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Report on the Valuation of Commercial Solar Arrays

**A Report Prepared Pursuant To
Public Law 2023, ch. 682.**

**Department of Administrative and Financial Services
Maine Revenue Services**

January 1, 2025

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I. Introduction

L.D. 1153 – *An Act Regarding Municipal Taxation of Certain Solar Energy Equipment*, enacted as Public Law 2024, Ch. 682, directed Maine Revenue Services (“MRS”) to work with a stakeholder group to update MRS Property Tax Bulletin No. 29 – Solar Energy Exemption. The updated bulletin must reflect any changes made to relevant laws after December 31, 2023, and establish a general method of valuation for commercial solar arrays in consultation with municipal assessors, members of the solar industry, and representatives of state government by January 1, 2025.

MRS convened a stakeholder group led by Peter Lacy, Director of the MRS Property Tax Division. The stakeholder group included staff from the MRS Property Tax Division, municipal assessors, and representatives from the solar industry. A full list of participants is included at the end of this report. The group held three remote meetings between September and November 2024. Following the meetings, MRS prepared a draft of this report based on the discussion and circulated amongst the members of the group for their feedback.

II. Discussion

Assessors in Maine are required by state law and the Maine Constitution to assess all property in their municipality according to “just value,” defined as market value.¹ Assessors are also required by law to value and list all exempt real property in the municipality.² When determining the value of taxable or exempt property, an assessor must consider the three approaches to value: (1) the cost approach, where assessed value is determined using the replacement cost of property, less depreciation; (2) the sales comparison (“market”) approach, where the assessed value of property is determined by comparing the sale price of similar properties; and (3) the income approach, where assessed value is determined based on an estimate of the future income that will be generated by the property.³

The cost approach is generally the starting point for most assessors when determining the value of commercial solar arrays. One of the most important considerations when utilizing the cost approach is how to apply depreciation to the property being valued. The group spent quite a bit of time discussing depreciation in the context of solar and many members felt that a standardized depreciation schedule for solar property that applied across the state would aid assessors in valuing the property as well as provide some level of certainty and consistency for developers and taxpayers. However, the group raised concerns about the uncertainty of the life expectancy of equipment, because the industry and these types of arrays are still relatively new, particularly in Maine. Members of the solar industry believed that the current life expectancy of this equipment was between 25 and 35 years, but the group also agreed that the emergent nature of the industry made predictions as to life expectancy complicated. While there was discussion about the possibility of tying the property tax depreciation to the warranty periods of the equipment, the

¹ See 36 M.R.S. § 201; Me. Const., art. 9, § 8; *Madison Paper Indus. v. Town of Madison*, 2021 ME 35, ¶ 26, 253 A.3d 575.

² 36 M.R.S. § 707; this includes certain types of solar equipment exempt under 36 M.R.S. § 655(U), (V) and 36 M.R.S. § 656(K), (L).

³ See *Northeast Empire P’Ship #2 v. Town of Ashland*, 2003 ME 28, ¶ 6, 818 A.2d 1021.

income tax depreciation schedules, or the net energy billing contract period, the group felt that these options had significant faults. In addition, the depreciable life of equipment used in similar commercial solar arrays may differ depending on the array's age and location. Thus, while the group saw the value in a uniform depreciation schedule, the group ultimately concluded that there was insufficient aggregated data to create a generalized schedule that would adequately reflect the just value of commercial solar equipment and be defensible for assessors during the valuation process.

In addition to discussing the cost approach, the group discussed and considered the market and income approaches to commercial solar arrays. The market approach is difficult to utilize when it comes to commercial solar arrays, as there is very little market data available on sales of these types of installations. Members of the group from the solar industry noted that if and when commercial solar arrays are sold, it is often through the sale of a portfolio of projects, making it difficult to determine the value of a particular project or particular equipment using the market approach.

Similarly, the group had some concerns about using the income approach. With the uneven distribution of income for these arrays (much of the payback is front-loaded due to tax credits), and the recent changes to the net energy billing program, there was apprehension about any standardized method of projecting income to establish value. Ultimately, the group concluded that both the market and income approaches had limitations and would be difficult to implement as a broad-based method for valuing these arrays across the state.

Notwithstanding the valuation approach selected, the group agreed that assessors should consider the size and energy output of a commercial solar array when assessing commercial solar equipment. There was general consensus in the group that categorizing commercial solar arrays by size into the following ranges and using a standard method in the municipality for each range would be appropriate if supported by the data: (1) zero kilowatts to 500 kilowatts; (2) 501 kilowatts to one megawatt; and (3) one megawatt to five megawatts. The group felt that the three categories were sufficiently distinct such that there was potential for standardization within the ranges. The group also extensively discussed the possibility of establishing values within these ranges for commercial solar arrays based on the kilowatt or megawatt output of the array. However, the group ultimately felt that there was insufficient aggregated data at the time of this report to place standardized values on the arrays.

III. Conclusion

Assessors are allowed considerable freedom in determining their valuation methods,⁴ and the group concluded that this discretion was appropriate for assessing commercial solar equipment given the emergent status of Maine's solar industry, the differences between various larger scale commercial solar arrays, and the lack of aggregated data. Assessors should continue to value commercial solar arrays based on their individual knowledge of their respective municipality and their analysis of available data, which is the most effective way to achieve the goal of reaching just value as required by Maine law and the Maine Constitution.

⁴ See 36 M.R.S. § 328; *Madison Paper Indus. v. Town of Madison*, 2021 ME 35, ¶ 29, 253 A.3d 575.

The group recommends that assessors continue to monitor data in their towns, in the surrounding areas, and nationwide to determine and ensure that their methods of assessing commercial solar arrays are supported and in accordance with just value. Additional resources identified by the group that assessors may consider when working to assess commercial solar arrays include:

- Berkeley Lab’s 2024 “[Tracking the Sun Report](#).”
- The National Renewable Energy Lab’s [System Advisor Model](#).
- The solar valuation tool [PV Value](#).

As of the date of this report, MRS has updated MRS Property Tax Bulletin No. 29 – Solar Energy Exemption to reflect any changes made to relevant laws after December 31, 2023. Municipal representatives (including Maine Municipal Association) and representatives from the solar industry have agreed to work to gather data going forward to better identify trends in the valuation of these properties and provide guidance to municipal assessors when appropriate. MRS and stakeholders will continue to explore the possibility of a standardized valuation method in the future if such a method is supported by the data and conforms to state law and the Maine Constitution, and MRS will continue to update the bulletin as needed.

IV. Participant Comments

Judy Mathiau: “[The report comes to] a very well written conclusion. Goes right back to home rule ... I do feel it is crucial for assessors to be perhaps more knowledgeable with the terminology, definitions, process and costs of development for each of their own solar fields. For example, a point I had made was the fact that although you may have a 5.2 mw array in place, the name plate capacity is only 4.8. Assessors need more training on the basics, a checklist of what to look for or what to ask of the developer. Due diligence before finalizing a value.

I compare this to administering TIFS. Another area that many assessors do not understand but should. They are all different and can easily be administered incorrectly which results in misappropriating the captured funds. Another (my 2 cents worth), is to begin assimilating existing farms in each municipality and how they have been assessed. What data can be collected and shared to achieve a comparable approach?”

V. Participant List

Henry Barrett—Business Development Manager, Nexamp
Lindsay Bourgoine—Director of Policy and Government Affairs, Revision Energy
Joshua Bragan—Assessor’s Agent and Review Appraiser, Maine Assessment and Appraisal Services
Amanda Campbell—Legislative Advocate, Maine Municipal Association
Eliza Donoghue—Executive Director, Maine Renewable Energy Association
Chris Donovan—Director of Project Finance, Revision Energy
Peter Lacy—Director, MRS Property Tax Division
Judy Mathiau—Assessor, Town of Winslow
Chris McCabe—Project Financing Counsel, Revision Energy

Justin McMann—District Tax Audit Manager, MRS Property Tax Division
Elijah Munro-Ludders—Policy Analyst, MRS Property Tax Division
Nick Sampson—Senior Project Manager, BNRG Renewables
Ada Selmani—Tax Director, Nexamp
Jake Springer—Policy Director, Nexamp
Joseph St. Peter—Deputy Assessor, City of Auburn