U.S. DEPARTMENT OF
ENERGY

Office of
ENERGY EFFICIENCY & RENEWABLE ENERGY

Investment Tax Credit Requirements for Privately Owned Solar Photovoltaic Systems on Federal Sites

A nearly 15,000-panel solar PV array was installed under an ESPC ESA at the U.S. Department of Commerce's National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland. The installation will be privately owned for the 20-year ESPC ESA term for tax incentive purposes and NIST will purchase the electricity produced. The array is predicted to save NIST a minimum of $3.5 million in its first 20 years of operation. *Photo courtesy of NIST.*

The federal investment tax credit (ITC) is an economically valuable tax incentive offered to taxable business entities that invest in certain energy technologies.[1] The ITC is based on a percentage of the qualifying upfront capital costs of a project and directly reduces a business's tax liability (i.e., the taxes paid).

This fact sheet focuses on ITC considerations for privately owned solar photovoltaic (PV) projects on federal land and buildings, although some of the considerations may be applicable to other technologies[2] and non-federal entities.

Benefits of Privately Owned PV Systems on Federal Sites

Although federal agencies are not eligible for the ITC, they can still benefit from the tax credit if the PV system is on a federal building or land and is privately owned. These systems can be procured under financing mechanisms such as energy savings performance contract energy sales agreements (ESPC ESAs) and power purchase agreements (PPAs).

There are several benefits to private ownership of PV systems on federal land or buildings.

- Federal agencies are not required to provide upfront capital investment.
- The private owner is responsible for all operations, maintenance, and equipment repair and replacement until the end of the contract.[3]
- The private owner can monetize the tax benefits and pass these savings on to the federal agency in the form of a lower contract price for electricity.

Solar ITC Value and Stepdown

The 2021 value of the solar ITC available to private owners is 26% of the qualifying upfront capital costs of a project.

Based on current legislation, the ITC incentive amount for PV projects is set to decline from a 26% value to 22% by 2023, and 10% thereafter. Projects located at a federal site must be privately owned to qualify for the ITC.

ITC Stepdown Schedule

In order for a project to be eligible for the ITC amount in a specific year, it needs to meet Internal Revenue Service (IRS) requirements to "commence construction" in 2021–2023.[4] The commence construction deadlines for PV projects, and the corresponding ITC amounts, are shown in Table 1. All projects that commence construction by the end of 2023 must be placed in service (i.e., begin normal operation) by the end of 2025 in order for the private owner to secure a tax credit greater than 10%.

Table 1. Solar Investment Tax Credit Deadlines

Year of Commence Construction	Deadline for Placement in Service	ITC Amount
2021–2022	End of 2025	26%
2023	End of 2025	22%
2024 onward	2024 onward	10%

[1] As set forth in Section 48 of the Internal Revenue Code, ITC-eligible technologies include: solar, geothermal, fuel cell, microturbine, combined heat and power, small wind (under 100 kW), and geothermal heat pump technologies. The ITC amount varies by technology.

[2] Energy storage that is combined with PV or other qualified energy technologies could benefit from the ITC as well.

[3] For ESPC ESAs, the federal agency is responsible for these tasks after the end of the contract.

[4] See IRS Notice 2018-59 for additional detail.

Commence Construction Requirements

It is important for the federal agency and private owner to understand commence construction requirements and plan for enough project development lead time to ensure ITC eligibility at the desired amount (see footnote 4). In order to commence construction in a certain year, a taxable business entity must meet one of these two requirements.

Safe harbor—Ensure that at least 5.0% of final qualifying project costs are incurred in that year. For example, if the taxable entity paid or incurred at least $50,000 of eligible costs toward the project in 2021 and ultimately completes the project in 2023 with final qualifying project costs of $1 million, then that taxable entity would be able to claim the 26% tax credit for qualifying costs (or $300,000 in this simplified case).

Physical work—Ensure that "physical work of a significant nature" commences in that year. According to the IRS notice, if the taxable entity installed PV racking, for example, before the end of 2023 and makes continuous efforts to ultimately complete the project in 2025, then that taxable entity would be able to claim a 22% tax credit. The private owner must document continuous efforts to meet the physical work requirement; documenting the work performed is a best practice even when meeting the 5.0% safe harbor requirement.

Commence Construction Best Practices

The 5.0% safe harbor requirement applies to the final total eligible project expenditures, which is hard to precisely predict; even 4.9% will not qualify. The private owner may consider spending more than 5.0% of their expected project costs to protect against unanticipated future expenditures that could result in a failure to meet the 5.0% safe harbor. If the private owner orders equipment to meet the safe harbor, then they may consider paying for the equipment in that year and creating individual invoices identifying the name of each site, with the cost and quantity of the equipment allocated to it.

The IRS has detailed guidance for commence construction eligibility at multiple sites, and for treating each site as a single project with its own allocation of at least 5.0% of the expected project costs.

PV Project Development Recommendations

To prepare for the declining ITC amount schedule, consider one or more of the following PV project recommendations.

Expedite the procurement timeframe. An expedited schedule helps ensure that the private owner can secure a tax credit greater than 10%.

Ensure the site's availability for construction. If the private owner pursues the physical work requirement, then timely site access could be critical to meet commence construction requirements. Federal agencies should identify and resolve site availability concerns in advance of the planned commence construction date.

Prioritize project execution. A private owner may require a signed contract before they are willing to incur costs to meet commence construction requirements.

Explore other incentives. There are other tax incentives to consider in addition to the ITC. These include federal Modified Accelerated Cost Recovery System (MACRS) depreciation,[5] property and sales tax exemptions in certain states, and state investment tax credits. State tax incentives vary by state.

ITC Resources

Learn more about distributed energy projects: energy.gov/eere/femp/distributed-energy-procurement-federal-agencies.

Explore options for ESPC ESAs: energy.gov/eere/femp/energy-savings-performance-contract-energy-sales-agreements.

Read about federal tax incentives for energy storage systems: nrel.gov/docs/fy18osti/70384.pdf.

Read about specific ITC requirements in IRS Notice 2018-59: irs.gov/pub/irs-drop/n-18-59.pdf.

Read more about the ITC: https://www.energy.gov/eere/solar/downloads/residential-and-commercial-itc-factsheets

ITC Project Assistance

To get started on an ITC-eligible project:

- Contact a Federal Project Executive at energy.gov/eere/femp/energy-savings-performance-contract-federal-project-executives-0
- Access the FEMP Assistance Portal at www7.eere.energy.gov/femp/assistance/
- Email Rachel Shepherd at Rachel.Shepherd@ee.doe.gov. ■

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[5] MACRS accelerates tax depreciation of assets from 20–30 years to 6 years and can offset about one quarter of the upfront cost of the project over the first 6 years of operation.