



September 3, 2021 VIA ELECTRONIC MAIL

NYS Department of Taxation and Finance – ORPTS ATTN: Michael St. Germain W.A. Harriman Campus Albany, NY 12227-0801 <u>renewables.model.comments@tax.ny.gov</u> Re: Appraisal methodology for solar and wind energy projects

Dear Mr. St. Germain:

On behalf of the Alliance for Clean Energy New York (ACE NY) and the New York Solar Energy Industries Association (NYSEIA), we are writing to submit the attached comments on the Department of Taxation and Finance's draft solar and wind appraisal model and preliminary discount rates posted on August 2, 2021. Thank you for considering these comments and please let us know if we can provide any additional information.

Respectfully,

Anne Reynolds

Anne Reynolds Executive Director Alliance for Clean Energy New York

Shyam Mehta Executive Director New York Solar Energy Industries Association

Cc:

Ms. Jessica Waldorf, Acting Assistant Secretary for Energy

Ms. Jane Wiesenberg, Assistant Secretary for Economic Development

Mr. Sean Ewart, Senior Policy Advisor for Energy

Mr. Rajiv Shah, Assistant Counsel, Executive Chamber

Ms. Doreen M. Harris, President, NY State Energy Research and Development Authority

Mr. John Howard, Chair, NY State Department of Public Service

Mr. Basil Seggos, Commissioner, NY State Department of Environmental Conservation

Mr. Houtan Moaveni, Deputy Executive Director, NY State Office of Renewable Energy Siting

COMMENTS ON NYS DEPARTMENT OF TAXATION AND FINANCE PROPOSED APPRAISAL METHODOLOGY FOR SOLAR AND WIND ENERGY PROJECTS

Submitted by THE ALLIANCE FOR CLEAN ENERGY NEW YORK & THE NEW YORK SOLAR ENERGY INDUSTRIES ASSOCIATION

September 3, 2021

I. Executive Summary

The appraisal methodology for solar and wind energy projects proposed by New York State Department of Taxation and Finance on August 2, 2021 (the "model") needs to be modified to use discount rates that more accurately reflect risks and operating realities for clean energy projects in New York State, and that are consistent with those used by professional New York State assessors in clean energy project appraisals; to exclude intangible assets; and to reflect more accurately how wind and solar facilities earn revenues. As currently structured, the model produces a valuation in excess of true fair market value and is thus not a legally defensible model for the State of New York to use. The Alliance for Clean Energy New York¹ (ACE NY) and the New York Solar Energy Industries Association² (NYSEIA) both oppose the use of this model as proposed and respectfully request that the New York State Department of Taxation and Finance (DTF) significantly modify its approach.

By materially underestimating the discount rate and overestimating revenues, the DTF model's outcomes exceed fair market value, in violation of the State Constitution, N.Y. Const. art. XVI, § 2 ("Assessments shall in no case exceed full value.") The DTF model, as proposed, will also suppress the development of renewable energy projects required to support the state's renewable electricity mandates as established in New York's Climate Leadership and Community

¹ <u>https://www.aceny.org/</u>

² <u>https://www.nyseia.org/</u>

Protection Act of 2019³ (CLCPA), while the intent of the legislation included in the 2021-2022 Enacted State Budget⁴ that lead to this proposal was to support efforts to meet the State's renewable energy goals. The Memo in Support for this legislative proposal stated that DTF should develop this appraisal model to "establish a process for creating a standard methodology for the assessment of wind and solar projects that facilitates meeting New York's aggressive carbon reduction goals."

In these comments, ACE NY and NYSEIA recommend three changes to the proposed DTF model.

- (A) Use significantly higher discount rates in the model to better reflect risk and operating realities for clean energy projects in New York State, and that are consistent with those used by professional New York State assessors in clean energy project appraisals;
- (B) Exclude intangible assets like environmental attributes from the model, as required by law;
- (C) More accurately estimate revenue by adjusting to account for basis risk, curtailment, congestion, production profile, and capacity market revenue differences.

As a second option, we believe the admittedly complicated task of accurately forecasting the revenue for wind and solar projects, both utility scale ("Tier 1") and distributed ("VDER"), can be best achieved by modeling aligned with how industry investors approach valuation. This type of after-tax, market-based model would more accurately represent fair market values and reflect how the renewable energy industry values facilities.

Finally, ACE NY and NYSEIA cannot emphasize enough the positive impact that a standardized and workable appraisal methodology will have in New York State. A standardized methodology will bring certainty to taxing jurisdictions and project developers alike and will guide and assist in the negotiation of Payment In Lieu of Taxes (PILOT) agreements. But a model that results in excessive or un-financeable property taxation will simply kill wind and solar project development in New York.

³ <u>https://legislation.nysenate.gov/pdf/bills/2019/S6599</u>

⁴ <u>https://www.budget.ny.gov/pubs/archive/fy22/ex/artvii/revenue-memo.pdf</u>

II. Background

Legislation included in the 2021-2022 Enacted State Budget directed the NYS Department of Taxation and Finance (DTF) to publish a standard methodology for real property tax assessment for solar and wind energy systems, in consultation with NYSERDA and the NYS Assessors Association, using a discounted cash flow (DCF) approach. Municipalities will have the flexibility to use the standard methodology to assess projects or negotiate a payment in lieu of taxes (PILOT) agreement, which these projects are typically now utilizing (and have been for more than ten years). The renewable energy industry supported this legislation. A standard and fair appraisal methodology will increase certainty and convenience for both taxing jurisdictions and renewable energy development companies.

The Governor's Memo of Support for the 2021 enacting legislation⁵ articulated the goals and intentions with respect to the appraisal model that DTF was required to develop and publish:

This bill would extend the existing real property tax exemption for renewable energy projects to continue to meet the clean energy goals established under the Climate Leadership and Community Protection Act, and provide appropriate and fair property taxation for wind and solar projects that are uniform across the State. The bill would establish a process for creating a standard methodology for the assessment of wind and solar projects that facilitates meeting New York's aggressive carbon reduction goals, while still leaving municipalities the flexibility to negotiate Payments in Lieu of Taxes (PILOT) agreements. The great majority of projects reimburse municipalities and school districts through PILOT agreements.

The option to exempt solar and energy systems from real property taxes has helped to spur the development of renewable energy across New York State and contributed to reductions in harmful emissions while promoting economic development and creating thousands of good paying jobs. The extension contemplated in this bill would provide assurance to developers of renewable energy projects that the option for a real property tax exemption will exist well into the future, while also clarifying the responsibilities of the developer and the local taxing jurisdiction. [*EMPHASIS ADDED*]

⁵ <u>https://www.budget.ny.gov/pubs/archive/fy22/ex/artvii/revenue-memo.pdf</u>

Furthermore, in Part X of the Revenue Article VII Legislation⁶ of the FY 2022 NYS Executive Budget, the following language is included:

It is hereby further declared to be the policy of this state to protect and promote the health of the inhabitants of this state and to increase trade through promoting the development of facilities to provide recreation for the citizens of the state and to attract tourists from other states **and to promote the development of renewable energy projects to support the state's renewable energy goals as may be established or amended from time to time.** [*EMPHASIS ADDED*]

Regrettably, the DTF's draft solar and wind appraisal model and preliminary discount rates fail to achieve the intended goal of achieving appropriate assessment for wind and solar projects, standardized across the state. The attempt to create a simple model that can be used by all assessors across the state has, as currently proposed, resulted in a proposed valuation process that fails to ascertain a true fair market value, and the values presented in DTF's proposed appraisal methodology, when applied to actual project proformas, are significantly different from those experienced by the solar and wind industry. The most problematic aspect is the choice of discount rates, which simply do not reflect the risks and operating realities for clean energy projects and are significantly lower than those used by professional New York State assessors in clean energy project appraisals.

In its current form, the proposed model would prevent the construction of wind and solar projects and would prevent the State from achieving the clean electricity goals of the Climate Leadership and Community Protection Act (CLCPA), specifically the 70 percent renewable electricity by 2030 and six gigawatts of community distributed solar projects by 2025. Achieving both targets will require the construction of a significant amount of wind and solar energy projects. If not modified, the draft model will suppress renewable project development and impede communities from realizing the economic benefits associated with wind and solar projects, which include not just property tax payments, but job creation and local landowner lease payments.

⁶ <u>https://www.budget.ny.gov/pubs/archive/fy22/ex/artvii/revenue-bill.pdf</u>

The final model adopted and published by DTF should promote economic development through the creation of thousands of high-paying construction jobs and provide local governments with a significant, increased, and stable revenue stream. It would also reduce risk to local governments of tax certiorari created by some of the current practices, as well as providing budgeting certainty for assessors, towns, and developers across generation types.

III. If NYS Maintains This Approach, Specific Changes are Needed

To comply with the mandate of RPTL 575-b, DTF should amend the proposed model to reflect the above concerns. There are three specific categories of changes that need to be made:

A. Appropriate Discount Rates for Appraisal Purposes Should Be Significantly Higher.

DTF's proposed discount rates do not reflect the risks and operating realities for commercial clean energy projects and are consequently significantly lower than discount rates used by professional NYS assessors in appraising such projects. Within a Discounted Cash Flow analysis, an appropriate discount rate for appraisal purposes must incorporate a return for at least four elements of compensation which the investor is seeking, namely:

- The base rate of compensation for simply giving up control of the use of funds (the riskless rate, represented by the 30-year Treasury bond rate);
- Liquidity risk, or compensation for giving up liquidity over a given period of time;
- Management risk, reflecting the time and effort an investment requires;
- Investment risk (for the risk of principal decline, diminution of value, income decline and income instability); and
- Technology risk, reflecting the risk of investing in a relatively nascent technology.

Figure 1 displays the construction of a discount rate for the 2019 appraisal of a five-megawatt community solar project by a New York State Certified General Appraiser using the build-up

method laid out above (the full report is included as an attachment and referenced in Exhibit A in the appendix to these comments). As shown, incorporating the above factors produces a pre-tax rate of 12.2%, which increases to 14% after accounting for tax load and rounding.

Figure 1: Build-up of Discount Rate for 2019 Professional Appraisal of 5-MW Community Solar Project in New York State

Type of Risk	
Liquidity	3.00%
Management	1.00%
Investment	3.00%
Riskless Rate	2.20%
Technology	<u>3.00%</u>
Projected Discount Rate	12.20%
Projected Discount Rate (Rounded)	12.20%

Source: Appraisal Report of Proposed Active Solar Development, LLC – Community Solar Farm, 2019; page 51.

An additional and independent source with regard to the selection of an appropriate discount rate for clean energy project appraisals is an appraisal model and discount rate published by the State of Vermont Department of Taxes in consultation with professional appraisers, required to be used for the appraisal of solar projects⁷ following the codification of the methodology for arriving at the assessed value of solar plants through legislation passed in that state in 2015. As determined and published from 2019 onwards, assessors are required to use a base discount rate of 13.31% for appraisals of solar projects.

Based on the above examples, DTF's preliminary discount rates of 7.16% to 9.66% are significantly lower than what would be considered accurate and appropriate for clean energy project appraisals in New York State. We recommend instead a range of 12% to 14% for solar and wind projects, which would accurately reflect the investor risks outlined above, and which are consistent with those used both by professional New York State assessors in commercial solar

⁷ <u>Valuation of Solar Arrays and Cell Towers</u>, Vermont Department of Taxes, April 2019, p2

project appraisals as well as those finalized and published by the State of Vermont for solar projects.

B. The Value of Intangible Assets Should Not Be Included.

As written into the State Constitution, intangible assets are not taxable as real property under New York State law.⁸ New York courts have held that intangible assets are not to be included in the value of real property assessments, including cases specifically dealing with energy generating facilities.⁹ This is because the goal of real property assessment is to reflect "the value of real estate alone, while business income is a measure of the real property, personal property, and the intangible assets of the business."¹⁰

Based on the above, for wind and solar projects, both utility-scale and distributed projects, revenue for intangible assets should not be included. For utility-scale projects, this would exclude payments for Renewable Energy Certificates (RECs) from New York State. For these projects, the strike price included in a REC contract should not be used in the model, but the energy and capacity market revenue should be included in the model. For distributed generation projects, revenues stemming from the Environmental Value (E-Value) component of the Value of Distributed Energy Resource (VDER) compensation tariff should not be included in the model, as E-Value is also an intangible asset reflecting environmental attributes. For both types of projects, intangibles are not taxable in NY (State Constitution Article XVI, § 3) and cannot be considered as real property revenue for tax assessment purposes.

⁸ N.Y. CONST. art. XVI, § 3.

⁹ See e.g., *Mirant New York, Inc. v. Town of Stony Point Assessor*, 13 Misc. 3d 1204(A), 824 N.Y.S.2d 756 (Sup. Ct. 2006), ("Intangible assets and working capital were quantified and deducted to arrive at the value attributable to the real property").

¹⁰ See 13 Warren's Weed, New York Real Property, Incomes Compared § 132.10 [5th ed.]; Appraisal of Real Estate, at 29 [Appraisal Institute 13th ed.], *Miriam Osborn Mem'l Home Ass'n v. Assessor of City of Rye*, 80 A.D.3d 118, 142 (2d Dept. 2010).

Further precedent for the treatment of E-Value and RECs as intangible assets, and therefore, not to be included in the value of real property assessments, can be found in the following:

- Intangibles, or the certificates representing them, are not included within the definition of real Property in the Real Property Tax Law as it generates to electric generating equipment.¹¹
- The New York Public Service Commission has described environmental attributes as intangible assets in court filings.¹²
- The Internal Revenue Service specifically rejected an effort to classify RECs as real property in the Real Estate Investment Trust context, even as intangible real property.¹³
- The Environmental Protection Agency's definition of RECs is consistent with a determination that E-Values are intangible property.¹⁴
- At least two other states North Dakota and Oklahoma have confirmed the intangible status of RECs under state law.

C. The Energy and Capacity Market Revenue Calculations Must be More Accurate

The revenue realized by a utility-scale wind and solar project holding an Indexed REC contract from NYSERDA is *not* the strike price included in the contract. There is a significant difference between the strike price and the realized revenue for the reasons articulated below.

In New York, a renewable generator receives energy and capacity revenue from the NYISO market. The energy revenue is reduced by "basis risk" and "curtailment". Each month, NYSERDA pays the generator the difference between the strike price included in their contract and the

¹¹ N.Y. Real Prop. Tax Law § 102 (12)(f) (McKinney 2017)

¹² Coalition for Competitive Electricity, Dynergy Inc. v. Zibelman, 906 F.3d 41 (2d Cir. 2018), Brief for Defendants-Appellees at 14, 2017 WL 5592751 (C.A.2) (No. 118).

¹³ FINAL REGULATIONS REDUCE UNCERTAINTY REGARDING THE DEFINITION OF REIT REAL PROPERTY, 44 Real Est. Tax'n 86, 90, 2017 WL 727841, 6.

¹⁴ ENVTL. PROT. AGENCY, Renewable Energy Certificates (RECs),

https://www.epa.gov/greenpower/renewable-energy-certificates-recs (last visited Aug. 30, 2021).

round the clock average day-ahead NYISO price for the zone the generator is located in. This is an imperfect hedge, i.e., the revenue a generator receives from the NYISO market is different from the round-the-clock average day-ahead price published by the NYISO for the zone. In the case of renewable generators, the difference is almost always negative.

• To account for basis risk, a project-specific basis report should be submitted in the appraisal process and included as an input adjusting forecasted revenues.

New York State is divided into zones by the NYISO, and electricity prices differ in each zone. But prices also differ *within* zones. Basis risk represents the difference between the price paid at the node (i.e., the location of the generator) and the price for the regional NYISO zone. While it is true that basis risk could be positive or negative, in the rural areas where renewable generators are located, basis risk is typically negative, because the wind or solar facility is located in farther rural reaches of the zone, far from population centers. In New York State, some areas experience extreme basis risk, accounting for more than a 25% difference between the nodal price and NYISO zone price. This is especially observed in pockets where renewable generation greatly outweighs energy demand. The NYSERDA contracts do not consider basis risk and calculate expected energy revenues using the regional NYISO zones' pricing data. For these reasons, we suggest that a project-specific basis report be submitted in the appraisal process and be included as an input adjusting forecasted revenues realized by the project.

• To account for production profile, the model should include a 12-month, 24-hour forecast of the project's energy production.

In addition to basis risk, energy revenue is affected by the production profile of a wind or solar generator. Energy generators are paid for the kilowatt-hours (kWh) of energy that they produce in the hour that they produce them in. The DTF should allow for generators to submit a 12-month, 24-hour (12x24) forecast of the project-specific energy production. This input, paired with the energy price forecast, will more accurately represent expected energy revenues. Additionally, Wood Mackenzie provides production-weighted forward energy pricing curves that DTF can use as a default in the absence of a project-specific 12x24.

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As explained in Section B, REC revenue should *not* be included in the assessment model and therefore the contract strike price should not be used. Still, we note that NYSERDA's Index REC formula does not protect or hedge against basis risk. Project operators are faced with basis risk because: (i) the contracts are settled monthly using simple average of prices (specifically, LBMP¹⁵) in the generator's zone to arrive at a zonal price versus hourly operation in the market; (b) the contract settlement formula uses day-ahead instead of real-time prices; and (c) the settlement formula uses a zonal price and not the generator's nodal price for the Reference Energy Price. Therefore, there is a higher risk that the annual reference price used in the model will differ from the reference price realized by many projects. Put more simply, there is a significant difference between the revenue an operating wind or solar project operating receives, and the reference prices used in the contract. The appraisal model needs to account for these differences, which is the basis for the recommendations made above.

• To account for curtailment, the model should include a project-specific adjustment factor.

Another issue affecting revenue is curtailment. The NYISO curtails power generators as a strategy to ensure proper safety and operating parameters of the transmission system. DTF's model assumes zero curtailment. Industry standard is 1% and could be much higher for some generators in constrained areas of the State. Additionally, wind projects commonly have environmental curtailment to protect birds and bats included as requirements in their operating permits issued by the State of New York. Both of these types or curtailment clearly reduce revenue, and this needs to be reflected in the appraisal model. At a minimum, we recommend that revenue be reduced by 1% to at least partially reflect the effects of curtailment on project revenue.

¹⁵ LBMP is Location Based Marginal Price. Indexed REC contracts use average LBMP for the NYISO zone rather than the hourly prices.

• To account for capacity market differences, the model should use a declining Effective Load Carrying Capability Curve.

A fourth issue affecting revenues is capacity market characteristics. Currently, the DTF's model uses a straight-line average Unforced Capacity Production (UCAP) factor throughout the useful life of the generator. This is inaccurate and misaligns with the NYISO's current process, as well as with the reforms the NYISO has proposed this summer regarding capacity accreditation (CA). In other words, this approach does not accurately reflect what a wind or solar project will be receiving in capacity market revenues. Instead, a seasonal, declining UCAP factor should be used to properly account for variations in capacity value in the winter and summer periods, as well as the declining value of capacity for intermittent resources, as corroborated by the NYISO's CA proposal. For simplicity, we suggest using Wood Mackenzie's declining Effective Load Carrying Capability (ELCC) curve to more accurately represent both seasonal and declining valuations in the capacity market for renewable energy generators. Using a straight-line average UCAP factor egregiously overrepresents capacity market revenue.

• To account for production levels common in New York, the model should use zonespecific irradiance or capacity factors, or include a field to manually adjust for production.

For solar projects, energy production in the model is only a function of whether the system is a fixed axis or uses trackers, and the implied solar irradiance assumptions are higher on average than would be appropriate, especially for tracker systems. For more accurate production and revenue estimation, we strongly recommend using load zone-specific irradiance or capacity factors. Different parts of the state have materially different energy production profiles that should be taken into account by incorporating load-zone-specific irradiance, as well by incorporating a field to manually adjust production.

• Model Increases Energy Revenue Revenues for Line Loss Adder

For utility-scale ("Tier 1") wind and solar projects, the model appears to increase energy revenues by 6.5% for a line loss adder for reasons that are not clear. This seems incorrect and/or needs to be clarified.

• Model Includes Some Inaccuracies in Distributed Solar Compensation

Distributed solar projects are compensated via the Value of Distributed Energy Resources (VDER) tariff. The VDER compensation is complex and dynamic, and simplifying it in a model is understandably difficult. As discussed above, an important element of the VDER tariff – the environmental value – is compensation for an intangible asset and should be excluded from the model.

Another issue is that Community Distributed Generation (CDG) projects, which are the vast majority of VDER projects, regularly sell electricity (more accurately, VDER bill credits) to offtakers at a discount (typically 10%). To account for this, the model should incorporate a VDER discount field. For example, entering 10% would result in the "VDER Total" row equaling 90% of its current revenue case.

Finally, there is an issue in the model with the Market Transition Credit (MTC) or Community Credit incentive, in that the assumptions included in the model are far too generalized to be accurate for a specific project.

IV. Additional Clarifications are Needed.

The proposed DTF model estimates operating costs under three headings: operating and maintenance (O&M) costs, management expenses, and insurance. As O&M is presented as a \$/kW value, it is difficult to assess what specific costs were and were not included or underestimated because there is limited detail included in the model. In addition to the

traditional operating and maintenance costs associated with physical infrastructure, renewable energy projects experience some unique expenses, such as:

- Land lease payments, host community agreements, and property taxes
- Interconnection costs
- Electricity discounts required by NYS DPS as community benefits
- Debt service
- Merchant scheduling and dispatch costs
- Decommissioning bonds or cash deposits required by permits (ORES or local governments)
- o Overhead, software, monitoring, SCADA, accounting, legal, letters of credit
- For distributed projects, especially community solar projects, customer management and acquisition expenses.

We request that DTF provide additional details on expenses in general categories rather than one comprehensive \$/kW amount. It would also be helpful to provide additional information regarding the replacement assumptions for key components.

V. The Model Does Not Result in Fair Market Value

The above recommended changes will improve the DTF's model significantly. However, the Alliance for Clean Energy New York and the New York Solar Energy Industries Association do believe there are structural inaccuracies in the DTF proposed model, as mentioned in the Executive Summary. The income approach, and specifically the discounted cash flow, was the approach required by the 2021 legislation. When selecting the type of discounted cash flow (DCF) method to use, as indicated above, there are important factors that should be considered when performing the DCF analysis of solar and wind projects: which cash flows are valued; the treatment of contracted and merchant cash flows; appropriate adjustments to either discount rates or cash flows; basis and congestion and curtailment; and the implications of major maintenance on project life. These factors were not appropriately considered in DTF's proposed model and need to be corrected.

This new legislation (575 – B) did not change the mandate under Article XVI, § 2 of the State Constitution that assessments cannot exceed fair market value, nor did it change the definition

of fair market value. It solely dictated the methodology by which fair market value is to be calculated. DTF's proposed methodology deviates from standard appraisal methodology for discounted cash flow in, among other things, its calculation of the discount rate, producing taxable values in excess of fair market value.

VI. Conclusion

The Alliance for Clean Energy New York and the New York Solar Energy Industries Association sincerely appreciates the efforts of the New York State Department of Tax and Finance in developing their proposed appraisal method in response to the 2021 enacted legislation. We reiterate the importance of the final outcome of this work in guiding New York's communities in developing fair appraisals for this new, unique, and growing industry, as well as in supporting New York's legally mandated clean energy transition.

Both ACE NY and NYSEIA oppose the use of New York State Department of Taxation and Finance's (DTF) appraisal methodology - as currently proposed - and respectfully request that DTF significantly modify its approach. DTF's methodology is simply not workable. It is not a fair nor accurate method for appraising wind and solar projects; it does not result in a fair market value for wind and solar projects; and is thus not a legally defensible model for the State of New York to use.

To rectify the proposal, DTF has two options. One would be to use an after-tax model that incorporates the initial capital investments and earnings after interest, taxes, depreciation, and amortization.

The second option is to significantly amend the proposal to (A) use higher discount rates to better reflect the risks and realities for clean energy projects in New York; (B) not include intangible assets, specifically environmental attributes; and (C) better reflect revenues by considering basis risk, congestion, curtailment, production profiles, and capacity market fluctuations.

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As proposed, DTF's methodology would prevent wind and solar projects from getting built – demonstrating that it would not reflect fair market value. This would, in turn, prevent New York from achieving its ambitious and legally mandated renewable electricity goals, as well as suppress local tax revenues and economic benefits.

APPENDIX

EXHIBIT A: Appraisal Report of Proposed Active Solar Development, LLC – Community Solar Farm, 2019. (REPORT INCLUDED SEPARATELY AS AN ATTACHMENT)