.
3. Annual Prefiling registration for PTC projects.
4. Prevailing wage compliance and substantiation.

Additional Resources

- EPA, Renewable Energy Project Development Toolbox – https://www.epa.gov/green-power-markets/renewable-energy-project-development-toolbox

Note: If Internet sites become no longer unavailable, archived copies of these sites can still be found, for example, through the Internet Archive at https://archive.org/.

BLUEPRINT APPENDICES

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APPENDIX 1

Key Terms and Acronyms

Term	Definition
Adjusted Percentage	The percentage of the cost of Manufactured Products in a Facility that must be derived from the costs of Manufactured Products and/or Manufactured Product Components that are made in the United States, for the project to meet the Domestic Content Requirement. (See Blueprint Section E.3.a.)
Annual Table	A table issued annually by the Internal Revenue Service (IRS) of categories and types of generation facilities with a greenhouse gas emissions rate that is not greater than zero. (See Blueprint Section B.1.b.)
Applicable Credit	An energy tax credit for which Elective Payment is an option. (See Blueprint Section B.)
Applicable Entity	A tax-exempt entity, including a public power utility, that can claim Elective Payment of energy-related tax credits. (See Blueprint Section A.)
Applicable Project Component	Components that are integral to the functioning of a project. Generally classified as either a Manufactured Product or as a steel or iron product. (See Blueprint Section E.3.a.) See also, Manufactured Product Component below.
Base Credit	The credit rate applicable to a project that does not meet the Prevailing Wage and Apprenticeship Requirements. (See, e.g., Blueprint Section B.1.)
Beginning of construction (BOC)	The date on which, under IRS guidance, construction commences for tax purposes on an energy project. (See Blueprint Section H.3.)
Build America, Buy America Act (BABA)	An act requiring domestic sourcing of components of a project subsidized in whole or in part by certain federal grants, loans, or loan guarantees. (See Blueprint Section F.2.)
Buy American Act	An act requiring domestic sourcing of products purchased by federal departments and agencies. (See Blueprint Section F.2.)
Carbon dioxide equivalent (CO_2e)	A unit of measurement of carbon emissions used in the Code for determining eligibility for certain energy tax credits. (See Blueprint Section B.1.b.)
Code	The federal tax code, or more formally, the Internal Revenue Code of 1986, as amended.
Direct air capture (DAC)	A method of capturing carbon that takes CO_2 from ambient, or still, air, generally applicable to the section 45Q carbon-capture and sequestration credit. (See Blueprint Section B.4.a.)
Direct pay or payment	A synonym for Elective Payment that is not generally used in this Blueprint to avoid confusion. See Elective Payment below.
Domestic Content Bonus Credit	A bonus credit available to projects meeting the Domestic Content Requirement. (See Blueprint Section E.3.)

Key Terms and Acronyms

Term	Definition
Domestic Content Requirement	A requirement that Applicable Project Components must be produced in the United States. The requirement is used in determining eligibility for a domestic content bonus credit and compliance with the Domestic-Content Requirement for Elective Payment. (See Blueprint Section E.3.)
Elective Payment	A mechanism for tax-exempt entities to monetize certain energy tax credits, by electing to convert the credit into a "deemed" payment of tax and, in turn, claim the deemed payment as a refund on an annual tax return . (See Blueprint Section A.)
Eligible taxpayer	A taxable entity that can claim Elective Payment of certain energy tax credits. (See Blueprint Section A.)
Energy Community Bonus Credit	A bonus credit provided for projects located in an area with (1) a Brownfield site, (2) significant employment or local tax revenues from fossil fuels and higher than average unemployment, or (3) a closed coal mine or coal-fired power plant. (See Blueprint Section E.1.)
Facility	A unit of property used for energy generation and satisfying requirements specific to the underlying tax credit.
Federal Acquisition Regulations (FAR)	The primary set of regulations for use by federal agencies and departments in their acquisition of supplies and services with appropriated funds. (See Blueprint Section F.2.a.)
Federal Transit Administration (FTA)	An agency within the Department of Transportation that supports and oversees public transit systems nationwide with funding and technical assistance and whose implementation of Build America, Buy America provisions can serve as a model for implementation of Domestic Content Requirement. (See Blueprint Section E.3.a.)
Five percent safe harbor	A safe harbor used in determining the Beginning of Construction date for a Facility. (Section H.3.b.)
Good Faith Determination	In the context of Elective Payment, a determination that the taxpayer has in good faith determined that an applicable project qualifies for one of the statutory exceptions to the Domestic Content Requirement for Elective Payment. (See Blueprint Section F.2.)
Greenhouse gas (GHG)	A synonym for carbon emissions – measured as grams of carbon dioxide equivalent ("CO2e") – used in the Code and IRS guidance relating to the section 45Y and section 48E energy tax credits. (See Blueprint Section B.1.b.)
Gross vehicle weight rating (GVWR)	The maximum operating weight of a vehicle as specified by the manufacturer. (See Blueprint Section B.3.b.)
Increased Cost Exception	One of three statutory exceptions to the Domestic Content Requirement for Elective Payment, applicable to cases in which meeting the Domestic Content Requirement would increase overall project cost by more than 25 percent. (See Blueprint Appendix 3.)
Investment tax credit (ITC)	A tax credit equal to a percentage of the cost basis of certain energy facilities, including the section 48 ITC and section 48E clean electricity ITC. (See Blueprint Section B.2.)
Low-Income Communities Bonus Credit	A bonus credit available only by application to the IRS and an award of a credit allocation amount for projects located on Indian land or federally subsidized housing, in low-income communities, or benefiting low-income households. (See Blueprint Section E.1.)
Manufactured Product	An item produced as a result of the manufacturing process. (See Blueprint Appendix 3.)

Key Terms and Acronyms

Term	Definition
Manufactured Product Component	A component of a Manufactured Product that is integral to the functioning of a project. For example, an inverter is a Manufactured Product that is integral to the functioning of a solar photovoltaic Facility; a printed circuit board assembly is a component of an inverter board. (See Blueprint Appendix 3.)
Manufactured product subcomponent	A component of a component of a Manufactured Product. For example, an inverter is a Manufactured Product that is integral to the functioning of a solar photovoltaic Facility, a printed circuit board assembly is a component of an inverter board, and a circuit board is component of that assembly. (See Blueprint Appendix 3.)
Non-availability Exception	One of three statutory exceptions to the Domestic Content Requirement for Elective Payment, applicable to cases in which an item needed to meet the Domestic Content Requirement for Elective Payment is not available in sufficient quantity or quality. (See Blueprint Appendix 3.)
One (or 1) Megawatt Exception	One of three statutory exceptions to the Domestic Content Requirement for Elective Payment, available when a project is of less than one MW in capacity. (See Blueprint Appendix 3.)
Placed in service	A Facility is placed in service on the earlier of the date when (1) depreciation of the Facility begins, or (2) the Facility is placed in a state of readiness, even if not actively used. (See Blueprint Section H.4.)
Physical work test	A test used in determining the Beginning of Construction for a Facility, requiring the performance of significant physical work with subsequent continuous effort of construction through the completion of the project. (See Blueprint Section H.3.a.)
Prevailing Wage and Apprenticeship Requirements	Requirements to pay wage rates, including fringe benefits, determined by the Department of Labor for relevant region and occupations, and to use of apprentices, in the construction, alteration and repair of a Facility, which if met increases the base credit amount by a factor of five. (See Blueprint Section C.)
Production tax credit (PTC)	A tax credit based on annual production of electricity from a qualified Facility measured in kilowatt hours (kWh), including the section 45 PTC and section 45Y clean electricity PTC. (See Blueprint Section B.1.)
Property	A term generally synonymous with Qualified Facility but used in the context of different sections of the Code. For example, Code section 48 refers to energy property, not Qualified Facility.
Project	A term used colloquially to refer to an energy property or qualified Facility. Occasionally, it is used to mean a collection of facilities.
Qualified Facility	A term used to refer to a Facility that meets the requirements of a particular section of the Code, such as the section 45 PTC, section 45Y clean electricity PTC, or section 48E clean electricity ITC. Note that a Qualified Facility in the context of the Code should not be confused with qualifying facility for purposes of Public Utilities Regulatory Policies Act.
Retail price equivalent (RPE)	A retail price measurement provided by the Department of Energy for purposes of determining the incremental cost of classes of clean vehicles under the commercial clean vehicles credit (section 45W). (See Blueprint section B.3.b.)
Statutory Exception	An exception to the Domestic Content Requirement for Elective Payment provided in the Code. (See Blueprint Appendix 3.)
Steel or iron requirement	The Domestic Content requirement that 100 percent of the steel or iron used in a project must be produced in the United States. (See Appendix 3.)

APPENDIX 2

Qualified Property Under the Energy ITC (section 48)

Prior to 2025, the section 48 ITC applied to the following specific types of energy production and storage property[1]:

- *Solar energy property*;
- *Fiber-optic solar property;* (equipment that uses solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight, or electrochromic or dynamic glass that uses electricity to change its light transmittance properties in order to heat or cool a structure);
- *Geothermal property;*
- *Fuel cell property;*
- *Linear generators:* (property that convert fuel into electricity through electromechanical means using a linear generator assembly without the use of rotating parts. The credit for linear generators is limited to systems with a nameplate capacity of at least 1 kW);
- *Microturbine property;* (a power plant that has a nameplate capacity of less than 2,000 kW and an electricity-only generation efficiency of not less than 26 percent at International Standard Organization conditions);
- *Combined heat and power property;* (a system that uses the same energy source for the simultaneous or sequential generation of electrical power, mechanical shaft power, or both, in combination with the generation of steam or other forms of useful thermal energy (including heating and cooling applications);
- *Small wind property* (wind turbine that has a nameplate capacity of not more than 100 kW);
- *Offshore wind property;*
- *Geothermal heat pump property;*
- *Waste energy recovery property;* (property that generates electricity solely from heat from buildings or equipment if the primary purpose of such building or equipment is not the generation of electricity);
- *Energy storage technology;* (including batteries and other storage technologies that store energy for conversion to electricity and have a minimum capacity of five kWh, or that store energy to heat or cool a structure);

- *Biogas property;* (property that converts biomass into a gas that consists of, or is concentrated into, not less than 52 percent methane by volume and captures such gas for sale or productive use and not for flaring);
- *Microgrid controllers;* (property that controls the energy resources of a microgrid capable of operating as a single controllable entity independent from the electrical grid); and
- *Interconnection property;* (includes interconnection property relating to the installation of energy property (excluding microgrid controllers) that has a maximum net output of less than five MW).

The Base Credit for energy property is six percent of the qualifying basis of the property, with an Increased Credit of 30 percent for small capacity projects (i.e., less than one MW) and projects satisfying the Prevailing Wage and Apprenticeship requirements. For microturbines, Base Credit is two percent and an Increased Credit of 10 percent.

For geothermal heat pump property, which continues to qualify for the section 48 ITC through 2032, the credit amounts are as follows:

Construction Beginning	Base Credit	Increased Credit
Before January 1, 2033	6%	30%
In 2033	5.2%	26%
In 2034	4.4%	22%
After 2034	No credit	No credit

Rules apply to the ITC requiring recapture of some, or all of, the credit amount if certain events occur within the five-year period after the facility is placed in service. Recapture events include the sale of the facility, failure to comply with the Prevailing Wage and Apprenticeship Requirements for subsequent repairs, or the facility ceasing to qualify for the investment credit.[2]

The section 48 credit only applies to projects beginning construction before January 1, 2025 (except for geothermal heat pump property, as described above).

[1] 26 C.F.R. 1.48-9.

[2] See 26 USC 50(a).

APPENDIX 3

Domestic Content Bonus Credit

Domestic-Content Bonus Credit Overview

For an energy project qualifying for the section 45 PTC, section 45Y clean electricity PTC, section 48 ITC, or section 48E clean electricity ITC, if the project meets the Domestic Content Requirement, then the project qualifies for the Domestic Content Bonus Credit. The Domestic Content Requirement is challenging from a supply-chain and compliance standpoint, including layers of exceptions, and complexity at almost every level. The Blueprint attempts to describe this regime as clearly as possible along with its multiple safe harbors, but Applicable Entities are encouraged to use additional guidance where available and outside professional guidance in any case.

Additionally, an Applicable Entity might rely on outside experts and contractors in navigating these complex rules. For example, an Applicable Entity could issue a request for proposal (RFP) that requires bidders to be able to certify compliance with the requirements. Where a project developer is being retained, the RFP could require the developer to comply with the requirement and supply the appropriate proof and documentation necessary for the owner.

Table 3.A. – Domestic Content Bonus Credit for PTC Projects

	For a Project Eligible for 0.6 Cents / kWh Base Credit	For a Project Eligible for 3.0 Cents / kWh Increased Credit*
Domestic-Content Bonus	0.06 cents / kWh	0.30 cents / kWh
Total Credit	0.66 cents / kWh	3.30 cents / kWh

*The increatsed credit is avalabale for a project satisfying the prevailing wage and apprentiship requirements. (See Section C of the Blueprint.

Table 3.B. – Domestic Content Bonus Credit for ITC Section 48/48E ITC Projects

	For a Project Eligible for 6% Base Credit	For a Project Eligible for 30% Increased Credit*
Domestic Content Bonus	2 percentage points	10 percentage points
Total Credit	8%	40%

* The increased credit is available for a project satisfying the prevailing wage and apprenticeship requirements (See section C of the Blueprint).

To satisfy the Domestic Content Requirement, 100 percent of the structural steel and iron used as components in an energy facility must be produced in the United States (Steel or Iron Requirement). In addition, a certain "Adjusted Percentage" of the Manufactured Products in an energy facility must be sourced from the United States.[3] Taxpayers confirm compliance with the Domestic Content Requirement for purposes of claiming the Domestic Content Bonus Credit when filing a return claiming the Applicable Credit. For example, line 9 of Form 8835, Renewable Electricity Production Credit, asks "Does the property qualify for the domestic-content bonus credit?" If the answer is "yes," the taxpayer is instructed to attach a statement affirming that the requirements have been satisfied, and that Applicable Entity affirms, under penalty of perjury, that to the best of its knowledge and belief that the statement "is true, correct, and complete."

For projects meeting the Domestic Content Requirement, the Applicable Credit amounts can be found in Table 3.A. and 3.B. above.

Finally, the terminology relevant to the Domestic Content Requirement can be quite confusing. Table 3.C. below provides a "taxonomy" of the terms used to describe a project and its components for purposes of the domestic-content requirements.

[3] 26 USC 45(b)(9)(B)(i).

Table 3.C: "Taxonomy" of an Applicable Project

IRS Terms	Explanation	Example #1	Example #2
Applicable Project	Includes qualified facilities, energy projects or storage technologies. It generally refers to the portion of the construction project that generates a credit under the respective section of the IRA.	A solar farm	A wind farm
Property and/or Facility	Includes components of the Applicable Project that are operated together, but that can be operated apart from other property.	Solar panels connected to a common inverter	A wind turbine unit
Applicable Project Component	Any article, material or supply that is directly incorporated into the Applicable Project, which may include Manufactured Products or steel or iron products.	• PV Module • Inverter • Racking • Foundation	• Wind turbine • Wind tower flanges • Tower • Foundation
Manufactured Product Component	Component of a Manufactured Product that is integral to the functioning of the project.	Inverter components include: • Printed circuit board assemblies • Thermal management • Enclosure	Wind turbine components include: • Nacelle • Blades • Rotor • Hub • Power converter
Manufactured Product Subcomponents	Component of a component of a Manufactured Product that is integral to the functioning of the project.	Printed circuit board assembly components: • Printed circuit board • Capacitors • Resistors	Wind turbine nacelle components: • Drive train assembly • Generator • Main bearing

Steel or Iron Requirement

Under the "Steel or Iron Requirement" of the Domestic Content Requirement, 100 percent of the steel or iron used in the project must be produced in the United States. The Steel or Iron Requirement generally aligns with the Federal Transit Administration ("FTA") regulations implementing Buy American requirements.[4] Under exiting IRS guidance, the Steel or Iron Requirement "applies to Applicable Project Components that are construction materials made primarily of steel or iron and are structural in function."[5]

The structural function of the component is a key factor, as the Steel or Iron Requirement does not include steel or iron used as components or

[4] 49 CFR 661.5. While the IRS has looked to the FTA's regulations to assist in evaluating certain project components, the IRS has not indicated that the FTA regulations or related guidance may be relied upon for purposes of determining the domestic-content bonus credit. See IRS Notice 2023-38, 3.04, https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

[5] IRS Notice 2023-38, 3.02, https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

subcomponents of other Manufactured Products that are non-structural in nature. For example, items such as nuts, bolts, screws, washers, cabinets, covers, shelves, clamps, fittings, sleeves, adapters, tie wire, spacers, door hinges, and similar items that are made primarily of steel or iron but are not structural in function are not subject to the Steel or Iron Requirement.[6]

Manufactured Products

As noted above, a certain Adjusted Percentage of the Manufactured Products in an energy facility must be sourced from the United States. The Adjusted Percentage reflects the portion of the total costs of a facility's Manufactured Products. The specific Adjusted Percentage is based on the year in which the facility begins construction and the underlying credit being claimed (e.g., PTC, ITC).

This "Adjusted Percentage Rule" will be described in greater detail below, but generally it requires that a minimum percentage of the Manufactured Products and/or Manufactured Product Components (on a cost basis) be in the United States.

The existing IRS guidance defines a Manufactured Product as "an item produced as a result of the manufacturing process."[7] In turn, a Manufactured Product is typically made up of various components, which the IRS guidance defined as "any article, material, or supply, whether manufactured or unmanufactured, that is directly incorporated into … a Manufactured Product."[8]

For purposes of the Domestic Content Requirement, a Manufactured Product is treated as being produced in the United States (i.e., a domestic Manufactured Product) if:

1. All the manufacturing processes for the product take place in the United States.; and
2. All the Manufactured Product Components of the Manufactured Product are of U.S. origin.[9]

At the level of a Manufactured Product Component, it is treated as having a U.S. origin (i.e., a domestic Manufactured Product Component) if it is manufactured in the United States regardless of the origin of its "subcomponents" (i.e., the components used to build the Manufactured Product Component).[10] For example, U.S. company X manufactures an inverter that is an Applicable Project Component of Solar Project Y, and the manufacturing processes take place in the United States. If the circuit board assembly, thermal control, and enclosure used in the inverter are all of U.S.

[6] IRS Notice 2023-38, 3.02, https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

[7] IRS Notice 2023-38, 3.02(c), https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

[8] IRS Notice 2023-38, 3.02(d), https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

[9] IRS Notice 2023-38, 3.03(1), https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

[10] IRS Notice 2023-38, 3.03(1), https://www.irs.gov/pub/irs-drop/n-23-38.pdf.

origin, the inverter would be a domestic Manufactured Product even if some the components have subcomponents that are foreign sourced (for example, the circuit board used to build the circuit board assembly).

Under the Adjusted Percentage Rule, the Domestic Content Requirement is satisfied if the domestic content percentage for the project exceeds the "Adjusted Percentage" that applies to the project. The domestic content percentage equals the total cost of Manufactured Products and Manufactured Product Components (excluding labor costs) that are mined, produced, or manufactured in the United States divided by the total cost of the Manufactured Products (excluding labor costs) of the project. Written as a mathematical equation that is:

$$\text{Domestic Content Percentage} = \frac{\text{Domestic Manufactured Product Cost} + \text{Domestic Manufactured Product Components Cost}}{\text{Total Manufactured Product Cost}}$$

If the domestic cost percentage for an Applicable Project equals or exceeds the Adjusted Percentage that applies to the applicable project, the project satisfies the Adjusted Percentage Rule.

The Adjusted Percentage required for an applicable project claiming the section 45 PTC, section 48 ITC, or section 48E ITC, is fixed at 40 percent (20 percent for offshore wind). The Adjusted Percentage required for an applicable project claiming the section 45Y PTC increases over time – see Tables 3.D. and 3.E. below.

Table 3.D: Adjusted Percentage for Section 45Y PTC

For projects beginning construction	Adjusted percentage
Before January 1, 2025	40 percent
In calendar year 2025	45 percent
In calendar year 2026	50 percent
After December 31, 2026	55 percent

Table 3.E: Adjusted Percentage for Section 45Y PTC (Offshore Wind)

Projects beginning construction	Adjusted percentage
Before January 1, 2025	20 percent
In calendar year 2025	27.5 percent
In calendar year 2026	35 percent
In calendar year 2027	45 percent
After December 31, 2027	55 percent

As noted above, the Adjusted Percentage is calculated based on Manufactured Product cost. For this purpose, the IRS defines "cost" not as the cost to the consumer, but as the "direct cost" of the supplier of the component, exclusive of the supplier's labor costs.[11]

Domestic Content Requirement Example

The owner of Project A will claim a section 48 ITC for the project, which has two Applicable Project Components that are Manufactured Products – Manufactured Product 1 and Manufactured Product 2. All the steel and iron used in the project that is structural in function is produced in the United States.

Manufactured product 1 is manufactured in the United States and has two Manufactured Product Components (Manufactured Product Components 1A and 1B) that are manufactured in the United States. As a result, Manufactured Product 1 is a U.S. Manufactured Product because it and both of its Manufactured Product Components are produced in the United States.

Manufactured Product 2 is manufactured in the United States and has three Manufactured Product Components. Manufactured Product 2's first two Manufactured Product Components (Manufactured Product Component 2A and 2B) are manufactured in the United States. Its third Manufactured Product Component (Manufactured Product Component 2C), however, is manufactured outside of the United States. Manufactured Product 2 is not a U.S. Manufactured Product because component 2C is manufactured outside of the United States. However, Manufactured Product Components 2A and 2B are U.S. Manufactured Product Components because they are manufactured in the United States.

Because Manufactured Product 2 is a not a U.S. Manufactured Product, Project A does not **automatically** meet the domestic-content requirement. However, it *still may be deemed* to qualify if its domestic content percentage meets or exceeds the applicable percentage.

[11] For a more detailed explanation of the distinction between direct and indirect costs, see 26 CFR 1.263A-1(e)(3)(i). Generally, direct costs include items such as raw materials, while indirect costs include overhead expenses.

Example Table 3.F:

Asset	Domestic or Non-Domestic	Direct Cost
Manufactured Product 1	Domestic	$100
-- Component 1A	Domestic	30
-- Component 1B	Domestic	45
Direct production costs	Domestic	25
Manufactured Product 2	Non-Domestic	$200
-- Component 2A	Domestic	30
-- Component 2B	Domestic	50
-- Component 2C	Non-Domestic	100
Direct production costs	Domestic	$20

As shown in Example Table 3.F. above, the total Manufactured Products cost of Project A consists of the cost of Manufactured Product 1 ($100) and Manufactured Product 2 ($200) for a total of $300. Note that direct production costs are included in the calculation of the Manufactured Product cost but would not be considered a separate component of the Manufactured Product for purposes of the domestic-content percentage calculation shown below.

The domestic content percentage for Project A equals:

$$\frac{\text{Domestic Manufactured Product Cost + Domestic Manufactured Components Cost}}{\text{Total Manufactured Product Cost}}$$

Or

$$\frac{\$100 + \$30 + \$50}{\$300} = \frac{\$180}{\$300} = 60\%$$

As a result, Project A satisfies the Adjusted Percentage Rule because its domestic cost percentage of 60 percent exceeds the 40 percent Adjusted Percentage for a section 48 project. Because the project meets the Adjusted Percentage Rule, Manufactured Products 1 and 2 are both deemed to have been produced in the United States. Accordingly, since the structural steel and iron are U.S. sourced and the Manufactured Products are deemed to be U.S. sourced by virtue of satisfying the Adjusted Percentage Rule, the project meets the Domestic Content Requirement that all steel/iron and Manufactured Products be produced or deemed produced in the United States.

IRS guidance[12] also provides an alternative approach for determining the domestic cost percentage for projects claiming the section 48 ITC and comprised of solar photovoltaic (PV) and battery energy storage system (BESS). Because the section 48 ITC is only available for projects that begin construction before January 1, 2025, this alternative formula will not be addressed in this Appendix.

Safe Harbor Categorization of Steel/Iron and Manufactured Products

Currently, there is little IRS guidance with respect to the Domestic Content Requirement and the fact-intensive process required to determine whether a particular project meets the specific sourcing requirements. However, the IRS has released guidance providing safe-harbor classifications of certain project components as either steel/iron or a Manufactured Product for major project types, including:

- Ground-mount and rooftop PV systems;
- Land-based wind facilities;
- Offshore wind facilities;
- Battery energy storage; and
- Hydropower or pumped hydropower storage facilities.[13]

For example, for a ground-mount and rooftop PV project, the IRS guidance provides the following table:

[12] IRS Notice 2024-41, 13-15, 17-18, https://www.irs.gov/pub/irs-drop/n-24-41.pdf.

[13] See IRS Notice 2023-38, 3.04 and Table 2, https://www.irs.gov/pub/irs-drop/n-23-38.pdf; IRS Notice 2024-41, 3.02 and Table 2, https://www.irs.gov/pub/irs-drop/n-24-41.pdf.

Table 3.G. – Categorization of Applicable Project Components of a Photovoltaic System

Project Component	Categorization
Steel photovoltaic module racking	Steel/Iron
Pile or ground screw	Steel/Iron
Steel or iron rebar in foundation (e.g., concrete pad)	Steel/Iron
Photovoltaic tracker	Manufactured product
Inverter	Manufactured product
Photovoltaic module, including the following Manufactured Product Components: Photovoltaic cells; Mounting frame or backrail; Encapsulant; Backsheet; Junction box (including pigtails and connectors); Edge seals; Pottants; Adhesives; Bus ribbons; and Bypass diodes.	Manufactured product

For technologies not covered by the IRS guidance, for example, biogas or geothermal, the Applicable Entity will have to make a reasoned determination of: what project components need to be taken under consideration; whether those components should be considered steel or iron or a Manufactured Product; and and the direct costs (excluding labor costs) of those Manufactured Products and potentially Manufactured Product Components to assess whether the project meets the Domestic Content Requirement.

Safe Harbor for Domestic Cost Percentage Calculation

Project sponsors often have difficulty obtaining direct costs from suppliers (exclusive of labor costs) for all Manufactured Products, and likely all Manufactured Product Components, that comprise a project in order to calculate the domestic cost percentage. Specifically, the IRS has noted it recognizes that "obtaining a manufacturer's direct costs of manufacturing may require the taxpayer to gather cost data from multiple suppliers and manufacturers, including foreign manufacturers, and may present challenges for substantiation and verification."[14]

Recognizing this challenge, the IRS has provided a safe harbor for purposes of calculating the domestic cost percentage and in turn satisfying the Adjusted Percentage Rule. Specifically, IRS guidance provides a table indicating the percentage of total Manufactured Products cost that can be attributed to specific Manufactured Products and Manufactured Product Components (assigned cost percentage). These assigned cost percentages are available for:

- Solar PV systems,
- Land-based wind property, and
- Battery electric storage systems.[15]

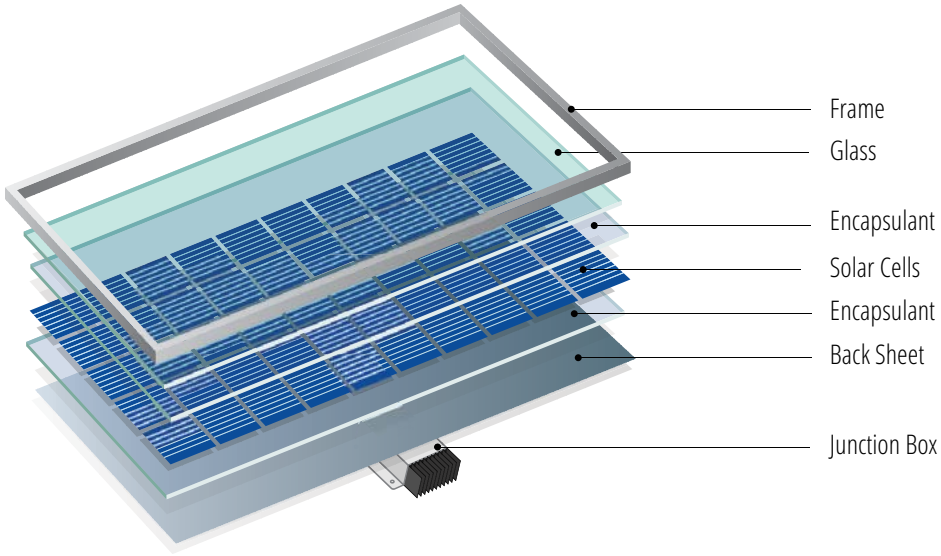
For example, in the case of a PV module of a fixed solar PV ground-mount project, Table 3.H. below lists the assigned cost percentage provided by IRS for PV module components. In addition, the safe harbor also provides an assigned cost percentage for the direct production cost of the PV module, eliminating the need for the project sponsor to obtain the direct costs (exclusive of labor costs) from the manufacturer. Accordingly, the assigned cost percentages substantially simplify the determination of the total cost percentage attributable to the PV module.

14 IRS Notice 2024-41, 3.01, https://www.irs.gov/pub/irs-drop/n-24-41.pdf.

15 IRS Notice 2024-41, 3.03 and 3.04 tables, https://www.irs.gov/pub/irs-drop/n-24-41.pdf. IRS Notice 2025-08 modifies the elective safe-harbor by updating and expanding the cost-percentage tables and provides definitions for representative types of applicable projects as well as applicable project components and Manufactured Product Components, https://www.irs.gov/pub/irs-drop/n-25-08.pdf.

Table 3.H. – Assigned Cost Percentages for Components of a PV Module for a Ground Mount, Fixed Solar PV Project

Manufactured Product Component of PV Module	Assigned Cost Percentage
Cells	53.2
Frame/Backrail	8.5
Front Glass	8.4
Encapsulant	5.4
Backsheet/Backglass	5.4
Junction Box	1.4
Edge Seals	0.4
Pottants	0.4
Bus Ribbons	2.1
Bypass Diodes	0.6
Production	6.7
TOTAL Percentage of "Project Total Manufactured Cost" of PV Module	**92.5**



For example, if the cells and bus ribbons for a ground-mounted fixed solar project were produced in the United States, the project sponsor could – without any further information – determine that the domestic content percentage would be at least 55.3 percent (53.2 percent + 2.1 percent = 55.3 percent). In turn, the project would exceed the 40-percent applicable percentage for sections 45, 48, and 48E, and the 55-percent applicable percentage for section 45Y for projects beginning construction after December 31, 2026.

IRS guidance also provides a formula to allow the assigned cost percentage for a Manufactured Product or Manufactured Product Component to be used when the item is sourced from both domestic and non-domestic sources. Because the formula uses nameplate capacity to prorate the assigned cost percentage, it is only available where the item has a nameplate capacity: a solar cell has a nameplate capacity, for example, while the front glass does not.

The assigned cost percentages also provide something of a reality check as to a project's ability to meet the Domestic Content Requirement depending on the availability of particular components. For example, if the taxpayer could not source U.S. produced PV cells, it would be mathematically impossible to meet the applicable percentage (50 percent and 55 percent thresholds) under section 45Y for projects beginning construction after 2025. And where the applicable percentage is 40 percent, unless the cells are produced in the United States, almost every component of the PV module and inverter would have to be produced in the United States for the domestic-cost percentage of the total project to exceed 40 percent.

Additional Resources

- IRS Notice 2023-38, Domestic Content Bonus Credit Guidance under Sections 45, 45Y, 48, and 48E – https://www.irs.gov/pub/irs-drop/n-23-38.pdf;
- IRS Notice 2024-41, Domestic Content Bonus Credit Amounts under the Inflation Reduction Act of 2022: Expansion of Applicable Projects for Safe Harbor in Notice 2023-38 and New Elective Safe Harbor to Determine Cost Percentages for Adjusted Percentage Rule – https://www.irs.gov/pub/irs-drop/n-24-41.pdf; and
- IRS Notice 2025-08, Domestic Content Bonus Credit Amounts under the Inflation Reduction Act of 2022: First Updated Elective Safe Harbor modifying Notice 2024-41, https://www.irs.gov/pub/irs-drop/n-25-08.pdf.

APPENDIX 4

ITC versus PTC

Public power utilities that are contemplating using Elective Payment as part of the installation of energy facilities have a decision to make about the form of federal tax incentive to pursue. The primary decision is whether to claim the Clean Electricity ITC or PTC. Each has different characteristics and time horizons, and a thorough economic and financial analysis of each incentive can influence the ultimate decision of how to proceed with the renewable project.

Potential ITC Levels

As discussed in section B.2, the value of the Clean Electricity ITC can vary widely – ranging from six percent to 70 percent depending on the project qualifications and applicable bonus credits. Specifically, owners of a qualified facility receive, as a base incentive, a credit equal to six percent of the qualified costs. The credit increases to 30 percent for projects meeting the Prevailing Wage and Apprenticeship requirements. The Energy Community Bonus Credit, Low-Income Communities Bonus Credit, and Domestic Ccontent Bonus Credit are also available. However, to claim Elective Payment, the Domestic Content Requirement must be met for projects that do not otherwise qualify for one of the Statutory Exceptions to the Domestic Content Requirement. Additionally, the value of the credit is reduced where the project is financed with tax-exempt debt.

Finally, as discussed in Section H.1, not all project costs can be included when calculating the ITC. Generally, the accounting "basis" is considered the "qualified costs" of the energy property. It also relies on the concept of "functional interdependence" – meaning only the cost of separate components that are functionally interdependent with the central energy property can be included as a qualified costs. Applicable Entities should seek guidance from a tax or accounting professional to confirm what costs are included and excluded from the energy property.

The following table details a range of credit percentages that could be received for a project claiming the ITC. These levels are based on the nature of financing for the project, the ability to meet the Prevailing Wage and Apprenticeship Requirements and the Domestic Content Requirement, and qualification for the various bonus credits.

Table 4.A. – Section 48/48E Sample Calculation

The following table illustrates the potential ITC for a 10 MW PV solar project under various circumstances.

The table assumes that the project:

- 10 MW capacity costing (based on Energy Information Administration data on average construction cost) $16 million;
- Meets the requirements of the ITC;
- Qualifies for one of the Statutory Exceptions to the Domestic Content Requirement for election payment unless otherwise specified; and
- Uses no tax-exempt financing unless otherwise specified.

Scenario (Based on $16 million of Qualified Costs)	ITC Percent	ITC ($s)
Fails to meet Prevailing Wage and Apprenticeship Requirements.	6.0	$960,000
Fails to meet Prevailing Wage and Apprenticeship Requirements. Located in an energy community.	8.0	$1,280,000
Meets Prevailing Wage and Apprenticeship Requirements.	30.0	$4,800,000
Meets Prevailing Wage and Apprenticeship Requirements. Financed with tax-exempt debt (reducing credit by 15%, i.e., 4.5 percentage points).	25.5	$4,080,000
Meets Prevailing Wage and Apprenticeship Requirements. Located in an energy community.	40.0	$6,400,000
Meets Prevailing Wage and Apprenticeship Requirements. Located in an energy community. Meets D omestic Content Requirement.	50.0	$8,000,000
Meets Prevailing Wage and Apprenticeship Requirements. Located in an energy community. Meets Domestic Content Requirement. Financed with tax-exempt debt (reducing credit by 15%, i.e., 7.5 percentage points).	42.5	$6,800,000

Potential PTC Levels

As discussed above, the value of the PTC can also vary widely. Specifically, owners of a qualified facility can receive a Base Credit of 0.6 cents per kWh ($6 per MWh), or an Increased Credit of 3 cents per kWh ($30 per MWh) for projects meeting the Prevailing Wage and Apprenticeship Requirements. These amounts are adjusted for inflation annually. The Energy Community Bonus Credit and Domestic Content Bonus Credit are also available, but not the Low-Income Communities Bonus credit. To claim Elective Payment, however, the Domestic Content Requirement must be met, unless the projects qualifies for one of the three Statutory Exceptions to the Domestic

Content Requirement for Elective Payment.. Additionally, the value of the credit is reduced where the project is financed with tax-exempt debt.

The following table details a range of credit rates that could be received for a project claiming the PTC. These levels are based on the nature of financing for the project, the ability to meet the Prevailing Wage and Apprenticeship Requirements and the Domestic Content Requirement, and qualification for the various bonus credits.

Table 4.B. – Section 45/45Y Sample Calculation

The table assumes that the project:

- 2024 inflation adjusted base credit rate of 6.00 cents per kWh (or $6.00 per MWh);
- Meets the requirements of the PTC;
- Qualifies for one of the Statutory Exceptions to the Domestic Content Requirement for election payment unless otherwise specified; and
- Uses no tax-exempt financing unless otherwise specified.

Scenario	PTC Rate
Fails to meet Prevailing Wage and Apprenticeship Requirements.	$6.00 / MWh
Fails to meet Prevailing Wage and Apprenticeship Requirements. Located in an energy community.	$6.60 / MWh
Meets Prevailing Wage and Apprenticeship Requirements.	$30.00 / MWh
Meets Prevailing Wage and Apprenticeship Requirements. Financed with tax-exempt debt (reducing credit by 15%, i.e., 4.5 percentage points).	$25.50 / MWh
Meets Prevailing Wage and Apprenticeship Requirements. Located in an energy community.	$33.00 / MWh
Meets Prevailing Wage and Apprenticeship Requirements. Located in an energy community. Meets Domestic Content Requirement.	$36.00 / MWh
Meets Prevailing Wage and Apprenticeship Requirements. Located in an energy community. Meets Domestic Content Requirement. Financed with tax-exempt debt (reducing credit by 15%, i.e., 7.5 percentage points).	$30.60 / MWh

For the PTC, however, establishing the credit rate is just part of the calculation of the credit, as the amount of production determines the total amount of the credit. Complicating the math further is the fact that the credit is paid out over the first 10 years of a facility's operations, and the credit rate is adjusted for inflation every year. Table 4.C. demonstrates how these factors are taken into consideration and result in a final credit amount.

Table 4.C. – Potential Section 45/45Y for 10 MW Solar Farm with a 25 Percent Capacity Factor

For purposes of calculating production, this table assumes a 10 MW energy property with an assumed capacity factor of 25 percent. As a result, the project generates electricity for 2,190 of the 8,760 hours of the year with an initial annual nameplate production of 21,900 MWh. However, the table also assumes that over time the facility becomes less efficient, losing an additional 0.5 percentage points of production every year after the first year of operation.

In calculating the credit rate, the table assumes that the project meets the Prevailing Wage and Apprenticeship Requirements, qualifies for one of the statutory exceptions to the Domestic Content Requirements for Elective Payment, and is financed with tax-exempt debt. As a result, as described in Table 4.B, the project would have a 2024 inflation adjusted rate of 2.55 cents per kWh ($25.5 per MWh). Finally, the table assumes that to adjust for inflation, the PTC rate increases by three percent every year.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Nameplate production (MWH)	21,900 MWh	21,900 MWh	21,900 MWh	21,900 MWh	21,900 MWh	21,900 MWh	21,900 MWh	21,900 MWh	21,900 MWh	21,900 MWh
Degradation factor (%)	0	-0.5%	-1.0%	-1.5%	-2.0%	-2.5%	-3.0%	-3.5%	-4.0%	-4.5%
Degradation factor (MWh)	0	-110 MWh	-219 MWh	-329 MWh	-438 MWh	-548 MWh	-657 MWh	-7675 MWh	-876 MWh	-986 MWh
Expected Production	**21,900 MWh**	**21,791 MWh**	**21,681 MWh**	**21,572 MWh**	**21,462 MWh**	**21,353 MWh**	**21,243 MWh**	**21,134 MWh**	**21,024 MWh**	**20,915 MWh**
Inflation Adjusted PTC (per MWh)	$25.50	$26.27	$27.05	$27.86	$28.70	$29.56	$30.45	$31.36	$32.30	$33.27
Expected PTCs	$558,450	$572,327	$586,535	$601,080	$615,970	$631,212	$646,814	$662,784	$679,131	$695,861
Total PTCs over 10 Years	**$6,250,164**									

Additional Considerations for Pursuit of the ITC or the PTC

The 10 MW solar project described in Tables 4.A., 4.B., and 4.C. costing roughly $16 million to build could result in, assuming a 30 percent ITC and $25.50 per MWh PTC):

- ITC of $4.08 million or
- PTC of $6.25 million.

The choice seems clear, but the owner also must take into consideration the time value of money. Assuming it takes one year from the date the unit

is placed in service until an Elective Payment refund is received, and a five percent "cost of capital":

- The value of the ITC is closer to $3.9 million; but
- The value of the PTC is closer to $4.8 million since the incentives are received over a decade.

Even then, the owner must take into consideration additional risks that affect the amount of credit that might be received. In general, there are risks to any Applicable Entity seeking Elective Payment for either an ITC or PTC, such as supply chain and compliance risks associated with meeting the Domestic Content Requirements. Generally, these risks are knowable, quantifiable, and controllable, or if not controllable potentially recoverable risks that are not unique to either credit.

However, there are some risks that are unique. For example, as noted above, recapture rules apply to the ITC requiring recapture of some or all the credit amount if certain events occur within the five-year period beginning when the facility is placed in service. Recapture events include the disposition of the facility, failure to comply with the Prevailing Wage and Apprenticeship Rules for subsequent alterations and repairs, or the facility ceasing to qualify for the investment credit.[16] Likewise, the value of the PTC is based upon the facility's performance over the 10-year period during which the credit can be claimed. If the facility underperforms expectations, the amount of the credit received also would be reduced.

Finally, both credits share payment risk. Under federal budgetary rules, Elective Payments are not treated like a regular tax refund, but a payment. These payments are sheltered from certain automatic federal budget cuts, but not from others. Specifically, if Congress passes entitlement or tax legislation that increases the deficit, across-the-board spending cuts called sequestration could be triggered, adversely affecting payments with respect to Elective Payment tax credits. Congress has never allowed Pay-As-You-Go sequestration to take effect – always voting to waive the rules. Still, it is a risk. More importantly, because the ITC is claimed in one year, but the PTC is claimed over 10 years, for purposes of comparing the ITC and PTC, the risk of non-payment – however small – weighs more heavily on the PTC.

[16] *See* 26 USC 50(a).

APPENDIX 5

Tax-Exempt versus Taxable Financing Sample Calculations

As noted in section G.1., the value of certain tax credits is reduced for projects financed with tax-exempt debt. This affects the energy ITCs and PTCs, the section 45Q credit for carbon capture and sequestration, and the section 45V credit for clean hydrogen. The formula for calculating that reduction varies, but Elective Payment tax credits generally are reduced by up to 15 percent for a project financed with tax-exempt debt. Specifically, with respect to bond-financed facilities, any credit for which Elective Payment is to be claimed is reduced by the *lessor of:*

- 15 percent or
- The percentage comprised of:

$$\frac{\text{Amount of tax-exempt financing of the facility}[17]}{\text{Aggregate amount of additions to the capitol account for such facility.}}$$

For example, assume Project X costs $10 million, qualifies for a $3 million ITC, and is financed entirely with tax-exempt bonds. Under the limitation above, the $3 million credit would be reduced by 15 percent or $450,000. Conversely, if only $1 million of the project were financed with tax-exempt bonds, then the credit would be reduced by $300,000 ($1 million divided by $10 million is 10 percent, and 10 percent of $3 million is $300,000). So, the "lessor of" comparison is important.

On its face, this rule appears to discourage the use of tax-exempt financing. However, much of the decision of whether to finance a project with taxable or tax-exempt debt will fall to debt-market conditions. For example, if the taxable rate and tax-exempt rate are relatively close, then it might make sense to issue taxable debt since this allows for a larger incentive even when considering the higher amount of taxable debt service. Market conditions can fluctuate on a real-time basis, so this is a dynamic analysis that should be conducted frequently as the decision of what type of debt to issue and the actual issuance of debt date approaches.

The factors to consider in this analysis are:

- The difference in debt service between a taxable borrowing versus a tax-exempt borrowing and
- The difference in the credit with no reduction (taxable debt) and the credit with a 15 percent reduction (tax-exempt debt).

[17] For purposes of this calculation, the numerator includes bond proceeds that are used for capital expenditures of qualified facilities but does not include proceeds that are used for other purposes, such as reserve funds.

For example, a project with $10 million in qualified costs and the following assumptions:

- The owner project uses $1 million in cash to start the project;
- $9 million in debt is incurred to cover the remainder of project costs; and
- The debt has a 20-year term with level debt service (i.e., equal annual payments of principle and interest);
  - At a 4.25 percent rate for tax-exempt debt, the annual debt service would be $676,979; but
  - At 5.25 percent rate for taxable debt, the annual debt service would be $737,571.

Based on these assumptions, Table 5.A. compares the costs of issuing tax-exempt versus taxable debt.

Table 5.A. ITC Tax-Exempt vs. Taxable Debt Comparison

	Tax-Exempt Debt	Taxable Debt	Difference
Annual Debt Service	*676,979*	*737,571*	*60,592*
Total Debt Service	13,539,570	14,751,411	1,211,841
ITC	(2,550,000)	(3,000,000)	-450,000
Cash	1,000,000	1,000,000	0
Total Cost Net of Credit and Debt Service	11,989,570	12,751,411	761,841

Tax-exempt financing appears here, then, to be the better value by $761,841 over the 20-year life of the loan. However, the time value of money also plays a factor. For example, assuming a five percent discount rate, the $450,000 in additional ITC will be worth $1,142,542 by the end of the 20-year loan, whereas the annual savings in interest payments from issuing tax-exempt debt will accrue to just $991,152, a $151,391 difference in favor of issuing taxable debt.

The same analysis can be conducted with the PTC and again the time value of money adds another layer of complexity. The chart is too large and too complicated to include, but the loss of the value of the tax credit because of tax-exempt financing will matter only in the project's first 10 years when PTCs are being earned. Thereafter, the difference in annual debt service will be driven entirely by the lower interest rate paid on tax-exempt debt. As a result, a project financed over 20 years, for which tax-exempt financing appears (in nominal dollars) to be the less expensive option, might be more expensive when taking into consideration the time value of money.

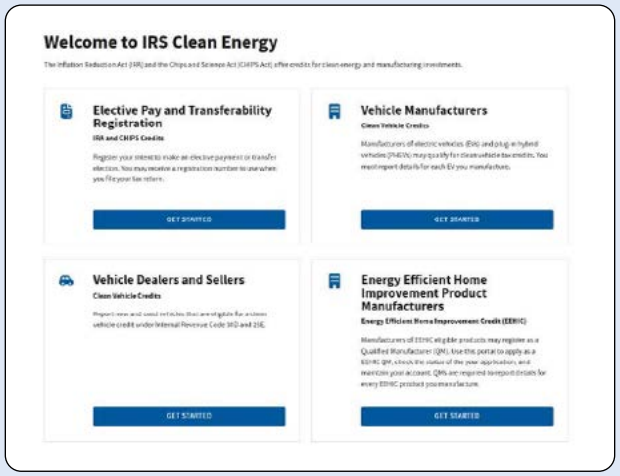
The above discussion demonstrates how various assumptions can quickly change the relative cost of financing with tax-exempt or taxable debt. More importantly, the examples demonstrate the complexity of such analyses, giving the reader an idea of whether they have the necessary staffing resources or might require outside assistance.

APPENDIX 6

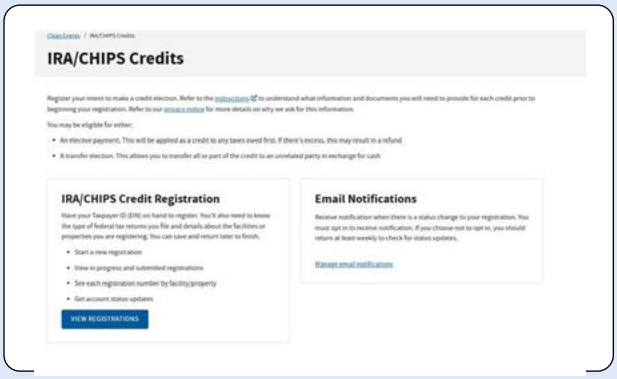
Navigating the Pre-Filing Registration Tool

The following screenshots are intended to show the major steps in navigating the pre-filing registration tool. It is not an exhaustive list of all steps, and all data required to be submitted.

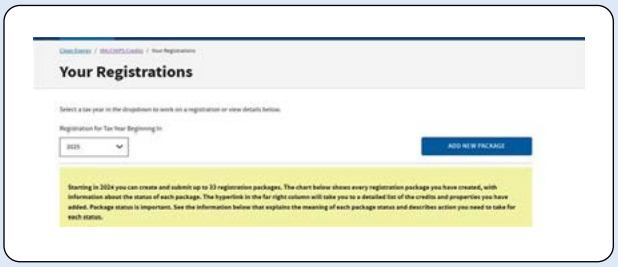
Screen 1:
Pre-Filing Registration Tool Landing Page



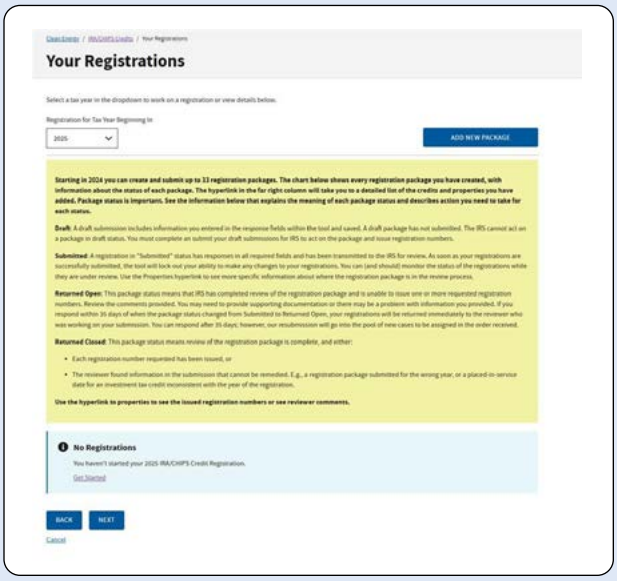
Screen 2:
Elective Pay Landing Page



Screen 3:
Select the open year for applicable registration. 2023 is still open due to IRS action to extend registration window.

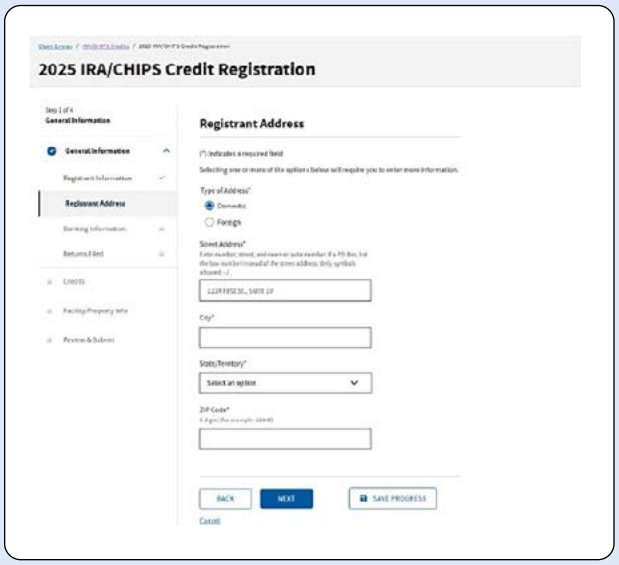


Screen 4:
Scroll to bottom of page and select "Get Started" on the registration.



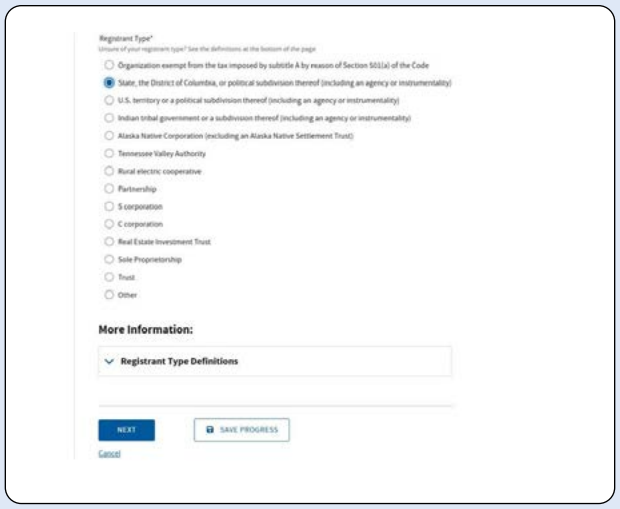
Screen 5:

Enter the general data indicated in the Tool. Navigate from page to page submitting the information indicated.



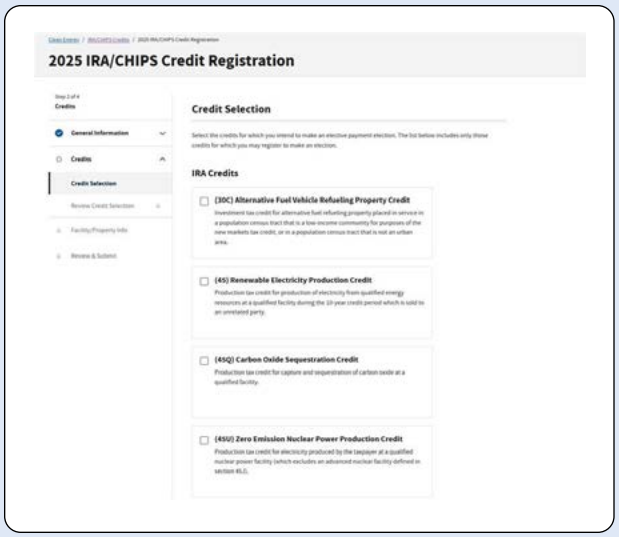
Screen 6:

Progress may be saved, and users may come back to finish.



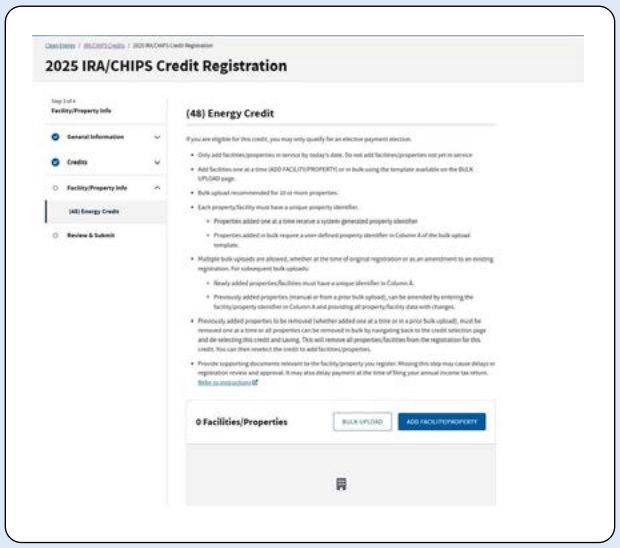
Screen 7:

Select all Applicable Credits generated during the applicable tax year.



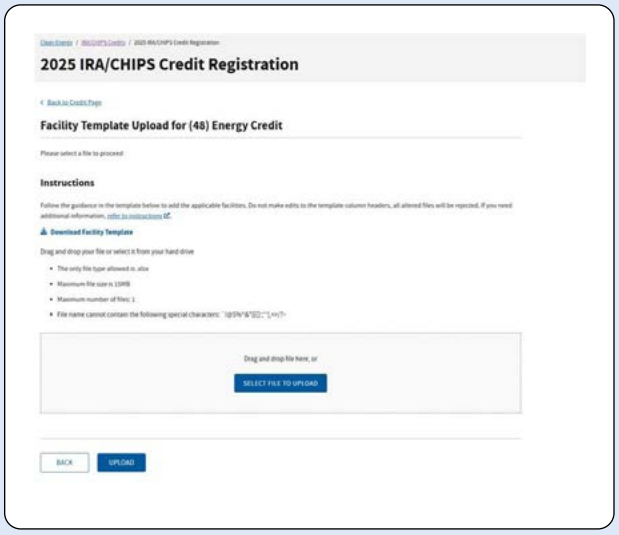
Screen 8:

Click "Add Facility/Property" for each facility at which a credit is generated. Data may be uploaded on a bulk basis for multiple facilities by clicking "Bulk Upload"



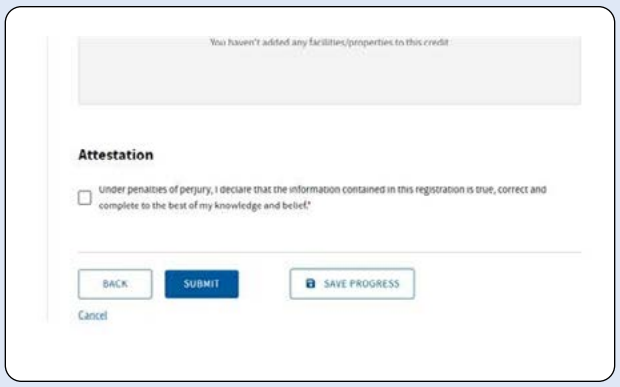
Screen 9:

For bulk upload, users may download a template to upload facility/property information.



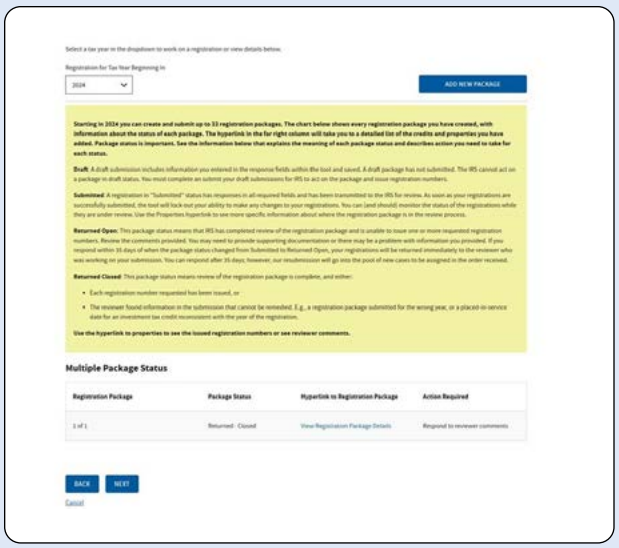
Screen 10:

Upon submission, an attestation by the user is required.

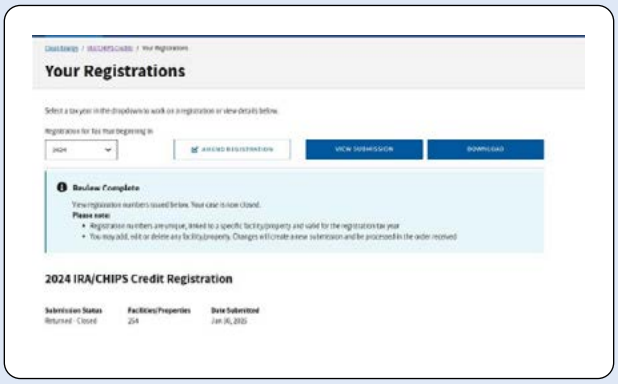


Screen 11:

After submission, status may be checked in the registration screen.

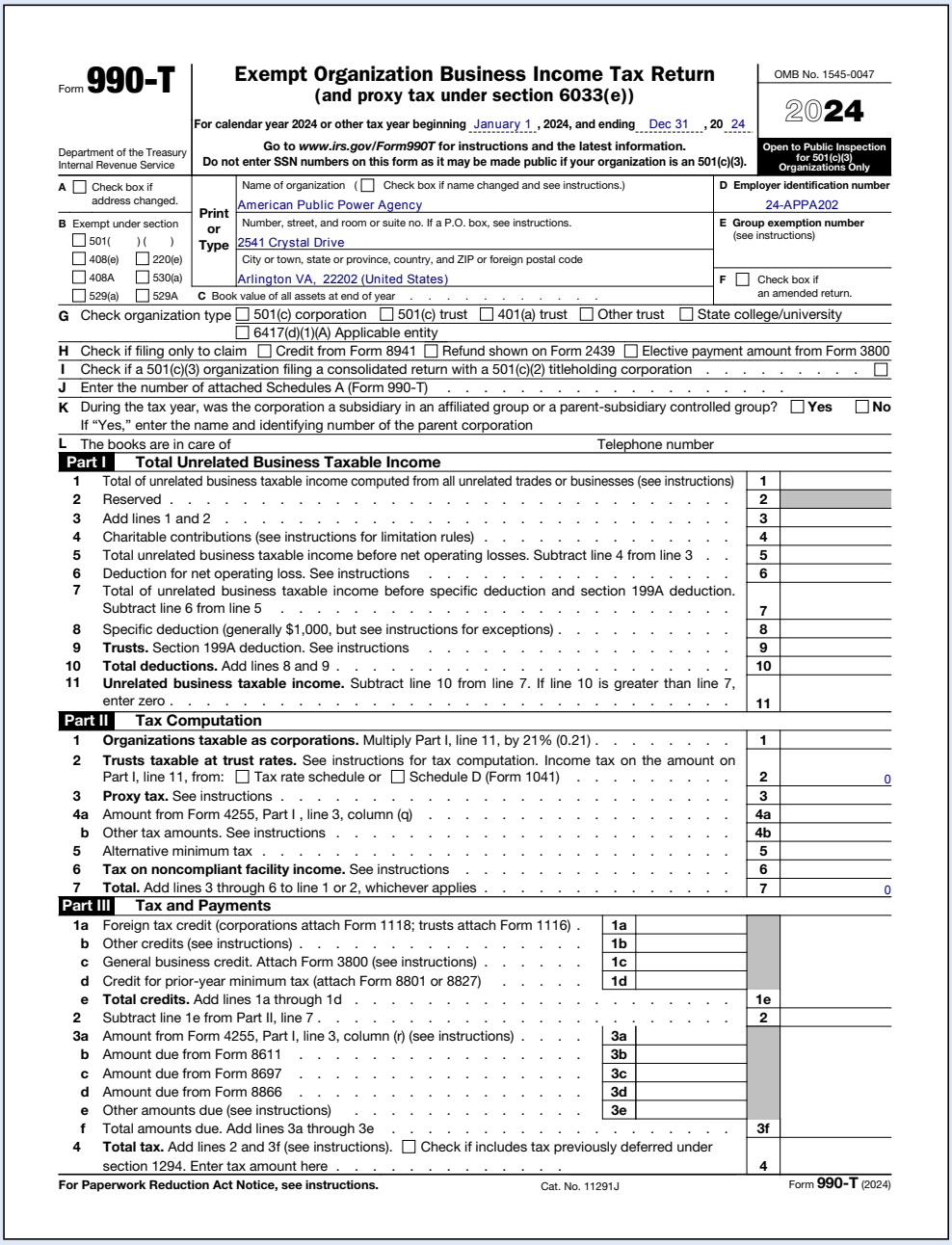


Screen 12:
The registration number(s) will be available for display and download on the status page.



APPENDIX 7

Sample Tax Return and Forms



Form **990-T**

Exempt Organization Business Income Tax Return
(and proxy tax under section 6033(e))

OMB No. 1545-0047

2024

For calendar year 2024 or other tax year beginning January 1, 2024, and ending Dec 31, 20 24

Go to *www.irs.gov/Form990T* for instructions and the latest information.
Do not enter SSN numbers on this form as it may be made public if your organization is an 501(c)(3).

Department of the Treasury
Internal Revenue Service

Open to Public Inspection for 501(c)(3) Organizations Only

A ☐ Check box if address changed.

B Exempt under section
☐ 501( )( )
☐ 408(e) ☐ 220(e)
☐ 408A ☐ 530(a)
☐ 529(a) ☐ 529A

Print or Type

Name of organization (☐ Check box if name changed and see instructions.)
American Public Power Agency

Number, street, and room or suite no. If a P.O. box, see instructions.
2541 Crystal Drive

City or town, state or province, country, and ZIP or foreign postal code
Arlington VA, 22202 (United States)

C Book value of all assets at end of year

D Employer identification number
24-APPA202

E Group exemption number (see instructions)

F ☐ Check box if an amended return.

G Check organization type ☐ 501(c) corporation ☐ 501(c) trust ☐ 401(a) trust ☐ Other trust ☐ State college/university ☐ 6417(d)(1)(A) Applicable entity

H Check if filing only to claim ☐ Credit from Form 8941 ☐ Refund shown on Form 2439 ☐ Elective payment amount from Form 3800

I Check if a 501(c)(3) organization filing a consolidated return with a 501(c)(2) titleholding corporation ☐

J Enter the number of attached Schedules A (Form 990-T)

K During the tax year, was the corporation a subsidiary in an affiliated group or a parent-subsidiary controlled group? ☐ Yes ☐ No
If "Yes," enter the name and identifying number of the parent corporation

L The books are in care of Telephone number

Part I Total Unrelated Business Taxable Income

1	Total of unrelated business taxable income computed from all unrelated trades or businesses (see instructions)	1	
2	Reserved	2	
3	Add lines 1 and 2	3	
4	Charitable contributions (see instructions for limitation rules)	4	
5	Total unrelated business taxable income before net operating losses. Subtract line 4 from line 3	5	
6	Deduction for net operating loss. See instructions	6	
7	Total of unrelated business taxable income before specific deduction and section 199A deduction. Subtract line 6 from line 5	7	
8	Specific deduction (generally $1,000, but see instructions for exceptions)	8	
9	**Trusts.** Section 199A deduction. See instructions	9	
10	**Total deductions.** Add lines 8 and 9	10	
11	**Unrelated business taxable income.** Subtract line 10 from line 7. If line 10 is greater than line 7, enter zero	11	

Part II Tax Computation

1	**Organizations taxable as corporations.** Multiply Part I, line 11, by 21% (0.21)	1	
2	**Trusts taxable at trust rates.** See instructions for tax computation. Income tax on the amount on Part I, line 11, from: ☐ Tax rate schedule or ☐ Schedule D (Form 1041)	2	0
3	**Proxy tax.** See instructions	3	
4a	Amount from Form 4255, Part I , line 3, column (q)	4a	
b	Other tax amounts. See instructions	4b	
5	Alternative minimum tax	5	
6	**Tax on noncompliant facility income.** See instructions	6	
7	**Total.** Add lines 3 through 6 to line 1 or 2, whichever applies	7	0

Part III Tax and Payments

1a	Foreign tax credit (corporations attach Form 1118; trusts attach Form 1116)	1a			
b	Other credits (see instructions)	1b			
c	General business credit. Attach Form 3800 (see instructions)	1c			
d	Credit for prior-year minimum tax (attach Form 8801 or 8827)	1d			
e	**Total credits.** Add lines 1a through 1d			1e	
2	Subtract line 1e from Part II, line 7			2	
3a	Amount from Form 4255, Part I, line 3, column (r) (see instructions)	3a			
b	Amount due from Form 8611	3b			
c	Amount due from Form 8697	3c			
d	Amount due from Form 8866	3d			
e	Other amounts due (see instructions)	3e			
f	Total amounts due. Add lines 3a through 3e			3f	
4	**Total tax.** Add lines 2 and 3f (see instructions). ☐ Check if includes tax previously deferred under section 1294. Enter tax amount here			4	

For Paperwork Reduction Act Notice, see instructions. Cat. No. 11291J Form **990-T** (2024)

Form **3468**

Department of the Treasury
Internal Revenue Service

Investment Credit

Attach to your tax return.
Go to *www.irs.gov/Form3468* for instructions and the latest information.

OMB No. 1545-0155

2024

Attachment Sequence No. **174**

Name(s) shown on return: American Public Power Agency

Identifying number: 24-APPA2024

Part I **Information on Qualified Property or Qualified Facility** (see instructions)

1 If making an elective payment election or transfer election, enter the IRS-issued registration number for the facility PJAPPA2024

2a **(i)** Enter the facility's emissions value or rate (kg of CO2e per kg of qualified clean hydrogen): NA

(ii) Enter the Department of Energy (DOE) control number, if applicable (see instructions): NA

b Check this box if you are claiming a section 48E credit for a qualified facility and you have petitioned for a provisional emissions rate, and have received an emissions value from the DOE and/or used a designated lifecycle analysis (LCA) model to determine an emissions value. See instructions . . . . . ☐

3a Type (solar, clean hydrogen, rehabilitation, etc.): Solar

b If different from filer, enter:

(i) Owner's name:

(ii) Owner's TIN:

c Address of the facility (if applicable): 2451 Crystal Drive, Arlington, VA 22202

d Coordinates. **(i)** Latitude: + 38.852166 (Enter a "+" (plus) or "-" (minus) sign in the first box.) **(ii)** Longitude: - 077.048910 (Enter a "+" (plus) or "-" (minus) sign in the first box.)

e Check this box if the property includes qualified interconnection property under section 48(a)(8) or 48E(b)(1)(B)(i) . . . . ☐

4 Date construction began (MM/DD/YYYY): 1/2/2024

5 Date placed in service (MM/DD/YYYY): 12/31/2024

6 Is the facility an expansion of an existing facility? . . . . . ☐ Yes ☐ No

7 Does the property, facility, or project produce a net output of less than 1 megawatt (MW) alternating current (ac), or equivalent thermal energy?

a ☐ Yes.
b ☐ No.
c ☐ Not applicable; the facility doesn't produce electricity.

8 Does the property, facility, or project satisfy the prevailing wage and apprenticeship requirements?

a ☐ Yes, and sections 48C(e)(5) and (6) apply, and it was declared as provided per Notice 2023-18.
b ☐ Yes, and either (i) section 48(a)(9)(B)(ii), 48E(a)(2)(A)(ii)(II), or 48E(a)(2)(B)(ii)(II) applies if construction began before January 29, 2023; or (ii) sections 48(a)(10) and (11), or 48E(d)(3) and (4) apply.
c ☐ No.
d ☐ Not applicable.

9 Does the property, facility, or project qualify for a domestic content bonus credit per section 48(a)(12)(B) or 48E(a)(3)(B)?

a ☐ Yes, and section 48(a)(9)(B), 48E(a)(2)(A)(ii), or 48E(a)(2)(B)(ii) is satisfied (10% bonus). Attach the required information.
b ☐ Yes, and section 48(a)(9)(B), 48E(a)(2)(A)(ii), or 48E(a)(2)(B)(ii) is **not** satisfied (2% bonus). Attach the required information.
c ☐ No.

10 Does the property, facility, or project qualify for an energy community bonus credit per section 48(a)(14) or 48E(a)(3)(A)?

a ☐ Yes, and section 48(a)(9)(B), 48E(a)(2)(A)(ii), or 48E(a)(2)(B)(ii) is satisfied (10% bonus).
b ☐ Yes, and section 48(a)(9)(B), 48E(a)(2)(A)(ii), or 48E(a)(2)(B)(ii) is **not** satisfied (2% bonus).
c ☐ No.

11 Does the property, facility, or project qualify for the low-income communities bonus credit under section 48(e)(2) or 48E(h)(2)? (The facility must have received an allocation of capacity limitation.)

a ☐ Yes, and the facility is located in a low-income community per section 45D(e) (10% bonus).
b ☐ Yes, and the facility is located on Indian land per section 2601(2) of P.L. 102-486 (10% bonus).
c ☐ Yes, and the facility is part of a qualified low-income residential building project facility per section 48(e)(2)(B) or 48E(h)(2)(B) (20% bonus).
d ☐ Yes, and the facility is part of a qualified low-income economic benefit project facility per section 48(e)(2)(C) or 48E(h)(2)(C) (20% bonus).
e If "Yes" to line 11a, 11b, 11c, or 11d, enter your 48(e) or 48E(h) Control Number:
f Enter the originating pass-through entity's employer identification number (EIN) (if applicable):
g ☐ No.

For Paperwork Reduction Act Notice, see separate instructions. Cat. No. 12276E Form **3468** (2024)

Form **3800**

Department of the Treasury
Internal Revenue Service

General Business Credit

Go to *www.irs.gov/Form3800* for instructions and the latest information.
You must include all pages of Form 3800 with your return.

OMB No. 1545-0895

2024

Attachment Sequence No. **22**

Name(s) shown on return: American Public Power Agency

Identifying number: 24-APPA2024

A **Corporate Alternative Minimum Tax (CAMT) and Base Erosion Anti-Abuse Tax (BEAT).** Are you both (a) an "applicable corporation" within the meaning of section 59(k)(1) for the CAMT, and (b) an "applicable taxpayer" within the meaning of section 59A(e) for the BEAT? See instructions . . . . . ☐ **Yes** ☐ **No**

Part I **Credits Not Allowed Against Tentative Minimum Tax (TMT)**
Complete applicable portions of Parts III and IV before Parts I and II. See instructions.

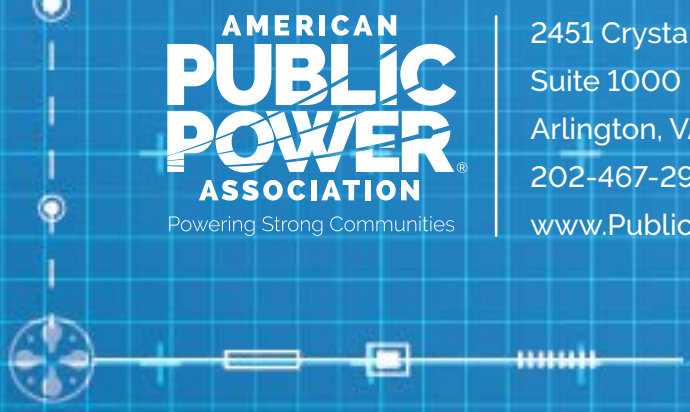
1	Credits not subject to the passive activity limit from Part III, line 2: combine column (e) with non-passive amounts from column (f)		1	
2	Credits subject to the passive activity limit. Combine Part III, line 2, column (d), and passive amounts included on line 2, column (f); and Part IV, line 6, column (d)	2		
3	Enter the portion of line 2 allowed for 2024		3	
4	Enter the portion of Part IV, column (f), line 6, that is from carryforwards to 2024		4	
	Check this box if the carryforward was changed or revised from the original reported amount ☐			
5	Enter the portion of Part IV, column (f), line 6, that is from carrybacks from 2025		5	
6	Add lines 1, 3, 4, and 5		6	

Part II **Figuring Credit Allowed After Limitations**

Section A—Figuring Credit Allowed After Section 38(c)(1) Limitation Based on Amount of Tax

7	Regular tax before credits: • Individuals. Enter the sum of the amounts from Form 1040, 1040-SR, or 1040-NR, line 16; and Schedule 2 (Form 1040), line 1z. • Corporations. Enter the amount from Form 1120, Schedule J, Part I, line 2 (excluding the base erosion minimum tax entered on line 1f); or the applicable line of your return. • Estates and trusts. Enter the sum of the amounts from Form 1041, Schedule G, lines 1a, 1b, and 1d, plus any Form 8978 amount included on line 1e; or the amount from the applicable line of your return.		7	
8	Alternative minimum tax: • Individuals. Enter the amount from Form 6251, line 11. • Corporations. Enter the amount from Form 4626, Part II, line 13. • Estates and trusts. Enter the amount from Schedule I (Form 1041), line 54.		8	
9	Add lines 7 and 8		9	
10a	Foreign tax credit	10a		
b	Certain allowable credits (see instructions)	10b		
c	Add lines 10a and 10b		10c	
11	**Net income tax.** Subtract line 10c from line 9. If zero, skip lines 12 through 15 and enter -0- on line 16		11	
12	**Net regular tax.** Subtract line 10c from line 7. If zero or less, enter -0-	12		
13	Enter 25% (0.25) of the excess, if any, of line 12 (line 11 for corporations) over $25,000. See instructions	13		
14	Tentative minimum tax: • Individuals. Enter the amount from Form 6251, line 9. • Corporations. Enter -0-. • Estates and trusts. Enter the amount from Schedule I (Form 1041), line 52.	14		
15	Enter the greater of line 13 or line 14		15	
16	Subtract line 15 from line 11. If zero or less, enter -0-		16	
17	Enter the **smaller** of line 6 or line 16. This is the amount of your credit allowed after the limitation of section 38(c)(1)		17	
	C corporations: See the line 17 instructions if there has been an ownership change, acquisition, or reorganization.			

For Paperwork Reduction Act Notice, see separate instructions. Cat. No. 12392F Form **3800** (2024)



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