NEW YORK STATE | Department of Taxation and Finance

Appraisal Methodology

for Solar and Wind Energy Projects

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Agenda

- Overview
  - new law
  - development process
- Final discount rates
- Final appraisal model
- Where to direct questions

Overview

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New Methodology

The 2021-2022 Enacted State Budget established a process for the NYS Tax Department to develop a standard appraisal methodology for solar and wind energy systems with a nameplate capacity equal to or greater than one megawatt.

A one-megawatt solar farm typically covers five to ten acres.

New Methodology (cont.)

The new law also requires:

- the appraisal model to use the discounted cash flow (income) approach for solar and wind energy systems, and

- discount rates to be applied to the models.

Work With Key Stakeholders

In addition, the department must work in consultation with the New York State Assessors Association (NYSAA) and the New York State Energy Research and Development Authority (NYSERDA).

Assessor Role

Beginning with 2022 assessment rolls, assessors will use the model and discount rates to value and place assessments on affected energy systems.

Note: Municipalities will continue to have the flexibility to negotiate payment in lieu of taxes (PILOT) agreements.

Development Process

In addition to consulting with the NYSAA and NYSERDA, we also gathered input from:

- the Alliance for Clean Energy,
- the New York State Economic Development Council, and
- an array of renewable energy developers.

Timeline

- On August 2, we launched a new webpage with the:
  - preliminary discount rates,
  - preliminary model,
  - unlocked preliminary model with viewable formulas for review and analysis, and
  - instructions.
- Published Model #2 on September 17
- Comment period ended October 1

Comments

- Many thanks to all of you who provided comments.
- We received more than 60 comments in total.
- We reviewed all comments and updated the model as appropriate.

Final Discount Rates and Model

We published the final discount rates and appraisal model for 2022 assessments on October 14.

Questions and Answers

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Questions and Answers

- More than 300 of you attended and submitted 200 questions at our August 31 webinar.
- We grouped the questions and published answers on September 24, and published updates on October 14.
- The Q&A numbers below correspond to the numbers on the webpage.

Frequency: Question #G2

Will assessors use the new methodology to determine the assessment for solar and wind properties every year?

Frequency: Answer #G2

Yes. The model will be updated annually, and assessors will use it to generate the value for every solar and wind project with a nameplate capacity of one megawatt or larger.

Frequency: Question #M2

Why will the model be updated annually?

Frequency: Answer #M2

The renewable energy industry is evolving and changing. Those changes will impact the forecasts built into the model's income approach. In addition, as solar and wind projects mature, new and revised information may affect the model.

The discount rates will also change annually to reflect economic changes.

Size: Question #G3

Could the new methodology be used for a project smaller than one megawatt?

Size: Answer #G3

No. The model is designed for projects of one megawatt or larger.

Size: Question #G4

Can an assessor use this methodology to value a residential rooftop solar installation?

Size: Answer #G4

No. Those projects are typically much smaller than one megawatt. Assessors will continue to value those installations as they have in the past.

Cost: Question #G8

Why didn’t ORPTS use the cost approach to develop the methodology?

Cost: Answer #G8

The law (RPTL 575-b) requires the use of the discounted cash flow (income) approach.

Legality: Question #G9

If we change the assessment annually, including in years that we aren't doing municipal-wide reassessments, doesn't this constitute selective (or spot) assessing?

Legality: Answer #G9

No. RPTL 575-b requires the assessor to use the new methodology to value all projects of one megawatt or larger. The law also authorizes the department to annually update the discount rate and to update the model periodically, as appropriate.

Pilots: Question #P1

How does the new methodology impact existing PILOTs?

Piots: Answer #P1

The answer depends on the terms of the existing PILOT agreement. If a PILOT under the agreement is calculated based on the assessed value of the project, the publication of this model will change the PILOT because the assessed value of the property will likely change. If the PILOT agreement sets the PILOT at a specific amount without regard to the assessed value of the property, the model may have no impact on the PILOT.

Pilots: Question #P5

If a taxing jurisdiction did not opt out of the RP 487 exemption and entered into a PILOT agreement before 2022, are existing projects grandfathered and the new methodology will not apply for the PILOT duration?

Pilots: Answer #P5

The new methodology applies to all projects of one megawatt or larger.

Pilots: Question #P6

Will some existing PILOT agreements need to be modified as a result of this new methodology?

Pilots: Answer #P6

You should consult with local counsel on the agreement(s) in your municipality.

Exemptions: Question #E2

If a town owns the solar or wind plant, will it still be wholly exempt under this new methodology?

Exemptions: Answer #E2

If a generating facility is exempt from taxation under RPTL 406 it will continue to be exempt. Municipalities will use the new methodology to generate the value of the property, which will then be wholly exempt.

Exemptions: Question #E1

Is the exemption for solar, wind, or certain other energy systems (487) still in effect for plants regardless of their size?

Exemptions: Answer #E1

The exemption authorized by RPTL 487 continues to be in effect, except where a locality has opted out of the exemption. If a solar or wind plant is one megawatt or larger, you will use the appraisal model to determine its value for purposes of the exemption.

Exemptions: Question #E3

Does the law establishing this new methodology (RPTL 575-b) eliminate the penalty for converting agricultural land to a solar project?

Exemptions: Answer #E3

No. The conversion payments authorized by Agriculture and Markets Law Sections 305 and 306 still apply to the development of solar generating facilities.

Developers: Question #S1

How can an assessor get specific values to enter into the model from developers?

Developers: Answer #S1

Developers are aware of the new law, and can be expected to provide information when needed. Assessors have the authority to contact the developer for information, just as they do for other types of properties.

Developers: Question #S2

Before using the model each year, should we first contact the developers for updated information?

Developers: Answer #S2

You may wish to contact the developers annually to be aware of any changes to the plant.

Final Discount Rates

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Three Discount Rates

Three rates reflect differences in investment risk associated with system type and size:

- Large solar (greater than five megawatts) – 7.16%
- Smaller solar (between one and five megawatts) – 8.00%
- Wind (greater than one megawatt) – 9.66%

Weighted Average Cost of Capital (WACC)

- The discount rates are based on the economic principle of WACC.
- Cost of capital is forward-looking:
  - time value of money
  - investor risk
- Take into account the expected rate of return that market participants require to attract funds to a particular investment.

Pre-tax

- The discount rates are pre-tax discount rates.
- The rates will be combined with the local full-value property tax rates in the model.

Appraisal Model

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User Inputs

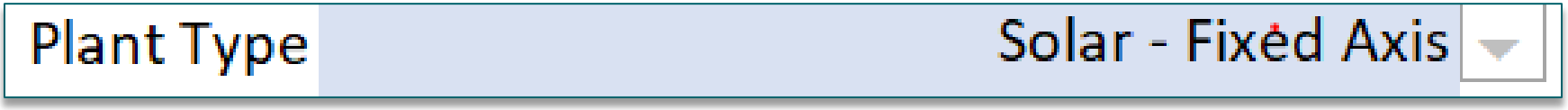
To use the model, you'll enter data and information into the blue cells. For example:

NYISO Zone	C - Central	
Plant Type	Solar - Fixed Axis	
System Size	2,500	(kW Wind/kW **AC** Solar)
Date of Operation	1/1/2020	
Taxable Status Date	3/1/2022	
System Age at Taxable Status Date	*2*	

User Input: NYISO Zone

- **NYISO Zone:** New York State is broken into 11 main zones for energy pricing by the New York Independent System Operator (NYISO).
- NYISO controls the electrical grid.
- If you're unsure of the zone a property is in, visit NYISO's map. (Scroll to page two for the county boundaries.)

User Input: Plant Type



Select from the three options in the dropdown:

Solar (fixed axis): panels mounted on stationary racks. (Lower efficiency when sun angle is not optimal.)

Solar (tracking): maintain an optimal angle of the sun throughout day. Improved efficiency but higher installation and maintenance costs.

Land-based wind: wind turbines capture the motion of wind to produce energy.

User Input: System Size

System Size	5,000	(kW Wind/kW **AC** Solar)

- Enter the capacity (or nameplate capacity) of the generating system. (Maximum power that could be generated by the system under optimal conditions.)
- Solar – kW AC
- Wind – kW
- Available from the plant owner

User Input: Date of Operation

Date of Operation	1/1/2021

Date the plant began operating or, if the plant is not yet operating, the date construction was completed.

User Input: Taxable Status Date

Taxable Status Date	3/1/2022

Auto-filled: System Age

System Age at Taxable Status Date	2

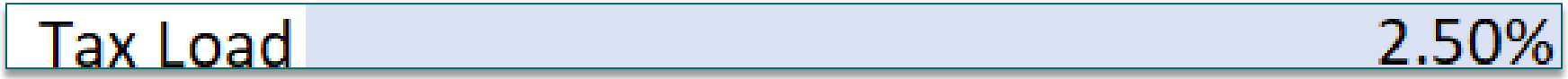
System Age at Taxable Status Date: auto-fills based on Date of Operation and Taxable Status Date.

Auto-filled: Before Tax Discount Rate

Before Tax Discount Rate - WACC	8.00%

Before Tax Discount Rate – WACC: populates based on the type and size of the plant.

User Input: Tax Load



Tax Load: enter the overall full value tax rate for the property where the plant is sited.

Tax Load: Question #G10

One of the data inputs in the model is tax load. Where do I find the tax load for a project?

Tax Load: Answer #G10

The assessor is responsible for calculating the tax load (or overall full value tax rate) for the project. This should reflect all property taxes applicable to the property, including town, county, village, school district, and special district tax rates.

Tax Load: Answer #G10 (cont.)

To calculate the tax load:

- **Step 1:** For each taxing jurisdiction, multiply the tax rate per thousand dollars of assessed valuation by the equalization rate.
- **Step 2:** Divide the product of Step 1 by one thousand.
- **Step 3:** Sum the results for all jurisdictions.

Auto-filled: Loaded Discount Rate

Loaded Discount Rate	10.50%

Loaded Discount Rate: populates based on the Before Tax Discount Rate and Tax Load.

User Input: Annual Ground Lease Payment

Annual Ground Lease Payment (if applicable)	$0

Annual Ground Lease Payment: if the developer leases the land, the land lease information will be available from the developer.

If the land is not leased, $0 should be entered as the land lease payment input, and the assessor should value the land independently from the model.

User Input: Annual Ground Lease Escalator

Annual Ground Lease Escalator: if the ground lease includes an escalator clause, enter the percentage in this box. If there is no escalator, enter 0 for a constant lease.

Land: Question #M3

How does the model handle the value of the land, and how should we value the land if it is leased or very large?

Land: Answer #M3

The user has the opportunity to enter the annual amount of a land lease into the model. If a value is entered in the Annual Ground Lease Payment field, then the model does not include a land value. The assessor should use a standard appraisal methodology to value the land.

Land: Answer #M3 (cont.)

If the property is not leased (the Annual Ground Lease Payment is $0), then the model does value the land in conjunction with the plant itself. The present value of cash flow is the full market value of the plant and land.

Land: Question #M4

A solar company owns the parcel the solar farm is located on. Therefore, the Annual Ground Lease Payment is $0, and the model includes the value of the land. How does the assessor know the value of the land to put on the assessment roll?

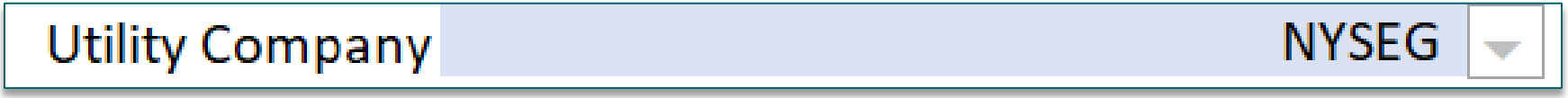
Land: Answer #M4

To arrive at a land value for the assessment roll, the assessor should value the land via standard appraisal methodology and apply the level of assessment to that value.

Size-Dependent User Inputs

- Plants with a nameplate capacity of 5,000 kilowatts or more (Tier One or Open Market) do not require additional user inputs.
- For solar plants of less than 5,000 kilowatts (Value of Distributed Energy Resources or VDER) additional user inputs are required. The plant owner should provide this information.

User Inputs: Utility Company



Choose one of the seven companies in the dropdown.

Auto-filled: DRV Rate

DRV Rate	$0.0890	$/kwh

Demand Reduction Value (DRV) Rate: the amount that a project reduces the utility's future needs to make grid upgrades. This field is auto-filled based on the utility company selected.

User Inputs: VDER Credits

Community *or* Market Transition Credit	$0.0000	$/kwh

Community or Market Transition Credit: enter the value provided by the plant owner.

- The community credit is available on a limited basis in order to encourage the development of community distributed generation projects.
- The community credit is the successor to the market transition credit, and it is similar in structure.

User Inputs: Community Adder

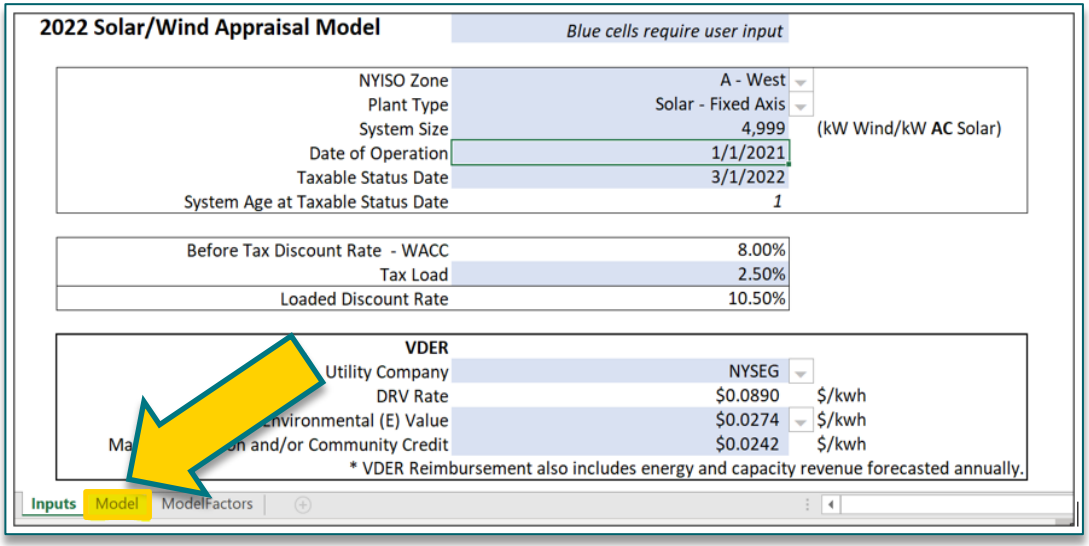
Community Adder: enter the value provided by the plant owner.

The Community Adder incentive replaces the Community Credit in places where the credit has been exhausted.

Note: Projects can receive either the Community Adder **or** a Community or Market Transition Credit, but never both.

Model Output

Select the *Model* tab (typically on the bottom of the spreadsheet) to access the output.



Model Output

The Model tab includes:

- a breakdown of the estimated income and expenses associated with the property over the remainder of its economic life,
- the associated future cash flows, and
- the present value of cash flow.

Present Value of Cash Flow

- The *present value of cash flow* is the full value appraisal for the property.

- Use the full value to determine the property's assessment, which must be at the same level of assessment as all other property on the roll.

Note: The model utilizes earnings before interest, taxes, depreciation, and amortization (EBITDA).

Model: Question #M5

Why was 25 years selected as the discount period?

Model: Answer #M5

The typical warranty period for a renewable energy project is 25 years.

Questions

Send questions to renewables.model.questions@tax.ny.gov.

Demonstration

Department of Taxation and Finance

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