

# 2023 Pathways for Solar

## ***For Businesses on MDI***

Solar has both environmental and economic benefits. Over the last decade, the cost of solar has declined substantially and homeowners, businesses, municipalities, and non-profits are taking advantage of the opportunity. Thanks to the Inflation Reduction Act, there is now more federal funding than ever to support solar installation for businesses.

Investing in solar comes with multiple considerations, first and foremost of which is the payback period. The solar payback period estimates how long it will take for the business to “break-even” on a solar energy investment. In order to make this calculation, there needs to be an understanding of the various incentives and the savings the business sees by avoiding paying for electricity. This document will walk through the federal incentives, Maine’s Net Energy Billing program, projected longterm savings and available grants.

## **State Programs and Incentives**

### **Net Energy Billing**

Maine’s net energy billing program allows customers to offset their electricity bills using the output from small renewable generators. Customers may own their own project or share in a project with other customers. The generation facility may be located on the customer’s property or on another property within the same utility service territory. There are two ways to participate. Small accounts without demand charges should opt for the standard NEB rate, however medium and large accounts with demand charges should pursue a tariff rate. This credit can be applied to offset the electricity use AND demand charges. Unused credits expire after 12-months.

There are two ways to participate. Small accounts without demand charges should opt for the standard NEB rate, however medium and large accounts with demand charges should pursue a tariff rate. This credit can be applied to offset the electricity use AND demand charges. Unused credits expire after 12-months.

MDI is in Versant Power Territory, meaning medium and large commercial systems receive NEB credits worth between \$.25 and \$.24 per kWh. See chart below. The

Maine Public Utilities Commission will establish a new tariff rate for net energy billing credits by January 2024.

Period	Customer Class	Central Maine Power Company	Versant Power – Bangor Hydro District
Calendar Year 2023 Tariff Rates for Facilities that Qualify under Ch. 313 Section 3(K)(4) (a) (December 9, 2022 <a href="#">Order in Docket No. 2019-00197</a> )	Small Commercial	\$0.246922 per kWh	\$0.250467 per kWh
	Medium Commercial or Industrial	\$0.235503 per kWh	\$0.243196 per kWh

(Source: MPUC Net Energy Tariff Rates)

### **Solar Renewable Energy Certificates (SREC)**

[Solar Renewable Energy Certificates](#) are specifically met by solar generation assets. Every MWh of solar generation generates one credit, which has a market value. The market value of SRECs fluctuates based on demand. These credits can be sold to utilities so that they can meet their requirements under an individual states' Renewable Portfolio Standard (RPS) legislation. SREC's value varies widely state-by-state based on the size of the solar market and aggressiveness of solar goals under the state's RPS. Right now SRECs produced in Maine can be sold in the Massachusetts market.

## **Federal Tax Incentives**

### **Investment Tax Credit (ITC)**

- **30% Base Rate**

The [solar investment tax credit \(ITC\)](#) is a tax credit that can be claimed on federal corporate income taxes for 30% of the cost of a solar array that is placed in service during the tax year. Eligible solar PV equipment purchased through cash or debt financing qualifies for the ITC. Unused tax credits related to the commercial ITC may be carried back one year and forward 20 years. After 20 years, one-half of any unused credit can be deducted, with the remaining amount expiring.

- **10% Domestic Content Bonus**

To qualify for the domestic content bonus, all steel or iron used must be produced in the United States and a “required percentage” of the total costs of manufactured products (including components) of the facility need to be mined, produced, or manufactured in the United States.

Projects that meet domestic content minimums are eligible for a 10 *percentage point* increase in value of the ITC (an additional 10% for a 30% ITC = 40%)

The required percentage of manufactured products starts at 40% for all projects beginning construction before 2025, increases to 45% for projects beginning construction in 2025, 50% for projects beginning construction in 2026, and 55% for projects beginning construction after 2026

*Eligible property includes the following:*

- Solar PV panels, inverters, racking, balance-of-system equipment, and sales and use taxes on equipment
- Installation costs and indirect costs
- Step-up transformers, circuit breaks, and surge arrestors
- Energy storage devices (if charged by a renewable energy system more than 75% of the time)

To claim the ITC, a taxpayer must complete and attach IRS Form 3468 to their tax return. Instructions for completing the form are available at <http://www.irs.gov/pub/irs-pdf/i3468.pdf> (“Instructions for Form 3468,” IRS).

### **Accelerated and Bonus Depreciation:**

A taxpayer who claims the commercial ITC for a solar PV system can typically also take advantage of accelerated depreciation ([Modified Accelerated Cost-Recovery System, or MACRS](#)) to reduce the overall cost of a PV installation.

When a business claims the commercial ITC, the accelerated depreciation rules allow the full tax basis minus half the ITC to be depreciated over a six-year MACRS depreciation schedule using a half-year convention. Using this depreciation schedule, business owners are allowed to deduct a higher portion of this amount in earlier years, giving them the benefit of a larger immediate reduction in federal tax liability.

A solar PV property that commenced construction in 2023 is eligible for a 30% ITC, so when the tax basis is \$100,000, the 30% ITC reduces tax liability by \$30,000.

A business with a solar PV system placed in service between January 1, 2018, and December 31, 2022, can elect to claim a 100% bonus depreciation. However, starting in 2023, the percentage of capital equipment that can be expensed immediately drops 20% per year (e.g., 80% in 2023 and 60% in 2024) until the provision drops to 0% in 2027

## **Bonus Depreciation Calculation**

Because the business is claiming the ITC, its depreciable basis for the system after applying the ITC is 85% (100% - 30%/2) of the tax basis:

$$0.85 * \$100,000 = \$85,000$$

To calculate the bonus depreciation for a solar PV property placed in service in 2025, the business multiplies the depreciable basis by 40%:

$$0.4 * \$85,000 = \$34,000$$

## **Accelerated Depreciation Calculation**

In the example, the business uses accelerated depreciation to determine what amount of depreciation it will deduct each year from 2025 to 2030. Assuming this five-year recovery period, the IRS Publication 946 Table A-1 lists the depreciation rate as 20% for Year 1. The business calculates its accelerated depreciation deduction by taking the difference between the original depreciable basis and the amount claimed for the bonus depreciation and multiplying by the depreciation rate:

$$0.20 * (\$85,000 - \$34,000) = \$10,200$$

Total Impact on Tax Liability Assuming the business has a federal corporate tax rate of 21%, the net impact of depreciation deductions is calculated as:

$$0.21 * (\$34,000 + \$10,200) = \$9,282$$

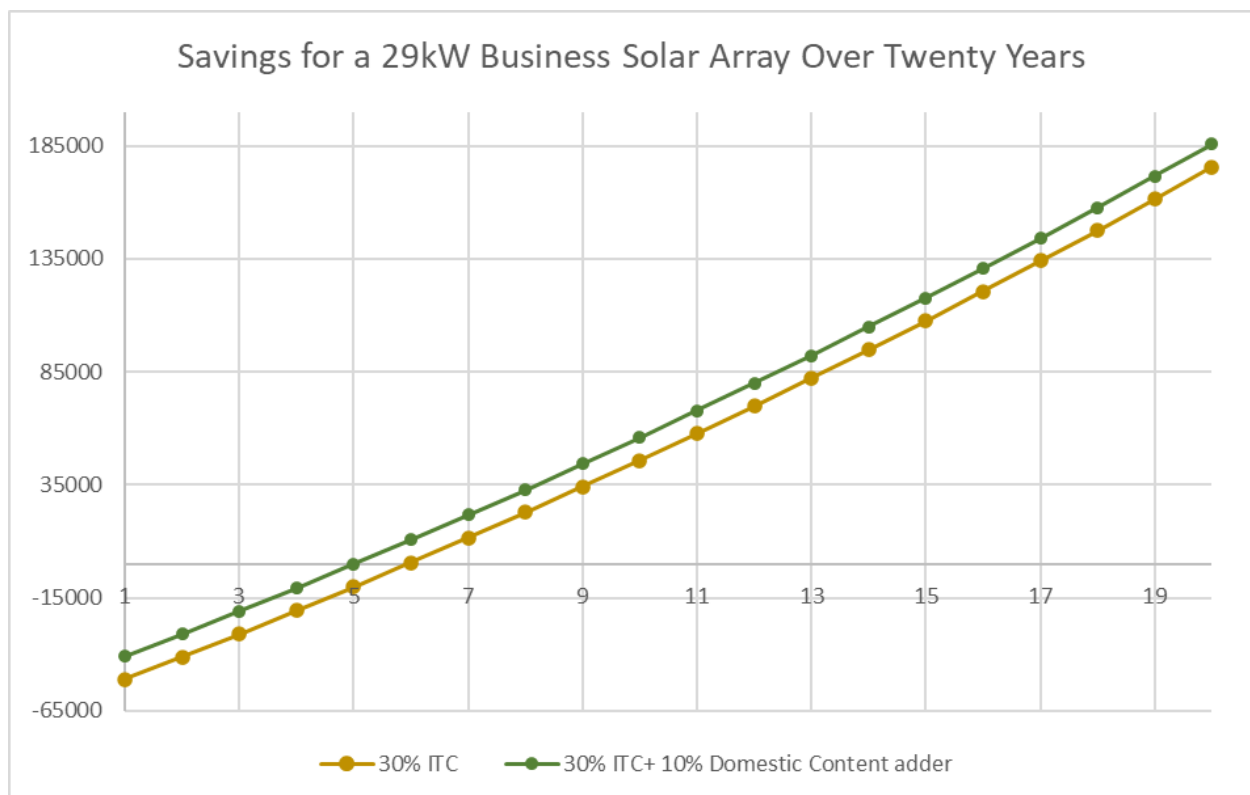
Therefore, the total reduced tax liability for 2025 from depreciation deductions and the ITC is:

$$\$30,000 + \$9,282 = \$39,282$$

The business will continue to claim accelerated depreciation deductions for tax years 2026, 2027, 2028, 2029, and 2030—but the specific depreciation rate will vary by year.

## **Calculating Payback Period**

To calculate the solar array's payback period, determine the total cost of solar including the net of any incentives and savings on your annual electricity bill. The graph below shows the long-term savings for a 29kW array costing \$100,000 before federal tax credits.



*This graph demonstrates the lifetime savings of an array costing \$100,000. After applying the ITC, bonus, and accelerated depreciation, the system's total cost is **between \$60,718 and \$50,178**, depending on whether the array qualified for the domestic content bonus tax credit.*

## Grants

### REAP

[The Rural Energy for America Program \(REAP\)](#) provides financial assistance to agricultural producers and rural small businesses in America to purchase, install, and construct renewable energy systems, make energy efficiency improvements to non-residential buildings and facilities, use renewable technologies that reduce energy consumption, and participate in energy audits and renewable energy development assistance. **These grants can cover up to 50% of a proposed project's cost.**

Grants and Guaranteed Loans are generally available to small businesses and agricultural producers and other entities as determined by USDA. To be eligible for REAP grants and guaranteed loans, applicants must demonstrate sufficient revenue to cover any operations and maintenance expenses as well as any applicable debt service of the project for the duration of the guaranteed loan or grant. Rural small businesses must be located in rural areas, but agricultural producers may be located in non-rural areas.

## **Resources**

[Database of State Incentives for Renewables and Efficiency](#)

[Guide to the Federal Investment Tax Credit for Commercial Solar Voltaics](#)

[U.S. Department of Energy: Better Buildings Financing Navigator](#): an online tool that helps public and private sector organizations find financing solutions for energy efficiency and renewable energy projects.

## **Ownership vs. Subscription**

The difference between owning solar or signing up to receive a solar subscription is similar to the difference between owning a home and renting an apartment. Owning solar builds far more long-term equity while subscribing removes the logistics of constructing an array.

The typical solar array will pay for itself in energy savings over five-to-nine years, after which time the owner of the system will receive all electricity produced for free over the lifetime of the equipment (twenty-five years or more). Subscribing, on the other hand, provides a discount on the market price of electricity over the length of the contract. However, with rising electricity prices, the subscriber will still pay increasing electricity bills. Both pathways save the business owner money; however, owning an array builds far more long-term equity.

[ReVision Energy](#), [SolarLogix](#), and [Sundog Solar](#) are three Maine-based companies that you can contact to install commercial solar on your property. Each offers various financing options.

Companies like [NextAmp](#), [Bluewave](#), [Syncarpha](#), [Ampion](#), [PowerMarket](#), and more, offer subscriptions to solar farms. It's important to compare and contrast each of their offerings as contracts will vary. For a full list see [subscription services registered with the Maine PUC](#).