

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

Rhode Island Distributed Generation Board

**SURVEY TO INFORM 2024 PY CEILING PRICE DEVELOPMENT**

**DUE DATE: July 25, 2023**

**Dear Renewable Energy Industry Participants:**

**The Rhode Island Office of Energy Resources and Distributed Generation Board seek your input into the development of ceiling prices for renewable energy projects under the Renewable Energy Growth (REG) Program for the 2024 Program Year.**

**OER and the DG Board have an obligation to submit ceiling price recommendations to the RI Public Utilities Commission intended to support viable and cost-effective projects. Receiving current information from market participants is critical to developing robust, accurate, and defensible ceiling price recommendations.**

**Given the evolution of market conditions and the experience with the DG Standard Contracts (SC) and REG programs to date, the DG Board and OER seek your feedback on several topics related to Ceiling Price development for the 2024 Program Year (beginning April 1, 2024). OER requests descriptive explanations and source materials to complement the quantitative data provided in response to the Data Request.**

**PLEASE NOTE that the consulting team (consisting of SEA and Mondre Energy, Inc.) intend to address questions pertaining to projects under 5 MW in this survey. Our team will conduct a second round of surveys in the coming weeks to solicit feedback regarding cost and performance assumptions for resource classes over 5 MW. While we will publish a similar Survey Monkey-based survey at that time, we anticipate that much of the participation in this effort will constitute direct outreach to market participants by members of our team.**

**Feel free to respond to as many of the following questions as you are able. Please be specific with your comments, recommendations and sources. Use as much room as you need. You may also save your responses and come back to complete the survey at a later time if you are interrupted.**

**This survey is your primary opportunity to provide written comments and recommendations, as well as evidence to substantiate your comments and recommendations. Additional opportunities will also exist for both written comments and participation in public meetings. In general, the absence of a response to any of these questions will be treated as support for the current policy design.**

**As has been the case in prior years, the 2024 Ceiling Prices must ultimately be approved by the Rhode Island Public Utilities Commission (PUC) after thorough review and comment by the Commissioners, Commission staff and the Division of Public Utilities and Carriers, Rhode Island's official advocate for electric ratepayers. In anticipation of this review, we note that it is highly unlikely that we would**

**incorporate suggested changes to the recommended Ceiling Prices that are not supported by substantial and credible evidence, or could be inconsistent with state laws, rules and tariffs governing the REG Program already approved by the General Assembly and/or the PUC. While we welcome the opportunity to receive and vet all stakeholder feedback, our flexibility in incorporating said stakeholder feedback is not absolute.**

**All Survey responses are voluntary and will be kept confidential in accordance with the State's Access to Public Record Act. Any information provided in response to this Survey will not be identified in relation to, or attributed to, an individual respondent in any public presentation or public document.**

**If you have any questions about how to complete this survey, please contact Toby Armstrong at [tarmstrong@seadvantage.com](mailto:tarmstrong@seadvantage.com) or (508) 665-5864 and/or Cal Brown at [cbrown@seadvantage.com](mailto:cbrown@seadvantage.com) or (508) 665-5868.**

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### Important Notice Regarding Change in Law

**IMPORTANT NOTE: On June 24, 2023, the companion bills 2023-S 684/2023-H 5853 - An Act Related to Public Utilities and Carriers - Net Metering were signed into law by Governor McKee. The companion bills, as enacted, contain several provisions that affect the Renewable Energy Growth Act (R.I.G.L. § 39-26.6), for the 2024 program year and ten (10) program years thereafter. As enacted, the new law:**

- **Permits OER and the DG Board to propose schedules of REG ceiling prices and capacity allocations for no more than three program years in the future, but allows OER and the Board to make adjustments to said prices;**
- **Disqualifies projects sited on a “core forest” parcel from REG program participation; and**
- **Creates several new renewable energy classes, including for solar projects that are:**
  - **At least 5 MW but less than 10 MW;**
  - **At least 10 MW but less than 15 MW; and**
  - **At least 15 MW but less than 39 MW, but only if eligible projects are sited on “preferred sites.”**

**PLEASE NOTE that the consulting team (consisting of SEA and Mondre Energy, Inc.) intend to address questions pertaining to projects under 5 MW in this survey. Our team will conduct a second round of surveys in the coming weeks to solicit feedback regarding cost and performance assumptions for resource classes over 5 MW. While we will publish a similar Survey Monkey-based survey at that time, we anticipate that much of the participation in this effort will constitute direct outreach to market participants by members of our team.**

# RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

## Respondent Information

\* 1. Please provide your name and contact information:

<b>Name</b>	<input type="text"/>
<b>Company</b>	<input type="text"/>
<b>Email Address</b>	<input type="text"/>
<b>Phone Number</b>	<input type="text"/>

2. What types of projects are you involved with? You may add multiple responses.

- Small Solar (under 25 kW)
- Medium, Commercial and/or Large Solar (>25 kW-5,000 kW)
- Non-Solar (Wind, Hydroelectric, Anaerobic Digestion)

3. How do you expect recent cost pressures (e.g. inflation, supply chain issues, etc.) to impact projects proposed in Program Year 2024? Responses that are specific and quantifiable are preferred. If quantities are provided, please specify the units for each impact (e.g., \$/kW, % of costs).

Please describe in detail and substantiate with documentation to Jim Kennerly at [jkennerly@seadvantage.com](mailto:jkennerly@seadvantage.com) and Toby Armstrong at [tarmstrong@seadvantage.com](mailto:tarmstrong@seadvantage.com).

4. What are the most significant market changes in Rhode Island (other than the enactment of Act Related to Public Utilities and Carriers - Net Metering) since 2022 that should be considered in this round of Ceiling Price development for the following renewable energy classes?

Solar (<=25 kW)	<input type="text"/>
Solar (>25 kW)	<input type="text"/>
Solar CRDG (>25 kW)	<input type="text"/>
Wind (0-5 MW)	<input type="text"/>
Wind CRDG (0-5 MW)	<input type="text"/>
Hydro (0-5 MW)	<input type="text"/>
AD (0-5 MW)	<input type="text"/>

5. **An Act Related to Public Utilities and Carriers - Net Metering** permits OER and the DG Board to propose schedules of REG ceiling prices for no more than three program years in the future, but allows OER and the Board to revise the ceiling prices prior to any given program year to account for changes in “available federal or state tax incentives, trade tariffs, or other federal or state incentives which would affect the calculation of the rate of return on a project.”

Assuming that prices would 1) be based on conservative forward-looking assumptions with regard to project capital, operating and financing costs and 2) such prices would change if changes were made as a result of relevant state and federal policy changes, please indicate whether your firm prefer:

- A one-year pricing schedule (operative from April 1, 2024 to March 31, 2025);
- A two-year pricing schedule (operative from April 1, 2024 to March 31, 2026, subject );  
or
- A three-year pricing schedule (operative from April 1, 2024 to March 31, 2027)

Please explain your choice in the box below:

6. Please outline any concerns associated with a multi-year schedule of REG ceiling prices. If you have such concerns, please describe any specific adjustments to such a multi-year schedule of prices OER and the Board should bear in mind in order to ensure such prices attract investment and project development.

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

### Small Solar Screening Question

7. Do you (or does your firm) develop solar projects less than or equal to 25 kW?

- Yes
- No (skip this section)

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

### Small Solar (under 25 kW) Questions

8. During the 2022 Program Year, the Small Solar I and II resource classes saw strong participation, with capacity fully subscribed and added capacity allocated to these resource classes to accommodate the strong application rate. In your view, what factors (e.g., REG tariff price, supply chain, market interest, competing net metering rates) resulted in the strong participation from Small Solar resource classes in the 2022 Program Year?

9. In contrast, the 2023 Program Year has seen comparatively moderate participation from the Small Solar I and II resource classes. In your view, what factors (e.g., REG tariff price, supply chain, market interest, competing net metering rates) are driving the less robust participation rate in the Small Solar resource classes during the 2023 Program Year?

10. Given current market conditions, how would you characterize the attractiveness of compensation under the REG program to customers, as compared to net metering compensation?

11. Linked Here he solar cost and production modeling inputs used in the approved 2022 Ceiling Prices calculations for Small Solar projects. Please reference the table as you answer the questions below.

If you believe any of the above inputs should be changed, please enter in your recommended input into the boxes below. **Please specify if the change would apply to Small Solar I, II, or both.** For any input that you believe to be reasonable (should remain unchanged), please leave the text box blank.

For assumptions that you disagree with, please provide more reasonable costs, supported by documentation to jkennerly@seadvantage.com and tarmstrong@seadvantage.com.

**Any responses that are not provided in units consistent with units utilized the table above will not be accepted.**

Fixed O&M	<input type="text"/>
O&M Escalation Factor	<input type="text"/>
Non-O&M Escalation Factor (e.g., site lease, insurance, project mgmt, etc)	<input type="text"/>
Insurance (% of cost)	<input type="text"/>
Project mgmt (\$/yr)	<input type="text"/>
Site Lease (\$/yr)	<input type="text"/>

12. In your experience, what is the market share (% of total) in Rhode Island of customers financing a 1-15 kW system purchase with:

Home equity loans/lines of credit	<input type="text"/>
Specially-designed solar loans	<input type="text"/>
Cash	<input type="text"/>
Other debt (please specify)	<input type="text"/>

13. What is the typical duration (in years) of home equity loans in Rhode Island for systems 1-15 kW?

14. What is the typical duration (in years) of solar loans in Rhode Island for systems 1-15 kW?



15. What are the typical interest rates (in percentage terms) for home equity loans in Rhode Island for systems 1-15 kW?

16. What are typical interest rates for solar loans in Rhode Island for systems 1-15 kW?

17. What are the total fees (expressed as a percentage of the total loan amount) typically charged by the lender to a solar PV system 1-15 kW?

18. Are lender fees usually accounted for separately from the loan principal, or are they rolled into the principal itself?

- Accounted For Separately
- Rolled into Principal
- Other (please specify)

19. What percentage of projects from 15-25 kW are:

Purchased 100% with cash

Financed 100% with debt

A mix of cash and debt

20. For customers utilizing a mix of cash and debt, what percentage of cash is typical?

21. What kind of debt do 15-25 kW projects usually utilize? What are typical durations (in years), interest rates, and fees associated with this debt?

Type of debt:

Typical Duration:

Typical Interest Rates:

Fees:

22. What is your current expected lead time for solar module procurement for projects that would participate in the 2024 REG program year (e.g. already obtained in 2021, already obtained in 2022, to be obtained in 2023, etc)

23. Have there been other market changes not previously addressed in this survey that may impact project costs that you wish to highlight?

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

### Solar >25 kW Screening Question

24. Do you (or does your firm) develop solar projects greater than or equal to 25 kW?

- Yes
- No (skip section)

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

### Solar Projects Greater than or Equal to 25 kW: Capital Cost, Operating Cost & Financing Assumptions

25. During the 2022 Program Year and the First Open Enrollment of the 2023 Program Year, there has been an atypically low volume of bids received for the Large Solar renewable energy class relative to past program years. If you or your firm are active in this market segment, please describe the primary factors that are contributing to this atypically low volume of bids for this resource class.

26. Please describe, in detail, your impression of the specific cost- and timing-related impact of local permitting requirements on your ability to submit projects into the Open Enrollments.

27. Please describe, in detail, your impression of the specific cost- and timing-related impact of interconnection requirements on your ability to submit projects into the Open Enrollments.

28. In developing ceiling prices for the 2024 Program Year and beyond, how should SEA account for these price- and non-price factors in order to ensure robust participation in future Open Enrollments in such years?

29. During the First Open Enrollment of the 2023 Program Year, no bids for projects in the Commercial I and Commercial II renewable energy classes were received. If you or your firm are active in this market segment, please describe the primary factors that are contributing to an atypically low volume of bids for this resource class.

30. To what degree could the factors identified above be overcome given a sufficiently high ceiling price?

31. It is SEA's understanding that Rhode Island Energy's Electric System Bulletin now contains requirements that customers upgrading their service must re-locate their meter outside of the building in question at the customer's expense. It is also SEA's understanding that this requirement has imposed significant costs on building-mounted medium and commercial-scale projects to which the meter relocation requirements might apply given service upgrades triggered by the installation of the solar facility.

If you have experience with this requirement, please indicate the cost impact of meeting these requirements in total dollar terms (providing a range of costs is acceptable):

32. If you have experience with this Electric System Bulletin requirement, please describe the impact in terms of delays (e.g., weeks, months, years) and whether such requirements have caused your project to experience issues with their Renewable Energy Growth program eligibility as a result.

33. An Act Related to Public Utilities and Carriers - Net Metering disqualifies projects sited on a "core forest" parcel from REG program participation. Core forest is defined as "unfragmented forest blocks of single or multiple parcels totaling 250 acres or greater unbroken by development and at least 25 yard from mapped roads, with eligibility questions to be resolved by the director of the Department of Environmental Management." During prior program years, what percentage of your projects were located on core forest parcels, by size bin?

Commercial I (>250-500 kW)

Commercial II (>500 - 1,000 kW)

Large (>1-5 MW)

34. To date, have you explored the availability and cost of leases for solar facilities on non-"core forest" parcels?

35. Please provide an estimate, in \$/kW/yr terms, of the total costs associated with land leases on non-core forest parcels:

Commercial I (>250-500 kW)

Commercial II (>500 - 1,000 kW)

Large (>1-5 MW)

36. Do the estimates provided above assume any annual lease escalation? If so, please indicate the amount of such annual escalation.

37. Linked Here are the solar cost and production modeling inputs used in the approved 2022 Ceiling Prices calculations for Solar projects 25 kW and above. Please reference the table as you answer the questions below.

O&M costs should reflect all fixed and variable expenses associated with project operations, EXCEPT annual expenses for insurance, property taxes, land leases, royalties, and project management.

If you believe any of the aforementioned inputs should be changed, please enter in your recommended input into the boxes below. **For each recommended change, note which project categories (e.g., Medium) the change should apply to. Please also note if the input would differ for ground-mounted vs rooftop within a single resource class.** For any input that you believe to be reasonable (should remain unchanged), please leave the text box blank.

For assumptions that you think should be changed, please provide more reasonable costs, supported by documentation to jkennerly@seadvantage.com and tarmstrong@seadvantage.com (such as a properly-redacted quote or contract for O&M services).

**Any responses that are not provided in units consistent with units utilized in the table above will not be accepted.**

Fixed O&M	<input type="text"/>
Project Management	<input type="text"/>
Site Lease	<input type="text"/>
Insurance Cost	<input type="text"/>
O&M Escalation Factor	<input type="text"/>
Non-O&M Escalation Factor (e.g., Site lease, project mgmt)	<input type="text"/>

38. For Solar projects, we currently assume that only the most creditworthy borrowers are eligible for loan terms beyond 15 years, and therefore modeling a loan term over 15 years would not accurately reflect a value that is appropriate to the market as a whole. Do you agree or disagree with this assumption?

If you do not agree, please explain what debt term we should assume instead as a reasonable proxy for the market as a whole.

- Agree
- Disagree (please specify)

39. We previously assumed (based on previous market participant feedback) that tax equity investors in Solar projects lack the tax capacity to elect bonus depreciation and continue to utilize the five-year schedule of the Modified Accelerated Cost Recovery System (MACRS) for depreciation. Would you agree with this assumption? Why or why not? If you do not agree, please explain what we should assume instead.

40. P.L. 117-169 - Inflation Reduction Act of 2022 included provisions allowing for the transferability of tax credits to parties without a direct investment in a project. Does your business intend to utilize direct transfer to monetize the tax benefits of your projects? Why or why not?

41. (If Yes) Does the ability to transfer tax credits to parties without a direct investment in a project allow for the utilization of bonus depreciation? Why or why not?

42. (If Yes) What value (in cents on the dollar or other figure) do you expect such credits to transfer for?

43. What percentage of projects that you encounter have investors that are not able to fully leverage both 5-year MACRS and the federal Investment Tax Credit (ITC) in the year that said benefits are generated?

5-year MACRS

ITC

44. What is your current expected lead time for solar module procurement for projects that would be bid into the 2024 (or 2025, or 2026) REG program year, from the date of bids being placed (e.g. obtained one year prior to bid placement, obtained less than six months prior to bid placement, obtained six months after bid placement, etc)



45. Have there been other market changes not previously addressed in this survey that may impact project costs that you wish to highlight?

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

### Solar Projects Greater than or Equal to 25 kW: Post-Tariff Assumptions

46. When sizing the inverter for projects you submit into the REG program, what DC-AC ratio range do you typically employ? Please explain your reasoning for this DC-AC sizing ratio.

Medium Solar (25-250 kW)

Commercial Solar (251-999 kW)

Large Solar (1-5 MW)

47. Do you plan to replace your project's inverter?

Yes

No

48. **(if yes to inverter replacement)** Would inverter replacement incur additional development costs? Or, is such replacement covered under warranty/paid for by host customer?

49. **(if yes to inverter replacement)** Please indicate the year in which you assume that you will replace your project's inverter (e.g., year 10)

50. **(if yes to inverter replacement)** How much do you expect an inverter replacement to cost (in \$/kW) in the year specified above?

51. **(if yes to inverter replacement)** Would you consider replacing the project's inverter with a smaller inverter?

Yes

No

52. **(if yes to inverter replacement)** To what DC-AC ratio would you consider sizing your inverter to, upon replacement of the inverter? Please explain your reasoning for over-sizing the project's output to its inverter.

Medium (25-250 kW)

Commercial (251-999 kW)

Large (1-5 MW)

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

### Non-Solar Screening Question

53. Do you (or does your firm) develop non-solar projects (including Small-Scale Hydroelectric, Wind and Anaerobic Digestion (AD) projects greater than or equal to 25 kW?

- Yes
- No (skip section)

## RI REG 2024 Ceiling Prices Stakeholder Data Request and Survey

### Non-Solar (Hydro, Wind, AD)

54. What Non-Solar technology type do you develop (you may select multiple answers)?

- Wind 0-5 MW
- Hydroelectric 0-5 MW
- Anaerobic Digestion 0-5 MW

55. Copied below are the non-solar cost and production modeling inputs used in the approved 2023 Ceiling Prices calculations for Wind, Hydroelectric, and Anaerobic Digestion projects. Please reference the table as you answer the questions below.

	Wind	Wind - CRDG	Hydroelectric	Anaerobic Digestion
Nameplate Capacity (kW)	3,000	3,000	500	725
Fixed O&M (\$/kW-yr.)	\$26.50	\$48.50	\$245	\$600
O&M Inflation	2.0%	2.0%	0%	2.0%
Insurance (% of Cost)	0.29%	0.29%	3.19%	1.5%
Project Management (\$/yr)	\$18,000	\$18,000	\$24,000	\$75,000
Property Tax (\$/kW)	\$5	\$5	\$5	\$5
Site Lease (\$/yr)	\$162,000	\$162,000	\$8,750	\$35,000

If you believe any of the aforementioned inputs should be changed, please enter in your recommended input into the boxes below. **For each recommended change, note which project categories (e.g., Hydro) the change should apply to.** For any input that you believe to be reasonable (should remain unchanged), please leave the text box blank.

For assumptions that you think should be changed, please provide more reasonable costs, supported by documentation to [jkennerly@seadvantage.com](mailto:jkennerly@seadvantage.com) and [tarmstrong@seadvantage.com](mailto:tarmstrong@seadvantage.com) (such as a properly-redacted quote or contract for O&M services).

Note that we are not asking for feedback on total cost inputs, as they are derived from an analysis of recent installed cost data.

**Any responses that are not provided in units consistent with units utilized in the table above will not be accepted.**

Nameplate Capacity (e.g., typical sized project modeled for the category)	<input type="text"/>
Capacity Factor	<input type="text"/>
Annual Degradation	<input type="text"/>
Fixed O&M	<input type="text"/>
Project Management	<input type="text"/>
Site Lease	<input type="text"/>
Insurance Costs	<input type="text"/>
O&M Escalation Factor	<input type="text"/>
Non-O&M Escalation Factor	<input type="text"/>

56. For Non-Solar projects, we currently assume that only the most creditworthy borrowers are eligible for loan terms beyond 15 years, and therefore modeling a loan term over 15 years would not accurately reflect a value that is appropriate to the market as a whole. Do you agree or disagree with this assumption?

If you do not agree, please explain what debt term we should assume instead as a reasonable proxy for the market as a whole.

Agree

Disagree (please specify)

57. P.L. 117-169 - Inflation Reduction Act of 2022 included provisions allowing for the transferability of tax credits to parties without a direct investment in a project. Does your business intend to utilize direct transfer to monetize the tax benefits of your projects? Why or why not?

58. (If Yes) Does the ability to transfer tax credits to parties without a direct investment in a project allow for the utilization of bonus depreciation? Why or why not?

59. (If Yes) What value (in cents on the dollar or other figure) do you expect such credits to transfer for?