

Inflation Reduction Act Guide

For Solar and Energy Storage Projects



SUMMARY

The IRA Creates Funding Opportunities for Local Governments' Solar and Battery Storage Projects

The Inflation Reduction Act (IRA) has expanded funding sources for investments in the manufacturing, installation, and production of clean energy technologies.

For the first time, local governments and tax-exempt entities are eligible to receive and use payouts from tax credits to decrease the effective cost of their clean energy projects, including for solar and battery storage. Prior to the IRA, the majority of clean energy tax incentives were targeted toward developers who could use tax credits as offsets to taxes owed. Since most local governments do not owe federal taxes, there was no way for them to receive benefits from tax credits without a partnership with a tax-paying organization.

Table 1. Before the IRA and with the IRA

Before the IRA	With the IRA
Local governments required partnership with tax-paying organizations to access tax credits for clean energy projects.	Local governments can receive payments directly from tax credits offering elective pay for clean energy projects.

Direct Payments through “Elective Pay” Tax Credits

The IRA introduced **elective pay**, also known as **direct pay**, which offers a way for local governments to receive a **payout from tax credits**, similar to a tax refund. Once a local government has pre-registered its clean energy project(s) with the IRS, it is eligible to claim elective pay tax credits such as the Investment Tax Credit (ITC) or the Production Tax Credit (PTC).

Figure 1. Advantages of Elective Pay



NYSERDA

Eligible Projects for Direct Payments through “Elective Pay” Tax Credits

Projects eligible for elective pay tax credits can include:

- solar and battery storage projects
- community solar projects
- installation of electric vehicle charging infrastructure
- acquisition of zero-emissions vehicles for local vehicle fleets

The body of the document focuses on applications for solar and battery storage opportunities, and as such, does not provide comprehensive guidance on all types of eligible projects for elective pay. Further guidance on elective pay tax credit opportunities can be found on the IRS website.¹

Stacking Tax Credits to Maximize Benefits

Some tax credits can be stacked together to offset up to 70% of the project cost, including the low-income community tax credit, the investment tax credit, and all applicable bonuses. To maximize either the ITC or the PTC, projects will need to meet certain bonus requirements, which will be explained later in this document.

Tax Credits Will Sunset

Many of these tax credits are temporary, with credits potentially starting to phase out at the earliest by 2033 or when U.S. electricity emissions do not exceed 25% of 2022 levels. To take advantage of these opportunities, municipalities will need to act fast to plan and develop new clean energy projects while these tax credits are still available.

IRA Expanded Loan and Grant Opportunities

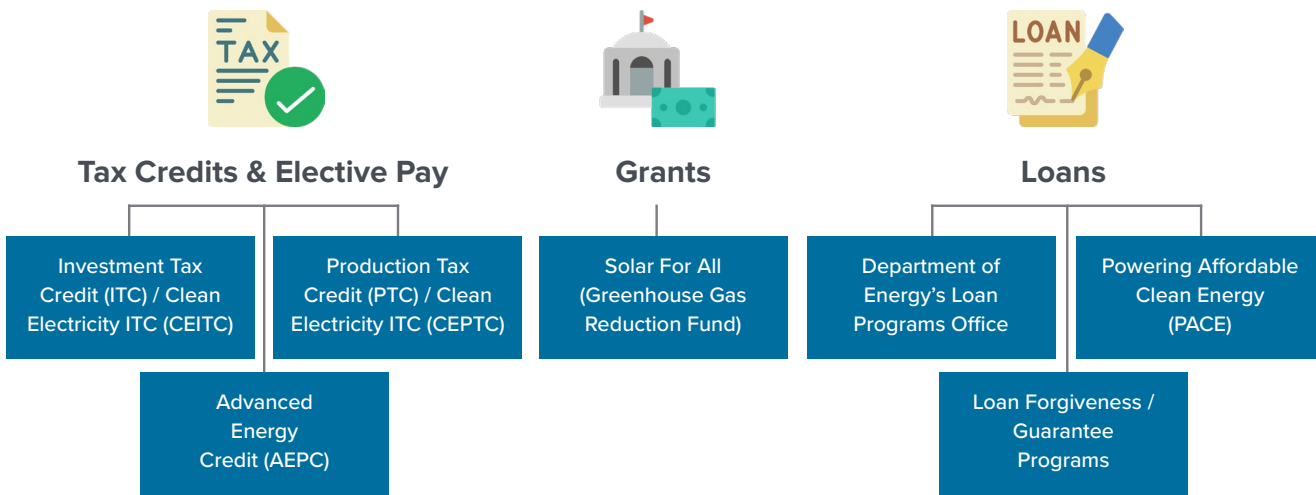
Fill Remaining Funding Gaps: The IRA also expanded grant and loan opportunities for clean energy projects to help fill funding gaps.

What Is It?

The IRA has expanded funding opportunities for solar and battery storage projects, in addition to other eligible technologies. These primary IRA programs can substantially reduce the cost of solar and battery storage projects for municipalities by providing monetary incentives through the following avenues:

- Tax credits offering elective pay (projects can claim only one of the following tax credits):
 - ▶ **Investment Tax Credit (ITC) / Clean Electricity Investment Tax Credit (CEITC)**
ITC currently provides a tax credit for investment in clean energy projects. Starting in 2025, CEITC will replace ITC for energy facilities placed in service, and provide a technology-neutral tax credit for investment in facilities that generate clean electricity. Both the ITC and the CEITC can assist in recovery of capital costs by typically 33% and a maximum of 70%.
 - ▶ **Production Tax Credit (PTC) / Clean Electricity Production Tax Credit (CEPTC)**
PTC provides a tax credit for production of electricity from renewable sources. Starting in 2025, CEPTC will replace PTC for renewable source electricity for facilities placed in service. Both the PTC and CEPTC provides a technology-neutral tax credit for production of clean electricity. PTC/CEPTC can assist in recovery of capital costs for each of the first 10 years of clean electricity project operation.
 - ▶ **Advanced Energy Project Credit (AEPC)**
AEPC provides a tax credit for investment in advanced energy projects as defined in the United States Code (26 USC § 48C(c)(1)). AEPC can assist in recovery of capital costs by up to 30%.
- Grants
 - ▶ Competitive grant programs to reduce direct capital costs.
- Loans
 - ▶ Loans with greater eligibility and lower interest rates to reduce debt service costs.
 - ▶ Loan Forgiveness/Guarantee programs to help secure loans and reduce capital costs.

Figure 2. IRA Funding Opportunities



How Does It Work?

Tax Credits Offering Elective Pay

The IRA expanded eligibility of certain tax credits to include tax-exempt and government entities to obtain payouts from tax credits related to renewable energy investment and production.

Elective pay, otherwise known as “direct pay,” allows tax-exempt entities to claim tax credits that they would otherwise not be eligible for because they do not pay federal taxes. Applicable entities for elective pay include local governments, tribal governments, and non-profit organizations, among others. The IRA now offers benefits for local governments by treating the value of the credit as a payment of taxes and refunding this “overpayment.” The value of the tax credit is issued as a direct payment to applicable entities.

Organizations must first satisfy the base tax credit eligibility requirements identified in Table 2.

Table 2. Requirements for Base Tax Credits Offering Elective Pay

Solar	Battery Storage
<ul style="list-style-type: none"> • Own a solar facility that generates electricity • Place the solar facility in service • Greenhouse gas (GHG) emissions from electricity generation must be 0 grams of carbon dioxide equivalents per kWh or less² 	<ul style="list-style-type: none"> • Own a battery storage facility that has a nameplate capacity exceeding 5 kWh • Place the battery storage facility in service • Have an anticipated GHG emission rate of 0 grams of carbon dioxide equivalents (CO₂e) per kWh or less² • Maintain a GHG emission rate of less than 10 grams of CO₂e per kWh for the first five years after it is placed in service²

Once the ITC and PTC are replaced by the clean electricity ITC (CEITC) and the clean electricity PTC (CEPTC), which will apply to projects starting construction after December 31, 2024, additional eligibility requirements pertaining to greenhouse gas emissions will be added for the base tax credit.

The IRA-restructured tax credits will include stackable bonuses to increase the total value of tax credits a project may be eligible for in addition to a 6% base credit for ITC or 0.55 cents/kWh (as of 2023) base credit for PTC.

Solar and battery storage projects can maximize the tax credit benefits by meeting these bonus credits:

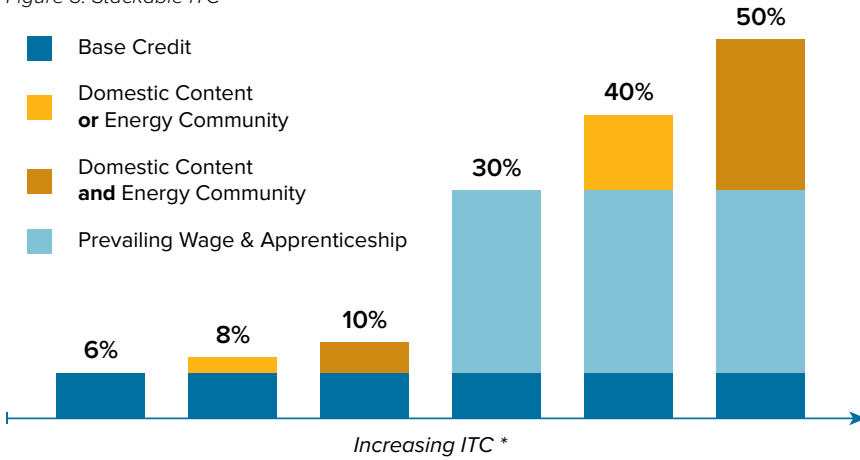
- prevailing wage and apprenticeship requirements
- domestic content requirements³
- energy community requirements⁴
- low-income community requirements

Further guidance on clean electricity project eligibility is anticipated by January 1, 2025, to outline the implementation of the CEITC and CEPTC.

ITC vs. PTC: Which Should I Choose?

Figures 3 and 4 display how solar and battery storage projects can maximize tax credit benefits.

Figure 3. Stackable ITC



* Percents are of project capital costs. Projects receiving the low-income bonus can receive an additional 10% to 20% credit above the values shown.

Figure 4. Stackable PTC

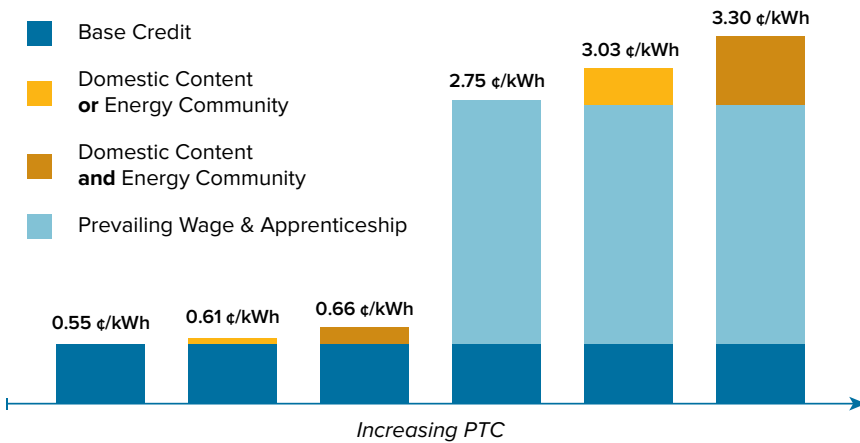
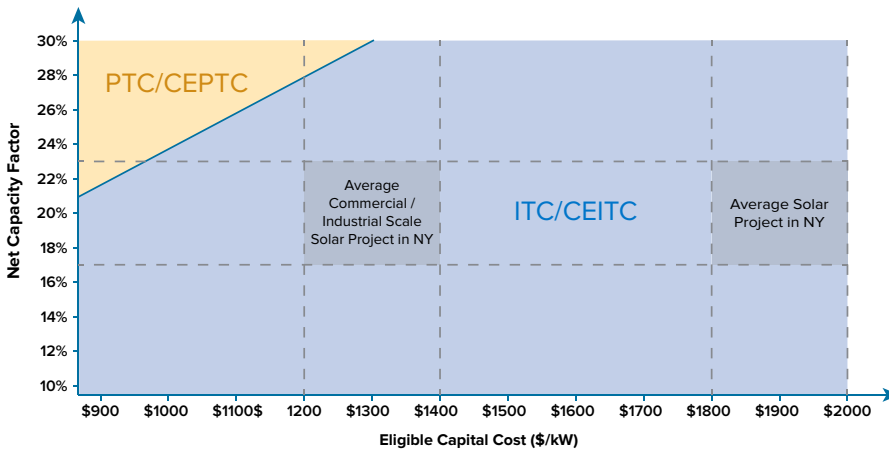


Figure 5 | Selecting the ITC/CEITC or the PTC/CEPTC



Since a project can only claim either the ITC or the PTC, it is important to understand the value each credit offers a project. The ITC is a one-time payout based on the project’s capital costs, and the PTC offers annual payouts for 10 years based on the project’s electricity generation. Figure 5 displays the instances in which the PTC or ITC offers greater benefit for a typical project.

The net capacity factor is a percentage measuring the efficiency of producing power, continuously year-round. Larger net capacity factors indicate greater electricity production. For example, a 1-megawatt (MW) generation facility, if operating 24 hours a day, year-round (100% net capacity factor) could generate 8,760 megawatt-hours (MWh) of electricity. A solar array will not be producing electricity 24 hours per day. In New York State, solar arrays have net capacity factors ranging between 17%-23%, which for a 1-MW site would produce between 1,700-2,300 MWh. With the typical net capacity factors and project costs in New York, in most applications, the ITC will provide more value than the PTC for solar projects.

Figure 5 Assumptions:

- Project assumed to satisfy prevailing wage, domestic content, and energy community requirements.
- Project assumed to be placed in service and generating electricity by Jan. 1, 2024.
- Tax credits assumed to be earned by the end of the calendar year.
- Project not financed through tax-exempt income.
- Solar output assumed to degrade by 0.5% annually.
- Future inflation factor for PTC assumed to be 2% annually.
- 8% discount rate assumed.
- Typical net capacity factors for solar projects in NY were sourced from the Solar and Wind Appraisal Model as of Jan. 6, 2022.
- Average capital costs are based on projects constructed between 2021-2023 in New York.

Grants

The IRA grant funding opportunities require applications to be awarded funding. Applications generally consist of the following components:



- Requisite grant application forms;
- A document (narrative) that describes the project and the project need;
- A benefit-cost analysis (BCA), if required.

The narrative and BCA are intended to demonstrate that the proposed project aligns with the grant program's merit criteria outlined in the published notice of funding opportunity (NOFO). Applicants must request how much funding they need, explain how it will be spent, and show a detailed project schedule.

Loans

The IRA has expanded several loan programs and loan guarantees for solar and battery storage projects. U.S. Department of Energy (DOE) and U.S. Department of Agriculture (USDA) loan programs may be available for municipalities including, but not limited to:

- Innovative Energy Projects (at commercial scale; solar should qualify);
- Energy Infrastructure Reinvestment Financing;
- Electric Loans for Renewable Energy (USDA for rural areas); and
- Tribal Energy Loan Guarantee Program.



More loan information available [here](#).

Seeking funding under federal loan programs provides numerous benefits over seeking traditional financing for renewable energy projects. Loan eligibility can be flexible depending on the scale of the project and amount of funding being sought. Loans received from the Federal Financing Bank (FFB) are eligible for advantageous interest rates,⁵ which can be less costly than issuing municipal debt. Under loan programs such as the Title 17 Loan Program, up to 90% (typically 50-60%) of loans may be guaranteed, which can assist with securing loans from private sector lenders.

How Do I Get It?

Tax Credits Offering Elective Pay

Pre-filing registration through the IRA portal is required in advance of filing for each energy project. Tax returns must be filed in a timely manner and include the appropriate forms to claim tax credits and opt in for elective pay. Once filed, tax returns will be processed, and tax refunds (elective pay) will be issued. The tax credit forms required vary based on the credit chosen. Some tax credits (AECs and low-income community bonus credits) require an application to be awarded tax credits. Further details are available within the latest IRS guidance.⁶

Grants

Grant funding requires applications to be submitted typically within 60-90 days of the release of a NOFO for a program. Review each NOFO to ensure all criteria are addressed within the application. Successful applicants are typically notified 6-9 months after the application deadline.

Loans

Loan or loan guarantees require applications, though applications can be received year-round. Applicants will work with lenders to ensure a project meets the loan requirements and due diligence will be performed prior to issuing a loan. Once issued, the project will have mandatory reporting requirements as a condition of the loan.

When Can I Get It?

Tax Credits Offering Elective Pay

Tax refunds through elective pay can only be received once a clean energy project is placed in service, post-construction. For the tax filing process, the requisite tax credit forms should be filed by the due date or extended due date, if an extension is granted. Once filed, a tax refund (elective pay) is expected to be received after the return has been processed. If tax credit forms are filed before the due date, refunds will not be issued before the initial due date.

Tax credits that require an application process must be awarded prior to a facility being placed in service. Once allocated to a project, the tax credits will be eligible to be paid out once the project is placed in service.

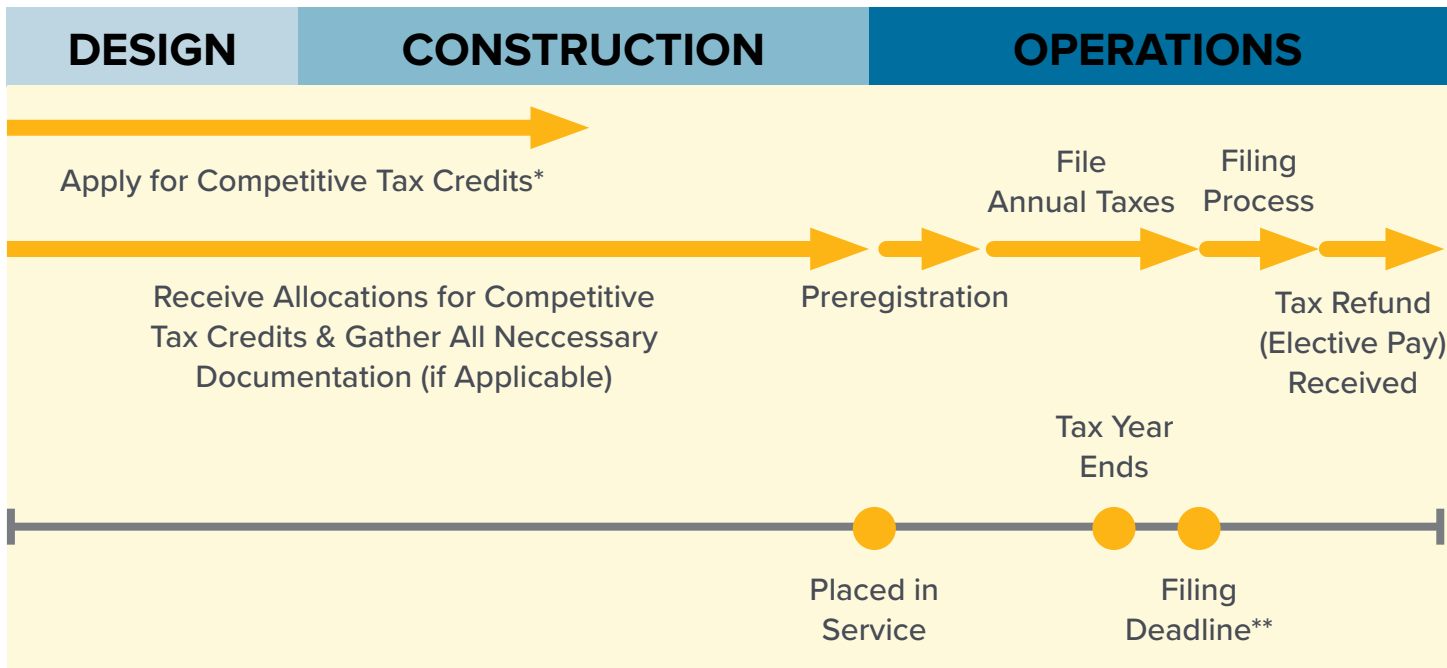
Grants

Grant funding will occur based on specific windows outlined under various grant programs. Funds are generally awarded pre-construction. Successful grant awards typically occur between 6-9 months after the application deadline.

Loans

Each individual loan program will have its own guidance for applying. Based on the Title 17 Loan Program, available through the DOE Loan Programs Office, the entire process is expected to take between 6 months to over 1 year from the pre-application consultation through to the financial close and receipt of funds. Loan programs will generally support projects prior to the completion of construction.

Figure 6. IRA Funding Opportunities throughout Project Lifecycle



* Competitive tax credits are tax credits that must be applied for due to limitations on how much can be awarded for these programs. Current tax credits that need to be applied for include low-income community tax credit and the advanced energy credit.

** Tax Returns are due 4.5 months after an entity's tax year ends. With an extension, tax returns are due 10.5 months after an entity's tax year ends.

END NOTES

- ¹ [Elective Pay and Transferability Frequently Asked Questions: Elective Pay | Internal Revenue Service \(irs.gov\)](#)
- ² This is a requirement to be eligible for the clean electricity investment tax credit and the clean electricity production tax credit, which replace the investment tax credit and the production tax credit as of January 1, 2025.
- ³ To achieve any elective pay of tax credits without meeting domestic content requirements, project construction must start by 2026.
- ⁴ Energy community credits require a project located within a brownfield site, located within or adjacent to a recent coal mine or recent coal-fired generation plant; or within communities with high unemployment and meet thresholds of coal-based employment or revenues: <https://arcgis.netl.doe.gov/portal/apps/experiencebuilder/experience/?id=a2ce47d4721a477a8701bd0e08495e1d>
- ⁵ See the Department of Agriculture website for sample rates: <https://www.rd.usda.gov/page/rural-utilities-loan-interest-rates>
- ⁶ [Inflation Reduction Act of 2022 | Internal Revenue Service \(irs.gov\)](#)

