TAX INCENTIVES

45/48: Production Tax Credit/Investment Tax Credit for Energy Property

National Association of State Energy Officials

Enhanced Federal Energy Tax Incentives for Buildings, Transportation, and Energy Production - Overview and Use Cases

45/48: Production Tax Credit/Investment Tax Credit for Energy Property

*Note: The information in this brief does not represent tax advice. Please consult a tax advisor before applying for this incentive as part of your building construction or retrofit plan.

Overview

Sections 45 and 48 of the Internal Revenue Code create tax credits aimed at supporting the installation and operation of renewable energy generation sources by taxable business entities, certain tax-exempt entities, and local and Tribal governments. The Production Tax Credit supports the production of renewable electricity, while the Investment Tax Credit supports the installation of renewable energy generators. While the ITC is applied to the up-front costs of a project, the PTC is gradually earned over time as a project produces energy. Because a renewable energy project can only leverage one of the two credits, developers should carefully consider each project's characteristics before choosing to apply for one versus the other.

The PTC and ITC are generally used for different types and sizes of renewable energy generation projects because of the difference in how the two credits are calculated. Some technologies are only eligible for one of the two credits or may receive a reduced value for one of the credits compared to the other. Developers should consult a tax advisor to determine which credit would be more advantageous to apply for when developing a financing plan for a project.

Qualifying Technologies for the PTC and ITC[1]

Eligible for PTC	Eligible for PTC or ITC	Eligible for ITC
Biomass, landfill gas, hydroelectric, marine, and hydrokinetic	Multiple solar and wind technologies, municipal solid waste, geothermal (electric), and tidal	Energy storage technologies, microgrid controllers, fuel cells, geothermal (heat pump and direct use), combined heat and power, microturbines, and interconnection costs

Congress modified these credits in the IRA to transition them to become technology-neutral in 2025, and to extend their sunset dates. The technology neutral credits, 45Y and 48E, will apply to any facility whose greenhouse gas emissions rate is less than zero until the later of 2032 or when power sector emissions are 25 percent of 2022 levels. The changes the IRA made will enable a wider range of renewable energy sources, such as energy storage and batteries, to qualify for the credits. The IRA also enhanced both the PTC and ITC by providing bonus credits if projects meet certain standards related to wage and apprenticeship requirements; domestic content minimums; siting in energy communities, low-income communities, or Indian land; or being part of a qualified low-income residential building project. For example, if a project utilizing the ITC meets all these requirements, the ITC can cover up to 70 percent of the eligible costs of the project. The bonus credit adjustments are summarized in the following chart.

1 Chart adapted from "Summary of Inflation Reduction Act provisions related to renewable energy," U.S. Environmental Protection Agency, https://www.epa.gov/green-power-markets/summary-inflation-reduction-act-provisions-related-renewable-energy.

Overview of Production and Investment Tax Credits[2]

Category	Amount for Projects <1MW AC (Cumulative)		Amount for Projects >1MW AC (Cumulative)	
	Production Tax Credit	Investment Tax Credit	Production Tax Credit	Investment Tax Credit
Base Tax Credit	$.0275/kWh	30%	$.005/kWh	6%
Wage and Apprenticeship Requirements	N/A	N/A	+$.0225/kWh	+24%
Domestic Content Minimums	+$.003/kWh	+10%	+$.003/kWh	+10%
Siting in Energy Community	+$.003/kWh	+10%	+$.003/kWh	+10%
Siting in Low-Income Community or on Indian Land (<5 MW AC)	N/A	+10%	N/A	+10%
Qualified Low-Income Residential Building Project or Economic Benefit Project	N/A	+20%	N/A	+20%

How to Leverage this Tax Incentive

Example: A state agency wishes to leverage the ITC to cover the costs of a solar installation and geothermal heat pumps on its property located in an energy community.

A state agency is under an obligation to procure a specific percentage of its energy from clean energy sources to meet a state's lead-by-example goal. The agency determines that leveraging one of the IRA tax credits through Elective Pay will be a cost-effective way to pay for some of the costs of the system as part of an overall financing plan and determines that the amount of the tax credit will flow directly to the agency itself so it can repay third parties for costs incurred. The agency then contracts with an ESCO to complete a performance contract for the work in addition to other retrofits and arranges to take out a bridge loan from its state's Energy Efficiency Revolving Loan Fund to cover the costs between the time the solar system and heat pumps are installed and the time the agency expects to receive the credit.

Once the solar system is in place and operational, the agency determines its tax year for the project and completes its pre-filing registration with the IRS. The agency then files the paperwork for the credit, along with any supplemental documentation, to show that it is meeting the requirements to claim the energy community, domestic content minimum, and wage and apprenticeship bonus credits. Once the agency receives the value of the credit, it uses the funding to pay back the ESCO that it contracted with to install the system.

2 Chart adapted from "Overview of Inflation Reduction Act Incentives for Federal Decarbonization," U.S. Department of Energy, https://www.energy.gov/femp/overview-inflation-reduction-act-incentives-federal-decarbonization.

Considerations for State Energy Offices

Which decision-makers need to know about this incentive?

- State agency administrators
- Renewable energy developers
- MUSH market decisionmakers
- Commercial and multifamily building owners

What are avenues to reach those decision-makers?

- Communications through mailers, webinars, and websites with key information
- Outreach to contractor networks and ESCOs through training webinars, mailers, etc.
- Participation at in-state conferences and roadshows

What other sources of IIJA and/or IRA funds can building owners and contractors potentially leverage alongside this credit?

- **IIJA Section 40502** - Energy Efficiency Revolving Loan Fund Capitalization Grant Program funds could be leveraged as low-cost financing for the project.
- **IRA Section 60103** – Greenhouse Gas Reduction Fund capital could be leveraged to support investments in public sector buildings.
- **IRA Section 60114** – Climate Pollution Reduction Grants could be used to support financing for Direct Pay [or Elective Pay?] if the state chooses to use them for that purpose.

Resources

U.S. Department of Energy Summary of 45/48

This webpage provides information on 45/48, including on eligibility for the incentives, the incentive amounts available to qualifying projects, and project requirements to receive the bonus credits for the PTC and ITC.
Link: https://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses

Frequently Asked Questions for Elective Pay

This webpage provides answers to common questions building owners may have about Elective Pay, including the process and rules.
Link: https://www.irs.gov/credits-deductions/elective-pay-and-transferability-frequently-asked-questions-elective-pay

Forms Needed to Claim This Credit and Guides to the Process

Pre-Filing Registration Page – Elective Pay
Pre-Filing Registration Tool User Guide
Filing Tips for Tax-Exempt Organization Returns – Tax Years After 2007
Clean Energy Authorization Permission Management User Guide

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