

Rhode Island Renewable Energy Growth Program:

**Research, Analysis, & Discussion in Support of
Final Recommended 2024–2026 Program Year Ceiling Price and
Incentive–Rate Adder Recommendations**

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Sustainable Energy Advantage, LLC

Mondre Energy, Inc.

Ceiling Price Adjustment Mechanism

Accounting for Changes in Key Ceiling Price Inputs Over Time



Ceiling Price Adjustment Mechanism (1)

- In SEA's third stakeholder meeting, we presented a straw proposal providing a series of proposed thresholds for changes in at which either upward or downward Ceiling Price adjustments would be made (as appropriate)
- The straw proposal was designed to address concerns, expressed by RIE and the DPUC, that adopting a forward-looking schedule of Ceiling Prices with no means for revision **carries both upside and downside risks**, including:
 - The **risk that Ceiling Prices are insufficient** relative to future costs increases, leading to further under-procurements
 - The risk that **Ceiling Prices could be inappropriately high and not produce efficient market outcomes if costs fall** relative to forecasted values

Ceiling Price Adjustment Mechanism (2)

- Rhode Island Energy made the following comments and/or requests for clarification regarding the Price Adjustment Mechanism:
 - That the third quarter be used as the period for estimating the change in interest rates;
 - Whether the “total project costs” could be clarified to include only upfront costs;
 - Whether the changes in the cost of equity would be considered part of interest rates; and
 - The scope of the allowed changes to Ceiling Prices if minimum thresholds were met
- The DPUC largely supported the Price Adjustment Mechanism, but requested that stakeholders be notified regardless of the thresholds triggering changes to the forthcoming year’s Ceiling Prices

Ceiling Price Adjustment Mechanism (3)

- In response, SEA clarified the Price Adjustment Mechanism in the following ways:
 - Measure the change in interest rates based on average values for 10- and 20-year Treasury yields over the third quarter of the calendar year prior to the next REG Program Year (rather than simply the day the analysis takes place)
 - Permit only changes to interest rates on term debt inputs would be made (and no specific adjustments to equity internal rate of return (IRR) assumptions);
 - The goal of the Mechanism's installed cost trigger threshold is to reference the definition of "total project development costs" in Rhode Island Energy's solicitation rules for the REG program for both ≤ 25 kW and > 25 kW projects;
 - Limit the allowable changes to Ceiling Prices only to the categories of inputs corresponding to the specific thresholds met after market analysis takes place; and
 - Provide for notification of stakeholders regardless of the outcome of the market analysis (e.g., whether thresholds requiring price changes are met)

Revised Ceiling Price Adjustment Mechanism: Thresholds for Potential 2024-2026 Changes

During the two- to three-Program Year period under consideration, OER and the DG Board propose to revise the Ceiling Price for a given renewable energy class for the next Program Year **if**:

1. *(As measured between July 1 and September 30 of the calendar year prior to the Program Year in question)* SEA determines there is a **fifty (50) basis point (bps) deviation** (above or below) SEA's forecasted estimate of interest rate inputs (which will be based on the average 10-year and 20-year Treasury bond values over the third quarter of the calendar year prior to the Program Year in question, plus a 325 bps risk premium, and averages thereof); **OR**
 2. *(As measured based on information reported to various Northeastern state government and other databases over the 12 months prior to October 1st of the calendar year prior to the next Program Year)* SEA determines there is a **ten percent (10%) deviation** above or below expected **total project development costs** (the definition of which is described in the ≤ 25 kW and > 25 kW REG Program rules), based on average of the 50th and 75th percentile of a regional analysis of:
 - Reported total project costs (as installed); and
 - Revealed pricing from:
 - Accepted bids from the previous two Renewable Energy Growth (REG) Open Enrollments;
 - Information on estimated total project costs for accepted bids from other private databases (such as EnergySage); **OR**
 3. *(At any time prior to PUC approval of Program Year prices)* SEA determines that there have been **changes in state or federal law and/or regulations with a direct, material, and mandatory impact** on either program design or cost, performance and financing assumptions, or any other factor that would change the expected rate of return for said projects.
- If any of the above thresholds were triggered, the changes to inputs would be limited strictly to 1) the forthcoming Program Year Ceiling Prices and 2) the input change required by the specific threshold being triggered (specifically, interest rate on term debt, installed project cost, or any other input affected by a policy or regulatory change with a direct, material, or mandatory impact).
 - Stakeholders will be notified by SEA, OER and/or the DG Board of the determination either to change the prices or to leave them in place for the next program year, **prior to filing of the proposed pricing change at the Public Utilities Commission for its review.**



Final Recommended 2024-26 Ceiling Prices, Categories and Modeling Parameters



Proposed 2024–2026 PY Ceiling Price Categories

REG Program: Proposed Technology, Size & Tariff Length Parameters			
Eligible Technology	System Size for CP Development (DC)	Eligible System Size Range (DC)	Tariff Length
Small Solar I	5.8 kW	≤ 15 kW	15 Years
Small Solar II	25 kW	>15 to 25 kW	20 Years
Medium Solar	250 kW	>25 to 250 kW	20 Years
Commercial Solar I	500 kW	>250 to 500 kW	20 Years
Commercial Solar I – Community Remote DG (CRDG)	500 kW	>250 to 500 kW	20 Years
Commercial Solar II	1 MW	>500 kW to 1 MW	20 Years
Commercial Solar II – Community Remote DG (CRDG)	1 MW	>500 kW to 1 MW	20 Years
Large Solar	5 MW	>1 to 5 MW	20 Years
Large Solar - CRDG	5 MW	>1 to 5 MW	20 Years
Large Solar II	9.99 MW	5 to <10 MW	20 Years
Large Solar III	14.99 MW	10 to <15 MW	20 Years
Large Solar IV	20 MW	15 to <39 MW	20 Years
Wind	3 MW	≤ 5 MW	20 Years
Anaerobic Digestion	750 kW	≤ 5 MW	20 Years
Hydropower	500 kW	≤ 5 MW	20 Years

Summary Results, Proposed 2024-2026 Solar Classes ≤5 MW (¢/kWh)

Technology	Tariff Term	Size Range kW (Modeled Size kW)	2023 CP (Approved)	Proposed 2024 CP	Proposed 2025 CP	Proposed 2026 CP	% Change (2023→2024)	% Change (2023→2025)	% Change (2023→2026)
Small Solar I	15	0-15 (5.8)	27.75	36.45 [33.55]	34.65 [31.85]	33.95 [30.95]	31% [21%]	25% [13%]	22% [5%]
Small Solar II	20	>15-25 (25)	26.15	33.15 [32.25]	31.95 [31.05]	31.35 [30.35]	27% [23%]	22% [16%]	20% [10%]
Medium Solar	20	>25-250 (250)	25.65	34.35 [33.45]	33.45 [32.55]	33.25 [32.25]	34% [30%]	30% [26%]	30% [23%]
Commercial I	20	>250-500 (500)	22.05	29.35 [29.85]	28.55 [28.95]	28.35 [28.55]	33% [35%]	29% [30%]	29% [26%]
Commercial I CRDG	20	>250-500 (500)	25.15	32.25 [32.65]	31.45 [31.75]	31.25 [31.45]	28% [30%]	25% [25%]	24% [22%]
Commercial II	20	>500-1,000 (1,000)	19.05	24.45 [23.85]	23.75 [23.05]	23.55 [22.75]	28% [25%]	25% [20%]	24% [16%]
Commercial II CRDG	20	>500-1,000 (1,000)	21.91*	27.35 [26.65]	26.65 [25.85]	26.35 [25.55]	25% [22%]	22% [17%]	20% [13%]
Large Solar	20	>1,000-5,000 (5,000)	14.35	18.65 [17.35]	18.05 [16.75]	17.85 [16.65]	30% [21%]	26% [15%]	24% [12%]
Large Solar-CRDG	20	>1,000-5,000 (5,000)	16.50*	21.35 [19.95]	20.75 [19.26]	20.52* [19.14]	30% [21%]	26% [15%]	24% [12%]

Values in **bold** represent final draft values, while those in **[purple brackets]** represent the first draft values.

*This is the maximum CRDG Ceiling Price allowed by law. The calculated 2023 values are 22.95 for Commercial CRDG 251-500, 19.95 for Commercial CRDG 500-999 and 15.15 for Large CRDG. The calculated 2026 value for Large Solar is 20.55. Note, however, that this CP would allow cost-competitive projects (bidding below the CP) access to > a 15% premium compared to actual project costs.

Summary Results, Proposed 2024–2026 Solar Classes ≤5MW (¢/kWh)

Technology	Tariff Term	Size Range kW (Modeled Size kW)	2024 Proposed CP	2025 Proposed CP	2026 Proposed CP
Large Solar II	20	5,000-<10,000 (9,999)	18.05 [18.55] [15.25]	17.45 [17.95] [14.75]	17.25 [17.75] [14.65]
Large Solar III	20	10,000-<15,000 (14,999)	18.45 [19.15] [14.15]	17.85 [18.65] [13.65]	17.75 [18.45] [13.55]
Large Solar IV*	20	15,000-<39,000 (20,000)	18.15 [18.85] [17.05]	17.55 [18.35] [16.65]	17.45 [18.15] [16.55]

Values in **bold** represent final draft values. Values in [blue brackets] represent 2nd draft values, while those in [purple brackets] represent the previous 1st Draft values. All changes from 2nd draft to final are a result of optimizing debt sizing, see appendix for details.

Summary Results, Proposed 2024-2026 Non-Solar Classes (¢/kWh)

Technology	Tariff Term (Years)	Size Range kW (Modeled Size kW)	2023 Approved CP	Proposed 2024 CP	Proposed 2025 CP	Proposed 2026 CP	% Change (2023 → 2024)	% Change (2023 → 2025)	% Change (2023 → 2026)
Wind*	20	<=5,000 (3,000)	19.15	20.25 [20.1] [19.55]	19.85 [19.75] [19.25]	19.85 [19.75] [19.35]	6% [2%]	4% [1%]	4% [1%]
Wind – CRDG*	20	<=5,000 (3,000)	21.15	22.05 [21.95] [21.35]	21.65 [21.55] [21.15]	21.75 [21.55] [21.15]	4% [1%]	2% [0%]	3% [0%]
Hydroelectric	20	<=5,000 (500)	31.95	34.15 [31.55]	33.35 [31.05]	33.45 [31.05]	7% [-1%]	4% [-3%]	5% [-3%]
Anaerobic Digestion (AD)	20	<=5,000 (750)	19.05	19.25 [18.85**]	18.95 [18.35**]	19.05 [18.25**]	1% [-2%]	-2% [-4%**]	1% [-4%**]

Values in **bold** represent final draft values. Values in [blue brackets] represent 2nd draft values, while those in [purple brackets] represent the previous 1st Draft values.

*Average of (1) 60-20% bonus depreciation and (2) no bonus depreciation

**The purple-bracketed values that were in the prior presentation for program years 2024-2026 were miscopied from SEA’s models. The correct values for the previous draft are as shown in the purple brackets. The values as proposed for the current draft and rendered in bold are as calculated in the CREST model and are unaffected by the miscopy.

***The blue bracketed values represent a

Overview of Key Stakeholder Feedback and Modeling Implications for Ceiling Prices

Capital Cost Assumptions

- **Site Control Expenses**

- In first draft comments, Solect recommended that SEA include the cost of site control pre-COD in its modeling, arguing that long interconnection timelines result in significant site control expenses pre-COD
- A review of confidential leases supplied to SEA by market participants during the 2023 PY development process indicates that lease start terms often take effect at commercial operation
 - → Suggests that site-control expenses may not be incurred by a majority of market participants pre-COD
- SEA is aware that long interconnection timelines can present costs for projects pre-COD relating to project management, however these costs are expected to be rolled into the total development cost that SEA assesses via state databases
- **M.I., No change, installed cost inputs utilize state databases that already include total development costs**
 - **Although it is possible that such site control expenses have increased recently, SEA's current practice of taking the average of the median and 75th percentile cost value from state databases is intended to result in ceiling prices that have appropriate headroom to account for such cost increases**

Operating Expense Assumptions

- **YoY changes to Solar Operating Expenses**

- In first, draft comments, Ecogy argued that certain O&M expenses are uncontracted, and are likely to vary based on the COD year, meaning that Year 1 O&M costs should not be held constant across the program-year inputs in consideration (2024-2026)
- In SEA's second draft presentation, we noted that although it is reasonable to expect that O&M expenses may deviate from SEA's current assumptions over time, SEA is not aware of any analysis regarding the direction or magnitude of such change.
- **M.I.: No change. SEA has not identified or been supplied with any materials supporting a trend for year 1 O&M expenses**

AC/DC Capacity for Program Eligibility

- In SEA's fourth stakeholder presentation, SEA explored the impact on modeled ceiling prices from denoting capacity bins based on AC capacity
 - Results demonstrated that economies of scale from the allowance of larger DC system sizes → cost savings
- Following the presentation, SEA realized that land lease costs (which are a function of DC system size) were not adjusted appropriately
 - Correction for this issues → cost savings significantly decreased (1-0.5% reductions in CPs)
- Given modest nature of cost savings and other potential issues associated with a switch from DC to AC renewable energy class sizing, consideration of this program change is being deferred to future program years

Incentive-rate adder considerations



Incentive-Rate Adder Overview

- **2023-S 684/2023-H 5853 – An Act Related to Public Utilities and Carriers – Net Metering** Allows OER and the Board to consider the **development of adders** for projects sited on parcels “requiring remediation”
- SEA’s modeling focused on adders for landfills and brownfields
 - SEA proposes that the calculated brownfield adder would also be made available to superfund sites requiring remediation
 - Consultation with DEM confirms that the cost of remediating superfund sites is generally greater than that of brownfields → limited potential for over-incenting remediation
- DEM guidance suggests only uncapped landfills meet criteria of “requirement remediation”
 - DEM reports that certain municipalities have closed (but uncapped) landfills and are lacking funding for remediation → solar development represents potential funding source
 - For these cases, SEA recommends an adder designed to cover the costs of capping a landfill, subject to conformation via attestation that insufficient funds for the capping exists
 - For uncapped landfill with funds for closure, SEA recommends a lower adder designed to cover only the incremental capital and operating expenses associated with development on a *capped* landfill
- See SEA’s second, third, and fourth stakeholder presentations for a summary of all stakeholder feedback and resulting modeling implications

Summary of Proposed Adder Values

- A summary of the resulting adders, by renewable energy class and parcel type, is provided below

renewable energy class	Landfill Adder (¢/kWh)				Brownfield/Superfund Adder (¢/kWh)		
	<i>1st Draft</i>	<i>2nd Draft</i>	<i>Proposed Final</i> <i>(For landfills with funds to cap)</i>	<i>Proposed Final</i> <i>(For landfills lacking funds to cap)</i>	<i>1st Draft</i>	<i>2nd Draft</i>	<i>Final Proposed</i>
Non-Large Solar (<1 MW)	4.20	4.30	4.30	8.00	3.50	3.60	3.60
Large Solar (1-<5 MW)	4.20	4.30	4.30	8.00	3.50	3.60	3.60
Large Solar II (5-<10 MW)	3.80	3.60	3.60	7.80	3.20	2.90	2.90
Large Solar III (10-<15 MW)	3.70	3.40	3.40	7.50	3.10	2.80	2.80
Large Solar IV (15-<39 MW)	3.60	3.30	3.30	7.40	3.00	2.70	2.70

Note: Above values would apply for the duration of the two- to three-year period under consideration



Appendix A: Detailed Cost, Performance and Financing Assumptions



Adopted Adder Incremental Cost Assumptions

Input	Unit	Landfill				Brownfield			
		Initial Input	1 st Draft	<i>Proposed Final</i> <i>(For landfills with funds to cap)</i>	<i>Proposed Final</i> <i>(For landfills lacking funds to cap)</i>	Adopted Input	1 st Draft	2 nd Draft	<i>Proposed Final</i>
Upfront Capital Cost	Inc. \$/kW vs. Greenfield	\$350*	\$392*	\$391*	\$961	\$330	\$365	\$372	\$372
Upfront Permitting Costs <small>(incremental to above \$/kW input)</small>	Inc. \$ vs. Greenfield	\$175,000	\$230,000	\$216,071	\$216,071	\$0	\$240,000	\$190,833	\$190,833
Year 1 DC CF	% Change vs. Greenfield	-5.0%	-5.0%	-5.0%	-5.0%	0%	-2.5%	-2.5%	-2.5%
O&M	"	15%	15%	15%	15%	16%	16%	16%	16%
Project Mgmt.	"	10%	10%	10%	10%	7%	7%	7%	7%
Insurance	"	10%	10%	10%	10%	15%	15%	15%	15%
Land/Site Lease	"	0%	0%	0%	0%	0%	0%	0%	0%

*Does not assume the cost of capping a landfill

Summary: Solar \leq 25 kW Financing Assumptions

	Small I (1-15 kW)		Small II (15-25 kW)	
	<i>2023 Final</i>	<i>2024-2026</i>	<i>2023 Final</i>	<i>2024-2026</i>
Federal Investment Tax Credit (%)	30%	30%	30%	30%
% Debt	52.5%	See Slide "Multi-Year Debt % Assumptions"	45%	See Slide "Multi-Year Debt % Assumptions"
Debt Term (years)	13	13	10	10
Interest Rate on Term Debt	6.3%	See Slide "Interest Rate on Term Debt"	7.0%	See Slide "Interest Rate on Term Debt"
Lender's Fee (% of total borrowing)	4.25%	4.25%	2.3%	2.3%
Target After-Tax Equity IRR	7%	7%	12.5%	12.5%

Summary: Solar >25 kW Financing Assumptions

Assumption Set	Medium (>25-250 kW)		Comm'l & Comm'l CRDG (>250-1 MW)		Large & Large CRDG (>1 MW-5 MW)	
	2023 Final	2024-2026	2023 Final	2024-2026	2023 Final	2024-2026
Federal Investment Tax Credit (%)	30%	30%	30%	30%	30%	30%
% Debt	50%	See Slide "Multi-Year Debt % Assumptions"	48%	See Slide "Multi-Year Debt % Assumptions"	45%	See Slide "Multi-Year Debt % Assumptions"
Debt Term (years)	13	13	13	13	15	15
Interest Rate on Term Debt	7.29%	See Slide "Interest Rate on Term Debt"	7.29%	See Slide "Interest Rate on Term Debt"	7.34%	See Slide "Interest Rate on Term Debt"
Lender's Fee (% of total borrowing)	1.0%	1.0%	1.0%	1.0%	2.0%	2.0%
% Equity Share of Sponsor Equity	30%	32%	33.3%	32%	35%	35%
Target After-Tax Equity IRR (Sponsor Equity, Levered Return)	12.5%	12.5%	12.0%	12.0%	11.0%	11.0%
% Equity Share of Tax Equity	70%	68%	66.7%	68%	65%	65%
Target After-Tax Equity IRR (Tax Equity, Levered Return)	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%
Depreciation Approach	5-Year MACRS	5-Year MACRS	5-Year MACRS	5-Year MACRS	5-Year MACRS	5-Year MACRS

Summary: Solar >5 MW Financing Assumptions

	Large II	Large III	Large IV
Federal Investment Tax Credit (%)	30%	30%	30%
% Debt	See Slide “Multi-Year Debt % Assumptions”	See Slide “Multi-Year Debt % Assumptions”	See Slide “Multi-Year Debt % Assumptions”
Debt Term (years)	15	15	15
Interest Rate on Term Debt	See Slide “Interest Rate on Term Debt”	See Slide “Interest Rate on Term Debt”	See Slide “Interest Rate on Term Debt”
Lender's Fee (% of total borrowing)	2.0%	2.0%	2.0%
% Equity Share of Sponsor Equity	35%	35%	35%
Target After-Tax Equity IRR (Sponsor Equity, Levered Return)	11.0%	11.0%	11.0%
% Equity Share of Tax Equity	65%	65%	65%
Target After-Tax Equity IRR (Tax Equity, Levered Return)	9.5%	9.5%	9.5%
Depreciation Approach	5-Year MACRS	5-Year MACRS	5-Year MACRS



Summary: Non-Solar Financing Assumptions

	Wind & Wind CRDG		Hydroelectric		Anaerobic Digestion	
<i>Assumption Set</i>	<i>2023 Final</i>	<i>2024-2026</i>	<i>2023 Final</i>	<i>2024-2026</i>	<i>2023 Final</i>	<i>2024-2026</i>
Federal Investment Tax Credit	30%	30%	30%	30%	30%	30%
% Debt	44%	See Slide “Multi-Year Debt % Assumptions”	48%	See Slide “Multi-Year Debt % Assumptions”	42%	See Slide “Multi-Year Debt % Assumptions”
Debt Term (years)	15	15	20	20	15	15
Interest Rate on Term Debt	7.59%	See Slide “Interest Rate on Term Debt”	7.59%	See Slide “Interest Rate on Term Debt”	7.34%	See Slide “Interest Rate on Term Debt”
Lender's Fee (% of total borrowing)	1.0%	1.0%	1.88%	1.88%	1.5%	1.5%
% Equity Share of Sponsor Equity	25%	25%	25%	25%	25%	25%
Target After-Tax Equity IRR (Sponsor Equity, Levered Return)	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
% Equity Share of Tax Equity	75%	75%	75%	75%	75%	75%
Target After-Tax Equity IRR (Tax Equity, Levered Return)	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%
Depreciation	5-Year MACRS	5-Year MACRS	5-year MACRS	5-year MACRS	5-year MACRS	5-year MACRS

Summary: Solar <1 MW Cost & Production Assumptions

	Small I	Small II	Medium	Comm'l I	Comm'l I (CRDG)	Comm'l II	Comm'l II (CRDG)
Nameplate Capacity (kW)	5.8	25	250	500	500	1,000	1,000
Capacity Factor	13.4%	13.4%	14.5%	14.6%	14.6%	14.6%	14.6%
Annual Degradation	1.0%	1.0%	0.8%	0.8%	0.8%	0.8%	0.8%
Useful Life (Years)	25	25	25	25	25	25	25
Total Capital Cost ^ (\$/kW)	\$4,449 [\$3,566]	\$3,946 [\$3,058]	\$3,060 [\$3,111] [\$2,485]	\$2,863 [\$3,051] [\$2,352]	\$2,963 [\$3,151] [\$2,452]	\$2,665 [\$2,673] [\$2,218]	\$2,765 [\$2,773] [\$2,318]
Additional Meter Relocation Cost (\$)	\$0	\$0	\$30,000 [\$0]	\$30,000 [\$0]	\$30,000 [\$0]	\$0	\$0
Fixed O&M (\$/kW-yr)	\$29	\$24	\$14.57	\$12.03	\$34.03	\$12.03	\$34.03
O&M Escalation Factor	2.0%	2.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Non-O&M Escalation %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Insurance (% of Cost)	0.0%	0.0%	0.34%	0.57%	0.57%	0.57%	0.57%
Project Management (\$/yr)	\$0	\$0	\$3,000	\$4,000	\$4,000	\$4,000	\$4,000
Site Lease (\$/yr)	\$0	\$0	\$28,000 [\$18,090]	\$41,650 [\$24,500]	\$41,650 [\$24,500]	\$55,178 [\$32,458]	\$55,178 [\$32,458]

Values in [Purple Brackets] represent 2023 ceiling price inputs. Value in [Blue Brackets] represent first draft inputs.

Summary: Large Solar Cost & Production Assumptions

	Large I				Large II			Large III			Large IV		
Use Case	Base	CRDG	Brownfield	Landfill	Base	Brownfield	Landfill	Base	Brownfield	Landfill	Base	Brownfield	Landfill
Nameplate Capacity (kW _{DC})	5,000	5,000	5,000	5,000	9,999	9,999	9,999	14,999	14,999	14,999	20,000	20,000	20,000
Capacity Factor	15.10%	15.10%	14.72%	14.37%	15.10%	14.72%	14.37%	15.10%	14.72%	14.37%	15.10%	14.72%	14.37%
Annual Degradation	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Useful Life (Years)	30	30	30	30	30	30	30	30	30	30	30	30	30
Total Capital Cost ^ (\$/kW _{DC})	\$2,450 [Blue Brackets] [Purple Brackets]	\$2,550 [Blue Brackets] [Purple Brackets]	\$2,813 [Blue Brackets]	\$3,455 [Green Brackets] [Blue Brackets]	\$2,176 [Blue Brackets]	\$2,586 [Blue Brackets]	\$3,158 [Green Brackets] [Blue Brackets]	\$2,085 [Blue Brackets]	\$2,495 [Blue Brackets]	\$3,061 [Green Brackets] [Blue Brackets]	\$2,036 [Blue Brackets]	\$2,446 [Blue Brackets]	\$3,008 [Green Brackets] [Blue Brackets]
Fixed O&M (\$/kW _{DC} -yr)	\$11.00	\$33.00	\$12.76	\$12.65	\$9.00	\$10.35	\$10.44	\$9.00	\$10.35	\$10.44	\$9.00	\$10.35	\$10.44
O&M Escalation Factor	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Non-O&M Escalation %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Insurance (% of Cost)	0.57%	0.57%	0.66%	0.63%	0.57%	0.66%	0.63%	0.57%	0.66%	0.63%	0.57%	0.66%	0.63%
Project Management (\$/yr)	\$20,000	\$20,000	\$21,400	\$22,000	\$20,000	\$21,400	\$22,000	\$20,000	\$21,400	\$22,000	\$20,000	\$21,400	\$22,000
Site Lease (\$/yr)	\$160,701 [Purple Brackets]	\$160,701 [Purple Brackets]	\$160,701	\$160,701	\$321,370	\$321,370	\$321,370	\$482,071	\$482,071	\$482,071	\$642,804	\$642,804	\$642,804

Values in [Purple Brackets] represent 2023 ceiling price inputs. Value in [Blue Brackets] represent first draft inputs. Value in [Green Brackets] represent second draft inputs.

^ Total cost includes interconnection cost. For Large I cases, value includes and estimated \$47.92/kW added cost for meeting IRA and state prevailing wage requirements

Multi-Year Installed Cost Inputs (\$/kW)

renewable energy class	2023 Costs (baseline)	2024	2025	2026
Small I	\$4,535	\$4,449	\$4,361	\$4,275
Small II	\$4,022	\$3,946	\$3,868	\$3,792
Medium	\$3,105	\$3,060	\$3,016	\$2,971
Commercial I	\$2,904	\$2,863	\$2,821	\$2,779
Commercial II	\$2,704	\$2,665	\$2,627	\$2,588
Large	\$2,440	\$2,402	\$2,365	\$2,328
Large II	\$2,210	\$2,176	\$2,141	\$2,109
Large III	\$2,118	\$2,085	\$2,052	\$2,021
Large IV	\$2,068	\$2,036	\$2,004	\$1,973

Summary: Non-Solar Cost & Production Assumptions

	Wind	Wind - CRDG	Hydroelectric	Anaerobic Digestion
Nameplate Capacity (kW)	3,000	3,000	500	725
Capacity Factor	21.00%	21.00%	55.00%	92% ¹
Annual Degradation	0.5%	0.5%	0.0%	0.0%
Total Cost (\$/kW)	\$3,548 [\$3,558] [\$3,288]	\$3,648 [\$3,658] [\$3,388]	\$12,179 [\$12,189] [\$11,918]	\$11,518 [\$11,408]
Fixed O&M (\$/kW-yr)	\$26.50	\$48.50	\$269.50 [\$245]	\$600
O&M Inflation	2.0%	2.0%	0%	2.0%
Insurance (% of Cost)	0.29%	0.29%	3.51% [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

1. Note: For Anaerobic Digestion we use an Availability Factor
2. Values in [Purple Brackets] represent 2023 ceiling price inputs. Values in [Blue Brackets] represent first draft 2024 inputs.



Interest Rate on Term Debt : Multi-Year Assumptions

Renewable Energy Class	2023 Adopted Value	2024	2025	2026
Small I	6.30%	7.63%	6.91%	6.97%
Small II	7.00%	7.49%	6.78%	6.84%
Medium	7.29%	7.60%	6.88%	6.95%
Commercial I	7.29%	7.60%	6.88%	6.95%
Commercial II	7.29%	7.60%	6.88%	6.95%
Large Solar	7.34%	7.66%	6.96%	7.03%
Large II	N/A	7.66%	6.96%	7.03%
Large III	N/A	7.66%	6.96%	7.03%
Large IV	N/A	7.66%	6.96%	7.03%
Wind	7.59%	7.90%	7.18%	7.25%
Hydro	7.59%	8.05%	7.32%	7.40%
Anaerobic Digestion	7.34%	7.66%	6.96%	7.03%



Multi Year Debt % Assumptions

Renewable Energy Class	2024	2025	2026
Small I	51.00%	51.00%	51.00%
Small II	45.50%	45.50%	45.75%
Medium	47.00%	48.00%	48.00%
Commercial I	46.50%	47.00%	47.00%
Commercial II	46.00%	46.50%	46.50%
Large Solar	44.50%	44.75%	44.75%
Large II	50.50%	50.75%	50.75%
Large III	54.00%	54.50%	54.50%
Large IV	54.00%	54.50%	54.50%
Wind	42.00%	42.75%	42.75%
Hydro	48.00%	48.50%	48.50%
Anaerobic Digestion	51.00%	51.00%	51.00%

Jim Kennerly

☎ **508-665-5862**

✉ jkennerly@seadvantage.com

Toby Armstrong

☎ **508-665-5864**

✉ tarmstrong@seadvantage.com

Jason Gifford

☎ **508-665-5856**

✉ jgifford@seadvantage.com

