

STATE OF RHODE ISLAND  
PUBLIC UTILITIES COMMISSION

IN RE: 2024-2026 RENEWABLE ENERGY GROWTH – :  
CLASSES, CEILING PRICES, AND CAPACITY :  
TARGETS AND 2024-2026 RENEWABLE ENERGY : DOCKET NO. 23-44-REG  
GROWTH PROGRAM – TARIFFS AND SOLICITATION :  
AND ENROLLMENT PROCESS RULES :

PUBLIC UTILITIES COMMISSION’S FIRST SET OF DATA REQUESTS  
DIRECTED TO OFFICE OF ENERGY RESOURCES (OER) AND/OR DISTRIBUTED  
GENERATION BOARD (DG BOARD)  
(Issued January 5, 2024)  
(Amended as noted January 8, 2024)  
(Responses submitted January 30, 2024)

**SEA Response to PUC First Data Request - Docket No. 23-44-REG**

- 1-1. Referencing page 25, line 9 of the Kennerly/Tobin testimony, should the reference to “first” open enrollment be “until after the third open enrollment period in a year.”? See R.I. Gen. Laws § 39-26.6-12(b): “If the electric distribution company, the office, and the board mutually agree, they may reallocate megawatts during an enrollment from one class to another without commission approval if there is an over-subscription in one class and an under-subscription in another, provided that the annual MW target is not being exceeded, except as provided in § 39-26.6-17. No reallocation of megawatts from a competitive pricing class to a non-competitive pricing class shall be made until after the completion of the three (3) enrollment periods in the program year and in no case may the annual MW target be exceeded as a result of a reallocation of megawatts.”

**Yes. The reference to “first” was a typographical error.**

- 1-2. Will the proposed remediation adder will apply to 100% of the project, even if only a portion is located on a brownfield, Superfund, or landfill or will it apply to that portion located on the brownfield, Superfund, or landfill site similar to the operation of the carport adder? If it is not like the carport adder, what is the rationale for applying the adder to the entire project?

**Please see Page 56 of Rhode Island Energy’s Renewable Energy Growth Tariff and Enrollment Rule Changes for Program Year 2024.**

- 1-3. Please confirm that the proposed remediation adder does not apply to previously capped landfills.

**Yes. The proposed remediation adder is intended to apply to un-capped landfills.**

- 1-4. Did SEA obtain an inventory of the landfills in the state from DEM and if so, are they sorted by capped and uncapped? If no, why was no inventory obtained? If yes, please provide the list.

**No, SEA did not obtain such an inventory from DEM, but received information from the agency regarding potentially eligible landfills. The information did not represent an exhaustive inventory. Based on the information received, SEA determined that the receipt of such an inventory was not necessary to calculate the appropriate cost-based incentive payment adder.**

- 1-5. Page 52, lines 8 & 9 state a reduced adder was calculated to cover the incremental installation and maintenance costs associated with a solar project on a capped landfill. Please explain what incremental requirements, steps and processes are necessary for such a project.

**The installation of a solar project on a capped landfill involves multiple incremental capital and operating costs relative to a ground-mounted facility. Incremental capital and operating costs include, but are not limited to:**

- **Additional permitting, environmental review, and engineering costs;**
- **Increased costs associated with materials and installation on permeable landfill surface (e.g., installation of concrete ballasts to support PV panels as opposed to typical installation utilizing drilling into the ground, inability to use larger vehicles on landfill surface); and**
- **Additional maintenance costs associated with monitoring landfill settling, permit compliance, and difficulties associated with servicing panels on a permeable surface.**

**Project performance can also be impacted by sub-optimal project orientation, slope, and panel tilting given the constraints of the site and ballast-mounting. For additional details on the unique considerations applicable to landfill solar, see the Massachusetts Department of Energy Resources' [Guide to Developing Solar Photovoltaics at Massachusetts Landfills](#).**

**The specific values utilized to calculate the proposed incentive-payment adder, are shown on page 8 of SEA Schedule 4.**

- 1-6. Please explain how no party can be responsible for capping a landfill (Test. at 52, lines 15-17).

**After consulting with DEM, it is SEA's understanding that, in practice, there is almost always a responsible party for capping a landfill.**

- 1-7. Is it SEA's position or DEM's position that "solar development represents potential funding source" for the capping of landfills?

**The full landfill adder includes costs associated with capping a landfill. As such, if such an adder is adopted solar development would contribute to funding the capping of landfills. SEA takes no position regarding the policy question of if such a funding source is appropriate.**

- 1-8. Are landfills required to be capped or can they remain uncapped forever? If they are required to be capped, what is the timeframe?

**After consultation with DEM, it is SEA's understanding that landfills that operated after 1992 are required to close in accordance with DEM solid waste regulation #2. All these landfills have been capped in accordance with the regulations. Landfills that operated prior to 1992 are subject to DEM's landfill closure program, which follows the "Closure Policy for Inactive or Abandoned Solid Waste Landfills". This is primarily a voluntary program and is usually entered into by responsible parties. Capping may be required by DEM if DEM determines that the site has caused exceedances of Site Remediation Standards as per the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases.**

- 1-9. In light of the fact that some municipalities have already capped their landfills, why should capping a landfill be the developer's and ultimately the ratepayer's responsibility through higher ceiling prices instead of the taxpayer's?

**Please see SEA's response to 1-7.**

- 1-10. Did OER, the DG Board, or SEA consider whether providing an incentive for uncapped landfills would provide a disincentive to municipalities to cap their landfills?

**No. OER, the DG Board, or SEA did not discuss whether providing an incentive for uncapped landfills would provide a disincentive to municipalities to cap their landfills.**

- 1-11. Please provide a brief explanation of the derivation of the final recommended adder amount for municipalities with funds to cap. Why should there be any adder in these instances?

**The calculated incentive payment adder applicable to municipalities with funds to cap their landfill is intended to reflect the incremental capital and operating costs incurred by projects sited on landfills beyond the cost of capping such landfills. The specific incremental costs are described in SEA's response to 1-5 and 1-12. In the absence of accounting for these incremental costs, the return for such projects would be insufficient to justify such investment. Such adders designed have been adopted by neighboring states like Massachusetts (through the SMART program) at similar levels to those proposed by OER and the DG Board.**

- 1-12. Please provide a brief quantification of any incremental capital or O&M costs SEA included in the base landfill/brownfield/superfund calculation to arrive at the proposed adder amounts.

**Per the response to PUC 1-5, please see slide 8 of SEA Schedule for a summary of the adopted incremental cost assumptions.**

- 1-13. Is the proposed remediation adder a fixed kWh adder or is it based on the actual incremental costs?

**The proposed remediation adder is a fixed kWh adder based on the input values described in PUC 1-5 and 1-12.**

- 1-14. Referencing the testimony at page 20, lines 27-29, SEA indicates that renewable energy developers need to compete for commercial and industrial space.
- a. With whom are renewable energy developers competing for landfills and brownfield sites in Rhode Island?

**Renewable energy developers participating in the REG program compete with other renewable energy developers for landfill and brownfield sites in Rhode Island. In addition, developers compete with a range of other uses cases for brownfield sites, which the state incentivizes through programs like the Brownfields Bond Fund Grant. Examples of brownfield sites redevelopment across varying industries and use cases can be found on the Department of Environmental Management's ["Success Stories" webpage](#).**

- b. With who are renewable energy developers competing for rooftops and parking lots (preferred sites)?

**Please see answer to 1-14(a).**

- c. Please provide specific examples.

**Please see answer to 1-14 (a).**

- d. Should the cost assumptions for these types of sites be treated the same as other types of commercial and industrial sites within the ceiling price calculation? Why or why not?

**SEA's interviews with market participants active in developing projects on sites requiring remediation confirms that typical site lease costs for such sites are, on average, equivalent to site lease costs for other commercial and industrial sites. However, other operational cost components differ for sites requiring remediation as compared to commercial and industrial sites, as described in slide 8 of SEA Schedule 4 - Presentation for Public Stakeholder Meeting No. 4 (Nov. 6, 2023).**

- 1-15. Why did the DG Board decline to proposed disincentives? Please provide minutes from any meetings discussing incentives and/or disincentives.

**OER and the DG Board did not consider the development of a disincentive at this time. OER and the DG Board determined that, given the recent statutory ban on renewable energy development on core forests, in addition to local zoning restrictions applicable to renewable energy development, a disincentive was not required at this time.**

- 1-16. Referencing testimony on page 39, please confirm that the interconnection costs included in ceiling prices are based on the simple average of MA, ME, and RI. Please also confirm that the estimated interconnection costs for ME that SEA were obtained through private interviews and the public stakeholder process whereas the RI costs are based on actual RI Energy data. Why is a reasonable approach.

**Yes, the interconnection costs included in ceiling prices are based on the simple average of MA, ME, and RI. The estimated costs for ME were obtained through private interviews and a public stakeholder process. The estimated costs for MA were obtained based on actual interconnection costs for projects included in the MA provisional cost allocation program.**

**As detailed in page 50 of SEA's testimony, SEA determined that, in the absence of finalized interconnection cost estimates for a large number of projects in the interconnection queue, the most appropriate and REG statute-reflective means to calculating interconnection costs was to take a regional approach reflecting the states (like Rhode Island) with both relatively high levels of DG penetration and (where possible) known and measurable interconnection costs that reflect the results of completed transmission and distribution studies.**

- 1-17. Please recalculate the interconnection costs assuming the actual RI data has the same weight as MA and ME combined.

**The cost resulting from the above-described approach would be \$427.50/kW. However, weighting historic Rhode Island interconnection costs more heavily than other (and more recent) regional data points carries substantial risk of understating Rhode Island interconnection costs in the near future, which itself carries risks for the success of future REG procurements.**

**Therefore, we offer the disclaimer that above figure does not represent a value associated with the Ceiling Prices recommended by OER or the DG Board, and should not be construed as a value recommended by SEA given SEA's assessment that the adoption of such a value is unlikely to yield healthy competition within the REG program.**

- 1-18. Did SEA include the DG projects that are subject to ratepayer interconnection cost sharing in its analysis of the interconnection costs (See Docket Nos. 23-37-EL and 22-38-EL)? If so, how did SEA account for the ratepayer contributions back to the DG project developer?

**No, SEA did not consider such cost sharing as such measures have not been approved by the PUC. Even if approved, it is unclear how many REG-eligible projects, if any, such measures would apply to.**

**In the absence of a more widely applicable cost sharing program, SEA would not recommend utilizing ceiling prices designed with inputs that do not reflect the full cost of interconnection for which interconnecting customers are responsible under current interconnection tariffs.**

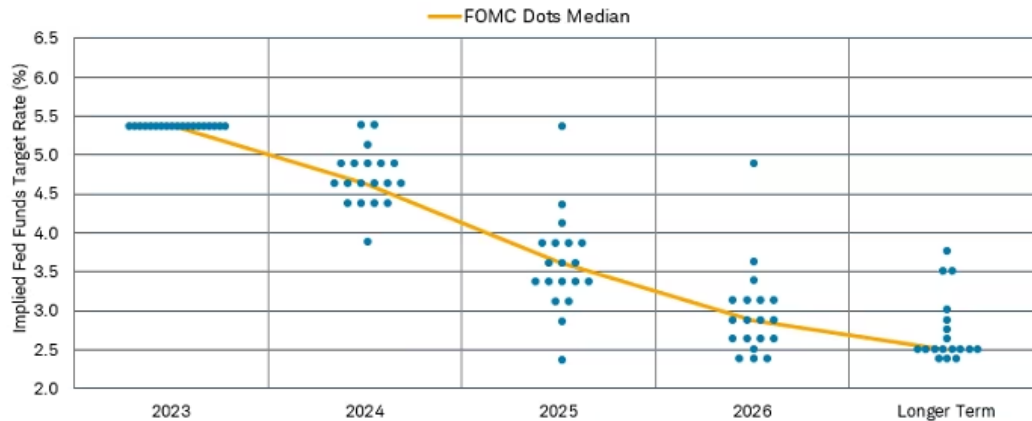
**Along with potential inconsistency with R.I.G.L. § 39-26.6-1 and § 39-26.6-5, setting prices based on interconnection cost assumptions that are substantially lower than those observed in highly similar markets (such as Massachusetts and Maine) would carry a high risk of such ceiling prices being unworkable for projects selected by Rhode Island Energy. If such an approach were to be taken, our team would be concerned for the fundamental viability of those projects, and view them as being at substantial risk of cancellation. In general, high levels of cancellations result in developers departing a market until that risk of failure can be appropriately mitigated.**

**On the other hand, and with all other factors held equal, SEA would expect that projects eligible for such cost-sharing measures, if approved, would be able to bid into a future REG solicitation at a more competitive price, thereby delivering ratepayer savings relative to the ceiling price value.**

- 1-19. What was actual inflation and interest rates at the time the 2023 ceiling prices were developed? What are the inflation and interest rates now?

**As provided in 22-39-REG, *SEA Schedule 4 - SEA Fourth Stakeholder Meeting Presentation and Technical Correction*, 10- and 20-Year Treasury Yield's as of October 10, 2022 were 3.95% and 4.23%, respectively. As provided in *SEA Schedule 3 - Presentation for Public Stakeholder Meeting No. 3 (Oct. 24, 2023)*, 10- and 20-Year Treasury Yield's as of October 11, 2023 were 4.64% and 5.00%, respectively.**

- 1-20. On December 13, 2023 the Federal Reserve indicated it is expecting to institute 3 interest rate reductions in 2024. Additionally, members of the Federal Open Market Committee anticipate further interest rate reductions in later years (see chart below). How have these interest rate projections been factored into the proposed ceiling prices?



Source: Federal Reserve, Summary of Economic Projections, December 13, 2023.

The interest rate outlook developed by SEA is the result of a trending analysis based on the “Market Consensus Forecast” for 10-year Treasury notes and 20-year Treasury bonds generated by [macropredictions.com](https://www.macropredictions.com) (which is also known as [econforecasting.com](https://www.econforecasting.com)), an open source provider of interest rate forecasts, on October 11, 2023. Our team added the 325 basis point (bps) risk premium discussed in PUC 1-23 below, a term sheet value derived from market participant research. The methodology employed in this forecast is summarized [here](#).

The interest rate outlook resulting from this trending analysis can be found on page 14 of SEA Schedule 3 in the “Cur. Draft” column.

- 1-21. Referencing the triggers for adjusting Program Year 2025 and 2026 ceiling prices from what is approved in this docket, please explain how you arrived at a 10% deviation from SEA’s forecasted installed capital cost inputs and why SEA believes that is a significant change. Please quantify the 10% deviation for each of the classes.

SEA determined, based on our experience tracking and analyzing distributed renewable energy costs, that a threshold of  $\pm 10\%$  struck the appropriate balance between ensuring that significant changes in market costs were reflected in future ceiling prices while also attempting to provide predictable incentive levels that market participants can base their development activities around.

A table containing the  $\pm 10\%$  threshold for the 2025 and 2026 program years is provided below:

Renewable Energy Class	2025 PY			2026 PY		
	Assumed CAPEX	10% Increase	10% Decrease	Assumed CAPEX	10% Increase	10% Decrease
Small Solar I	\$4,361	\$4,797	\$3,925	\$4,275	\$4,702	\$3,847
Small Solar II	\$3,868	\$4,255	\$3,481	\$3,792	\$4,171	\$3,412
Medium Solar	\$3,136	\$3,449	\$2,822	\$3,091	\$3,400	\$2,782
Commercial Solar I	\$2,881	\$3,169	\$2,593	\$2,839	\$3,123	\$2,555
Commercial Solar I CRDG	\$2,981	\$3,279	\$2,683	\$2,939	\$3,233	\$2,645
Commercial Solar II	\$2,627	\$2,889	\$2,364	\$2,588	\$2,847	\$2,329
Commercial Solar II CRDG	\$2,727	\$2,999	\$2,454	\$2,688	\$2,957	\$2,419
Large Solar	\$2,412	\$2,654	\$2,171	\$2,376	\$2,614	\$2,139
Large Solar CRDG	\$2,512	\$2,764	\$2,261	\$2,476	\$2,724	\$2,229
Large Solar II	\$1,651	\$1,816	\$1,486	\$1,619	\$1,781	\$1,457
Large Solar III	\$1,562	\$1,718	\$1,406	\$1,531	\$1,684	\$1,378
Large Solar IV	\$1,514	\$1,665	\$1,362	\$1,483	\$1,631	\$1,335
Large Wind	\$3,548	\$3,903	\$3,194	\$3,548	\$3,903	\$3,194
Large Wind CRDG	\$3,648	\$4,013	\$3,284	\$3,648	\$4,013	\$3,284
Hydro	\$12,179	\$13,396	\$10,961	\$12,179	\$13,396	\$10,961

1-22. Will the review of the interest rate deviation also take into account inflation at the time of the review? Why or why not?

**Interest rates are a consequence of monetary policy which implicitly accounts for other economic indicators such as inflation. However, if “inflation” refers to changes in CAPEX over time, this would be addressed in the review of the capital cost deviation.**

1-23. What is the source of the 3.25% risk premium described on page 33 of the testimony? Why is this a reasonable measure?

**SEA derived the risk premium from actual financing term sheets provided by market participants in Rhode Island during the 2023 PY ceiling price development process.**

**SEA believes adoption of prices including this value is both reasonable and necessary for healthy competition, for two reasons:**



- **The value is directly sourced from redacted documentary evidence supplied by a market participant active in Rhode Island; and**
- **The sum of the risk premium and risk-free component is consistent with interest rate values disclosed to SEA in a confidential setting by other market participants in the region during Q4 2023.**

1-24. (Amended) With reference made to the Joint Testimony beginning on page 36 through line 5 on page 37, please compare in a table the approved 2023 ceiling prices alongside recalculated 2023 ceiling prices:

- For Small Solar I recalculated under the assumption of the median of the relevant dataset of installed costs;
- For Large Solar I recalculated under the assumption of the average of the median and 75<sup>th</sup> percentile of the relevant dataset of installed costs.

**Please see table below for the recalculated ceiling price values:**

Renewable Energy Class	2023 PUC Approved CP (¢/kWh)	PUC 2023 CP Requested Recalculation (¢/kWh)
Small Solar I	27.75	32.35
Large Solar I	14.35	15.65

1-25. (Amended) With the exception of the proposal for Program Years 2025 and 2026, does SEA’s analysis in this proposal (and in previous Program Years) take the point of view that inputs for installed capital costs and interest rates are: (a) designed to forecast costs bidders will face during development, (b) are designed to be the current estimate of these costs, or (c) are something else? If something else, please explain.

**All inputs adopted are intended to reflect the forecasted costs bidders will face during the development of a project participating in the program year in question. An assessment of current costs is often the starting point of SEA’s input development, after which certain adjustments are made for inputs that are expected to change going forward (e.g., installed capital costs and interest rates).**

1-26. (Amended) With reference made to the Joint Testimony beginning on page 36 through line 5 on page 37, please compare in a table the proposed 2024 ceiling prices alongside recalculated 2024 ceiling prices:

- For Small Solar I recalculated under the assumption of the average of the median and 25<sup>th</sup> percentile of the relevant dataset of installed costs;
- For Large Solar I recalculated under the assumption of the average of the median and 25<sup>th</sup> percentile of the relevant dataset of installed costs.

**Please see table below for the recalculated ceiling price values:**

Renewable Energy Class	2024 Recommended CP (¢/kWh)	PUC 2024 CP Requested Recalculation (¢/kWh)
Small Solar I	36.45	33.65
Large Solar I	18.65	16.85

**We share these values with the disclaimer that the values in the “PUC 2024 CP Requested Recalculation” column should not be construed by the PUC or other docket participants to represent either:**

- **Values that SEA recommends to OER, the Board or the PUC as being, based on its experience, reflective of values and inputs likely to result in healthy competition; or**
- **A change in OER or the DG Board’s recommended prices.**