



MAINE REVENUE SERVICES PROPERTY TAX DIVISION PROPERTY TAX BULLETIN NO. 29

SOLAR ENERGY EQUIPMENT EXEMPTION

REFERENCE: 36 M.R.S. §§ 655(1)(U) and (V), 656(1)(K) and (L)
December 30, 2024; replaces December 15, 2022 revision

1. General

For assessments made on or after April 1, 2025, certain solar equipment that generates heat or electricity is exempt from property tax. Eligibility for the Solar Energy Equipment Property Tax Exemption (“Solar Exemption”) may vary based on where the equipment is located, how the equipment is used, and other factors.

This bulletin is intended solely as advice to assist persons in determining and complying with their legal rights, duties, and privileges under Maine law. It is written in a relatively informal style and intended to address questions and issues commonly faced by municipal assessors and landowners regarding the Program. For more information on the Solar Exemption, contact your local municipal assessor or Maine Revenue Services (“MRS”).

2. Definitions

- A. Assessor. “Assessor” means a sworn municipal assessing authority, whether an individual assessor, a board of assessors, or a chief assessor of a primary assessing area. With respect to the unorganized territory, “assessor” means the State Tax Assessor.
- B. Discounted cash flow. “Discounted cash flow” means a technique to determine the present value of a projected stream of income over multiple years.
- C. Collocated. “Collocated,” as defined under 65-407 C.M.R. ch. 313, § 2(B), means a facility that is located on the same premise, property, or development area of a net energy billing customer facility or facilities that are subscribed to that eligible facility.
- D. Electrical grid. “Electrical grid” or “the grid” generally means the system that receives or generates electricity and delivers it to consumers. Electrical grids include generating stations, transmission lines, and distribution lines. Generating stations produce electrical power, which is carried over high-voltage transmission lines to demand centers. Distribution lines then move the electricity from the demand centers to individual consumers.
- E. Interconnection agreement. “Interconnection agreement,” as defined under 65-407 C.M.R. ch. 324, § 2(EE), means an agreement between a person and a transmission and distribution utility which governs the connection of the person to the transmission and distributions utility’s system,

as well as the ongoing operation of the equipment used by an interconnection customer to generate, manage and monitor electricity after it is connected to the system.

- F. Inverter. “Inverter” means a mechanical unit that converts direct current (“DC”) power produced by solar panels to alternating current (“AC”) electricity so it can be used in household appliances.
- G. Kilowatt. “Kilowatt” means 1,000 watts, measured in AC.
- H. Kilowatt-hour. “Kilowatt-hour” or “kWh” means one kilowatt of power sustained for one hour.
- I. Megawatt. “Megawatt” or “MW” means 1,000 kilowatts, measured in AC.
- J. Nameplate capacity. “Nameplate capacity,” also referred to as rated power, means the maximum AC output for a solar panel or a solar array, measured in watts, kilowatts, or megawatts under optimal circumstances, such as peak sunlight and ideal outside temperature.
- K. Net energy billing. “Net energy billing,” as defined under 35-A M.R.S. §§ 3209-A and 3209-B, is a billing practice that allows consumers with a solar array to send excess or unused solar electricity to the grid and receive credits for the excess electricity produced. These credits can then be used to lower the cost of energy drawn from the grid during times when the solar array does not produce sufficient energy to meet the needs of the consumers. Net energy billing includes both the kWh credit program and the tariff rate program administered by the Maine Public Utilities Commission.
- L. Solar array. “Solar array” means one or more solar panels connected to create a desired energy output.
- M. Solar panel. A “solar panel” is a bundle of solar cells incorporated into either a solar array or solar farm. Solar panels are often referred to as photovoltaic (“PV”) panels. Solar panels are offered with a wide selection of capacity, efficiency, quality, and life expectancy.

3. Eligible Solar Equipment

Solar equipment used in residential arrays usually includes a single array mounted on a rooftop or anchored to land adjacent to a single-family residence. Solar equipment used in commercial arrays usually includes one or more mid- to large-scale array(s) anchored to owned or leased land.

Both residential and commercial arrays will also include a variety of equipment in addition to the panels. The Solar Exemption applies only to that equipment that either generates the electricity, is necessary for the generation, or converts generated electricity into usable form. Eligible equipment will generally include the equipment connecting solar panels to the inverter but not equipment connecting the inverter to the grid.

Examples of equipment that may be eligible for the Solar Exemption include, but are not limited to solar panels, racks and mechanical equipment that hold the panels and/or position the panels to track

the sun, inverters, batteries for storing electricity generated by the panels, charge controllers, requisite wiring, and other items directly related to these types of equipment. Examples of equipment that is not necessary for the generation of electricity, and therefore is not eligible for the Solar Exemption, include but are not limited to meters, control panels, transmission lines that run between the inverter and the grid, and similar equipment that is connected after the inverter. Land, regardless of residential or commercial status, is not eligible for the Solar Exemption.

Equipment used in residential or commercial arrays that are under construction and not yet operational on April 1 (i.e., construction in progress) is not eligible for the Solar Exemption for that tax year because it is not yet generating heat or electricity.

Note that, pursuant to 36 M.R.S. § 691(1), any property that is eligible for the Solar Exemption is generally not eligible for the Business Equipment Tax Exemption (BETE) program, even if the Solar Exemption is not claimed. However, there is a limited exception to this rule for commercial arrays that are not yet operational and capable of producing heat or electricity. Because these types of arrays are not yet eligible for the Solar Exemption, they may be eligible for BETE if all the requirements of the BETE program are met. However, once operational and eligible for the Solar Exemption, they will no longer be eligible for BETE, even if the Solar Exemption is not claimed.

4. Residential Solar Arrays

A. Eligibility. A residential solar array qualifies for the Solar Exemption if:

- (1) All the energy generated is used on the site where the equipment is located;
- (2) The equipment is collocated with a net energy billing customer subscribed to at least 50% of the facility's output; or
- (3) All of the energy generated is transmitted through the facilities of a transmission and distribution utility, a utility customer or customers receive a utility bill credit for the energy generated by the equipment, and the generator of electricity was entered into a fully executed interconnection agreement with a transmission and distribution utility prior to June 1, 2024.

Notwithstanding paragraph (3) above, because most residential arrays are collocated with the net energy billing customer, the eligibility of a residential solar array is generally not impacted by when a taxpayer entered into an interconnection agreement.

When a taxpayer sells residential property that includes a solar array, the array will continue to be exempt as long as the new owner files an updated application with the local assessor and the array continues to meet one of the above conditions.

B. Valuation approaches. An assessor must consider each of the three approaches to determining value (market, cost, and income) when assessing solar equipment. If there is insufficient sales data available to extract the contributory value of an eligible residential array, the market approach may not be applicable to value residential solar equipment.

The cost approach may be the most appropriate method to assess the value of residential solar equipment. The system owner or the installer should have information on the cost of installing the solar system and the estimated value of any tax credits or incentives. The assessor may use either the original array or replacement cost as a basis for value. Tax credits, incentives, depreciation, and obsolescence are then subtracted from the selected cost to determine current value.

The income approach, while usually not applied to residential property, may use projected electricity cost savings from a residential solar array as income to calculate assessed value. For this calculation, the online PV Value tool, supported by the Appraisal Institute, can be helpful. This tool is available at www.pvvalue.com. Municipal assessors may also use the PV Value tool to support values determined through the cost or market approach.

- C. Additional considerations. When considering the three approaches to determining value, an assessor may use an alternative method of calculating value, provided there is adequate data to support the result. Alternate valuation methods may include, but are not limited to a standard, per-kilowatt value based on nameplate capacity, or a modified value based on the contributory value of a solar array similar to a traditional heating system. Assessors should avoid applying a standard, per-panel value without sufficient supporting data, since panel efficiency, longevity, age, or capacity may vary greatly.

In addition, MRS accepts a general method of valuation for residential solar arrays based on the capacity of a solar array and its relative importance as a source of electricity and/or hot water for the residence to which it is attached. This method was developed by a committee including municipal assessors, members of the solar industry, and representatives of State government. The method contains four classes of systems, distinguished by size and relative importance in contributing to a residence's electricity consumption.

The values applicable to the following classes of solar arrays are acceptable substitutes to individual cost approach, market approach, or income approach calculations for residential systems, subject to adjustment if the assessor determines they do not reflect just value.

Class I – Minimal relative importance. This class is typified by simple systems having a basic installation design and/or having minimal anticipated cost savings. Value: \$4,000.

Class II – Moderate relative importance. This class is typified by adequate systems, whether larger installations for less insulated homes or smaller installations for highly insulated homes. Value: \$9,000.

Class III – Significant relative importance. This class is typified by extensive systems, covering all or most of the electrical needs of a residence and may be a primary influence in the contributory value to the property. Value: \$15,000.

Class IV – Custom system. This class is for systems that do not fall under one of the other three classes and may be a nontraditional system exceeding the typical capacity and efficiency of a Class III system. Systems in this class may have sufficient capacity to be a

material contribution to the overall value of a property in excess of that in Class III. Values in this class should be individually calculated by the assessor and may incorporate a discounted cash flow analysis.

5. Commercial Arrays

Certain commercial solar arrays may be eligible for the Solar Exemption. Unlike residential arrays, however, the eligibility of a commercial solar array is generally impacted by whether and when a taxpayer entered into an interconnection agreement with a transmission and distribution utility.

A. Eligibility. For tax years beginning on or after April 1, 2025, commercial solar arrays are eligible for the Solar Exemption if:

- (1) All the energy generated is used on the site where the equipment is located;
- (2) The equipment is collocated with a net energy billing customer or customers who are subscribed to at least 50% of a transmission and distribution facility's energy output; or
- (3) All of the energy generated is transmitted through the facilities of a transmission and distribution utility, a utility customer or customers receive a utility bill credit for the energy generated by the equipment, and the generator of electricity was entered into a fully executed interconnection agreement with a transmission and distribution utility prior to June 1, 2024.

Commercial solar arrays that do not meet one of these requirements are not eligible for the Solar Exemption.

B. Valuation Approaches. Like residential solar arrays, an assessor must consider each of the three approaches to value (market, cost, and income) when valuing commercial solar arrays. However, the extent to which each approach can be utilized will vary by municipality. For example, application of the market approach to value may not be possible since there is often insufficient data on market sales of arrays. Commercial property is ordinarily income-producing, so the income approach may be the most useful method of valuation. The most accurate method of applying the income approach to commercial solar equipment will generally be the discounted cash flow method. The cost approach may also be applicable, and can be used to support the value calculated using the income approach.

C. Other considerations. When considering the three approaches to determining value, an assessor may use an alternative method of calculating value, provided there is adequate data to support the result. Alternate valuation methods may include, but are not limited to a standard, per-megawatt-hour value. Assessors should avoid applying a standard, per-panel value without sufficient supporting data, since panel efficiency, longevity, age, or capacity may vary greatly.

Assessors should also consider the size and energy output of a commercial solar array when assessing commercial solar equipment. Commercial solar arrays can generally be classified into three size categories: (1) zero kilowatts to 500 kilowatts; (2) 501 kilowatts to one megawatt; and

(3) one megawatt to five megawatts. Each category may carry distinct implications as to an array's value under any of the three valuation approaches. However, the extent to which these categories impact valuations may be unique to an individual municipality.

Assessors may also consult the PV Value tool, available at www.pvvalue.com. Other resources that may help assessors in the valuation of commercial solar arrays include Berkley Lab's 'Tracking the Sun' report, available at www.emp.lbl.gov; and the National Renewable Energy Lab's System Advisory Model, available at www.sam.nrel.gov.

Regardless of the method used, assessors must ensure that there is sufficient evidence to justify the value assessed.

6. Application

To be eligible for the Solar Exemption, taxpayers must file a completed application with the assessor of the municipality where the equipment is located on or before April 1 of the first year for which the exemption is being claimed. If an assessor determines that the property is eligible for the Solar Exemption, the assessor will determine the value that the eligible solar equipment contributes to the total just value of the property within that parcel and will designate that contributory value as exempt. If an assessor determines that solar equipment does not increase the value of a particular property, then the contributory value of that equipment, and therefore the exemption amount, is zero.

Annual applications are not required, but an updated application must be filed if there are changes in ownership or changes in the solar equipment that affect the eligibility of the property for Solar Exemption. Assessors may request additional information from the taxpayer pursuant to 36 M.R.S. § 706-A in order to accurately establish the value of the equipment subject to exemption.

MAINE REVENUE SERVICES
PROPERTY TAX DIVISION
P.O. BOX 9106
AUGUSTA, MAINE 04332-9106
TEL: (207) 624-5600
EMAIL: prop.tax@maine.gov
www.maine.gov/revenue/taxes/property-tax

The Department of Administrative and Financial Services does not discriminate on the basis of disability in admission to, access to, or operation of its programs, services or activities. This material can be made available in alternate formats by contacting the Department's ADA Coordinator at (207) 624-8288(voice) or V/TTY: 7-1-1.

(Published under Appropriation No. 1037.1)