



# Rhode Island REG Program:

Research, Analysis, & Discussion in Support of  
First Draft 2026 Program Year Small Solar Prices

July 30, 2025

Sustainable Energy Advantage, LLC

# Overview of 2026 REG PY Considerations

- During 2024 PY development process:
  - PUC approved three-year set of ceiling prices for all classes other than Small Solar I and II → **Need to set Small I and II for this year's pricing development**
  - PUC declined to approve a three-year MW allocation plan → **Need to propose new 2026 MW allocation plan**
- In addition, passage of the One Big Beautiful Bill Act (OBBBA) has resulted in changes to federal tax provisions impacting renewable energy more broadly → **SEA to consider implications for all ceiling prices**
- Certain OBBBA implications related to Small Solar I and II are discussed in this presentation. However, research is ongoing, and implications for other renewable energy classes will be discussed at a later date

# Timeline for 2026 CP Development Process

- **July 30** – First stakeholder meeting re: first draft Small Solar I and II prices
- **August 6** – Comments in response to first stakeholder meeting due
- **August** – SEA completes research regarding expected impact of OBBBA on REG-eligible projects
- **Early September** – Second stakeholder meeting re:
  - Second draft Small Solar I and II prices
  - Draft 2026 MW Allocation Plan
  - First draft of analysis re: OBBBA implications for solar >25 kW
- **Late September** – Revisions to analysis in response to stakeholder feedback, request for additional feedback, if necessary
- **September 29** – Presentation to DG Board re: analysis thus far
- **October 27** – Final recommendations presented to DG Board
- **November** – Filing before PUC

# Small Solar I and II Price Recommendations



# Summary Results (¢/kWh)

- Draft 2026 prices for Small Solar I and II are provided below

Class	Tariff Term	Size Range kW (Modeled Size kW)	2025 Approved Price	2026 1 <sup>st</sup> Draft Revised Price	% Change (2025 → 2026)
Small Solar I	15	≤15 (5.8)	33.85	39.45	16.5%
Small Solar II	20	>15-25 (25)	32.35	28.05	-13.3%

# Stakeholder Feedback and Modeling Implications

# Installed Cost Assumptions & Methodology

- Robust data available from RI and other Northeast states for small solar, but data somewhat more limited for Medium, Commercial, and Large Solar classes
  - CT RRES and NRES program now more fully underway → data utilized for all sizes
- As in prior years, SEA filtered data to remove outliers and to remove projects with characteristics that do not reflect the proxy projects modeled through REG (e.g., no storage, canopy projects, etc.)
- **Modeling Implication (M.I.):**
  - **Small Solar I and II continue to utilize the median installed cost data from NY, CT and MA programs, Energy Sage quotes, REF quotes, REG enrollments, and Lawrence Berkeley National Laboratory (LBNL) regional data**
  - **Medium, Commercial, and Large Solar continue to utilize average of median and 75<sup>th</sup> percentile costs for NY Sun, CT NRES, MA SMART, REG Open Enrollment Data, and regional data from LBNL**

# Year-on-Year Solar Cost Adjustment Assumptions

- Consistent with prior years, SEA computed year-on-year (YoY) technology cost decline assumptions (i.e., learning curve) derived from the National Renewable Energy Laboratory's (NREL's) Annual Technology Baseline (ATB), to capture fundamental cost declines for solar
  - Communication with NREL suggests that release of the 2025 NREL ATB is expected in the Fall → **SEA to use 2024 release for now**
- To reflect that technology cost declines and inflation are independent variables, SEA has calculated the total YoY adjustment to 2024 and 2025 installed cost data as the net difference between NREL ATB cost decline assumptions and inflation assumptions provided in the 2025 EIA Annual Energy Outlook (using Wholesale Price Index)
- **M.I.: SEA will use the values shown below for First Draft prices**

Metric	Category	2024 → 2026 Adjustment	2025 → 2026 Adjustment
2025 AEO Wholesale Price Index	N/A	-0.7%	-0.4%
2024 NREL ATB YoY CAPEX Cost Decline	Small	-1.7%	-0.9%
	Non-Small	-2.9%	-1.5%
<b>Net Adjustment</b>	<b>Small</b>	<b>-2.4%</b>	<b>-1.2%</b>
	<b>Non-Small</b>	<b>-3.5%</b>	<b>-1.8%</b>

# Installed Cost Summary Results

- Installed cost results for all renewable energy classes are shown below
- Results for non-Small Solar renewable energy classes are for informational purposes only
- Overall, results show significant cost declines for Small Solar, with varied results for larger renewable energy classes
  - Results are directionally consistent with expectations re: economies of scale

	2025 PY Adopted (a)	2025 PY Market Average (b)	2026 PY – Updated Estimate (c)	% Change – 2025 Input → 2026 PY Input (c/a)-1	% Change – 2025 Average → Updated 2026 Input (c/b)-1
Small Solar I	\$4,270	\$4,270	\$3,553	-16.8%	-16.8%
Small Solar II	\$3,942	\$3,942	\$3,284	-16.7%	-16.7%
Medium Solar	\$3,016	\$3,422	\$3,269	8.4%	-4.5%
Commercial Solar I	\$2,821	\$3,169	\$2,911	3.6%	-7.8%
Commercial Solar II	\$2,627	\$2,916	\$2,578	-1.9%	-11.6%
Large Solar I	\$2,365	\$2,508	\$2,343	-0.9%	-6.6%

Note: Installed cost figures include certain adjustments to account for added costs not contained in state databases (e.g., RI-specific labor laws) – See Appendix B

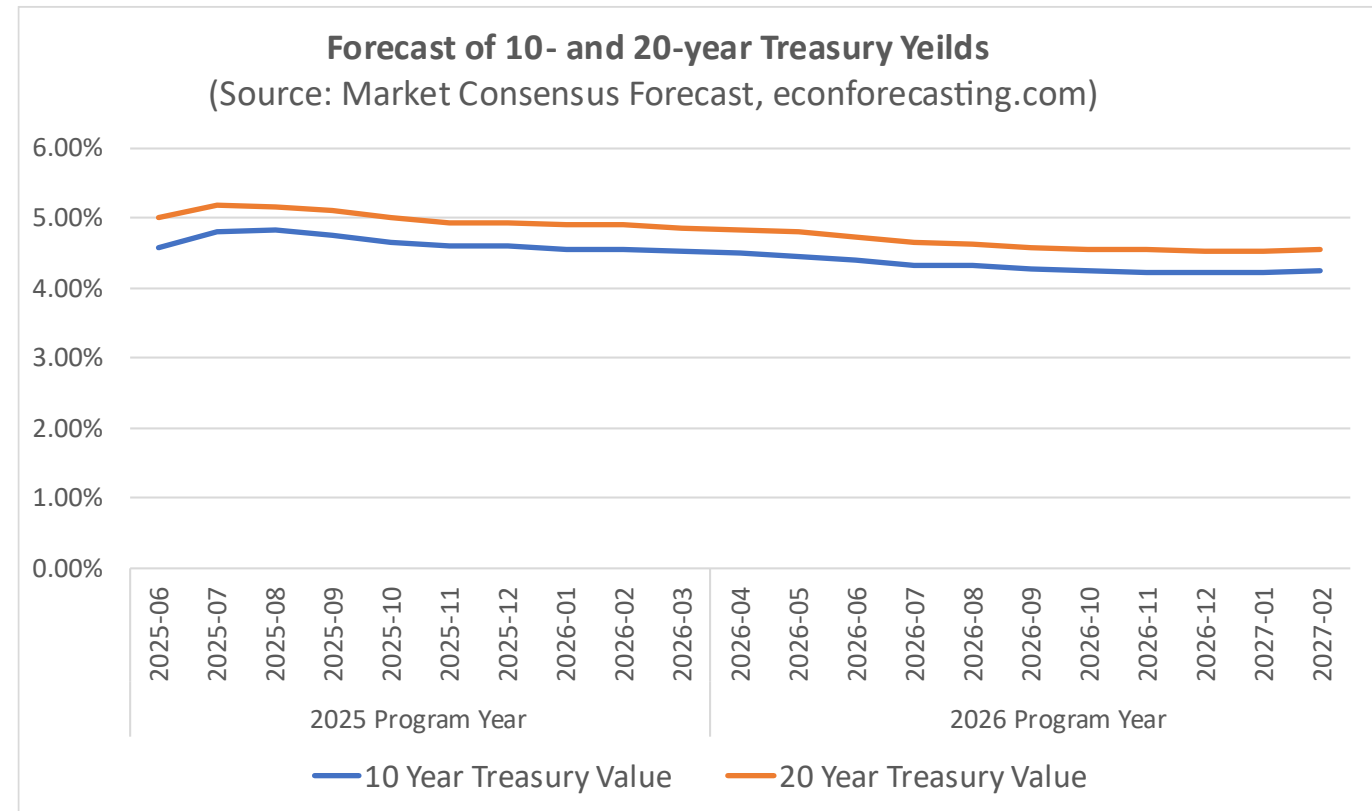
# Operating Expense Assumptions

- **Inverter Replacement Costs**

- A developer suggested that inverter replacement costs for Small Solar I and II not covered by warranty are as high as \$150/kW, but did not provide any documentation of such costs
- **M.I.: No change for now given a lack of documented evidence, SEA will consider revisions in final draft pricing, and specifically seeks documented examples of quotes for inverter replacement**

# Interest Rates (1)

- Consistent with SEA's approach during the 2024-2026 program development process, SEA utilizes forecasted 10- and 20-year Treasury yields as a basis for future interest rate expectations
- However, the Market Consensus Forecast SEA previously relied upon presents an outlook that suggests current rates will be sustained, consistent with a scenario where the economy **does not** fall into a recession
- Federal Reserve [estimates](#) risk of recession is currently ~30% → SEA considering utilizing a weighted average of forecasts consistent with a scenario where the economy **does** fall into a recession
- **M.I.: Continue to utilize "Market Consensus" Forecast of Treasury Yields for now**
  - Request feedback on alternatives
  - Continue to monitor forecasts and Federal Reserve reporting of risk of recession



# Interest Rates (2)

- Using the Market Consensus Forecast, inputs for Small Solar I and II are derived as follows:

	Small Solar I	Small Solar II
Debt Term (Years)	10	10
Expected Average Debt Rate 2026 PY (Extracted July 2025)	4.33%	4.33%
Risk Premium	3.25%	3.25%
Total Interest Rate	<b>7.58%</b>	<b>7.58%</b>

- These values are **lower** than those recommended by OER in PY 2025 (8.38% for both Small Solar I and II), but **higher** than those adopted by the PUC in PY 2025 (6.91% for Small Solar I and 6.78% for Small Solar II) given that the PUC chose to adopt Draft 1 pricing

# Federal Tax Credits (1)

- July 4 - [Public Law 119-21 \(H.R. 1\) – The One Big, Beautiful Bill Act](#) (OBBBA) signed into law, rolling back many of the tax credits and programs created by [Public Law 117-169 – Inflation Reduction Act of 2022](#) (IRA), most notably:
  - Section 70506 terminates the [Residential Clean Energy Credit](#) as of December 31, 2025 → **Impacts host-owned Small Solar I**
  - Sections 70512 and 70513 terminate the [Clean Electricity Production Credit](#) (CEPC) and [Clean Electricity Investment Credit](#) (CEIC) for certain projects → **Impacts Small Solar II and larger.**  
Impacted projects include:
    - Facilities **placed in service after December 31, 2027**, except for facilities that begin construction within 12 months of the Law’s enactment (i.e., July 4, 2026)
      - July 7 [Executive Order](#) directs treasury to ensure the “beginning of construction” standard is “not circumvented” via “artificial acceleration or manipulation of eligibility and ... the use of broad safe harbors”
    - Facilities that commenced construction after December 31, 2025, with “material assistance” from a “prohibited foreign entity,” subject to safe harbor tables issued no later than December 31, 2026
- **M.I.:**
  - **Small Solar I: Market dominated by host-owned (95% from 2021-25) → Remove 30% ITC**
  - **Small Solar II: Assume that projects in PY 2026 can reach COD prior to December 31, 2027 → retain 30% ITC, but request feedback on implications of “prohibited foreign entity” provisions**

# Federal Tax Credits (2)

- The elimination of these incentives for certain projects (based on placed in service/commenced construction treatment) will likely increase the levelized cost of energy (LCOE) → higher ceiling prices to allow projects to meet a reasonable rate of return
- However, mitigating factors, such as OBBBA's provision to make 100% bonus depreciation permanent, may also offset the upward cost pressure if developers are able to utilize
- Given this, the impact is not expected to be one-to-one—*for example, a 30% drop in the Investment Tax Credit (ITC) will not necessarily translate into a 30% increase in solar LCOE*—because **new financing structures and/or investors that can monetize permanent bonus depreciation and other non-ITC tax benefits are likely to emerge in response**
- **SEA's research efforts in the coming weeks/months will focus on what these new structures are likely to look like, and their implications for ceiling prices**

# Bonus Depreciation

- OBBA makes permanent the **100% bonus depreciation** option for energy production facilities placed in service before January 1, 2031
- In prior year's research efforts, despite the availability of bonus depreciation, market participants indicated **most tax equity investors that claim an investment credit did not utilize bonus depreciation**, to preserve their tax capital to invest in a higher volume of projects → SEA assumed five-year schedule of the Modified Accelerated Cost Recovery System (MACRS) for depreciation
- However, given the phase-down of tax credits, SEA assumes that new financing structures are likely to emerge in response → SEA to conduct fresh research on expectations regarding the ability to claim bonus depreciation post OBBA
- **M.I.: Given that OBBA did not eliminate 5-year MACRS, SEA will continue to assume 5-year MACRS for now, but will review based on research findings for Draft 2**



# **Appendix A: Detailed Cost, Performance and Financing Assumptions**



# Summary: Solar $\leq 25$ kW Financing Assumptions

	Small I (1-15 kW)		Small II (15-25 kW)	
	<i>2025 Adopted</i>	<i>2026 1<sup>st</sup> Draft</i>	<i>2025 Adopted</i>	<i>2026 1<sup>st</sup> Draft</i>
<b>Federal Investment Tax Credit (%)</b>	30%	0%	30%	30%
<b>% Debt</b>	43.4%	60.1%	45.2%	45.3%
<b>Debt Term (years)</b>	13	10	10	10
<b>Interest Rate on Term Debt</b>	6.91%	7.58%	6.78%	7.58%
<b>Lender's Fee (% of total borrowing)</b>	4.25%	4.25%	2.3%	2.3%
<b>Target After-Tax Equity IRR</b>	7%	7%	12.5%	12.5%

# Summary: Solar Cost & Production Assumptions

	Small I	Small II
<b>Nameplate Capacity (kW)</b>	5.8	25
<b>Capacity Factor</b>	13.4%	13.4%
<b>Annual Degradation</b>	1.0%	1.0%
<b>Useful Life (Years)</b>	25	25
<b>Total Capital Cost * (\$/kW)</b>	\$3,553 [\$4,260]	\$3,284 [\$3,940]
<b>Fixed O&amp;M (\$/kW-yr)</b>	\$29	\$24
<b>O&amp;M Escalation Factor</b>	2.0%	2.0%
<b>Non-O&amp;M Escalation %</b>	2.0%	2.0%
<b>Insurance (% of Cost)</b>	0.0%	0.0%
<b>Project Management (\$/yr)</b>	\$0	\$0
<b>Site Lease (\$/yr)</b>	\$0	\$0
<b>Property Tax/PILOT (\$/kW)</b>	\$0	\$5

\* Values in [Purple Brackets] represent 2025 ceiling price inputs

# **Appendix B: Detailed Capital Cost Data for Solar Projects**



# Small Solar I Installed Cost Summary Statistics

Small Solar I, Installed Costs											
0-15 kW											
Time Period		2024 (Full Year)						2025 (Partial Year)			
Dataset	Sample Size	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	N	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	
MA SMART (Qualified & Operational)	156	\$4,007	\$3,786	\$3,287	\$4,425	11	\$3,339	\$3,009	\$2,855	\$3,574	
CT RRES	5,442	\$3,916	\$3,917	\$3,450	\$4,391	N/A	No Data	No Data	No Data	No Data	
NY - NYSERDA Solar Electric Programs	12,985	\$3,967	\$3,769	\$3,108	\$4,607	5,316	\$4,132	\$3,944	\$3,273	\$4,800	
RI Small Scale REG	78	\$4,216	\$4,179	\$2,979	\$5,333	21	\$3,353	\$2,510	\$2,034	\$4,917	
RI REF	150	\$4,542	\$4,080	\$3,622	\$5,467	46	\$3,827	\$3,573	\$3,190	\$4,097	
Energy Sage - RI Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - MA Accepted Bids*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - NY Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - CT Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - ME Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage Accepted Averages	N/A	\$3,062	\$3,008	\$2,917	\$3,164	N/A	\$2,911	\$2,855	\$2,788	\$2,985	
LBNL Tracking the Sun Advance Dataset RI	299	\$4,360	\$3,966	\$3,498	\$5,055	N/A	No Data	No Data	No Data	No Data	
LBNL TTS - All NE States	18,976	\$4,480	\$4,140	\$3,278	\$5,350	N/A	No Data	No Data	No Data	No Data	

\*NOTE: SEA has withheld the state-specific summary statistics, since these values represent the output of non-public datasets that are normally provided for a fee that were generously provided to SEA by EnergySage specifically for this analysis.

# Small Solar II Installed Cost Summary Statistics

Small Solar II, Installed Costs											
15-25 kW											
Time Period		2024 (Full Year)						2025 (Partial Year)			
Dataset	Sample Size	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	N	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	
MA SMART (Qualified & Operational)	61	\$3,371	\$3,349	\$2,680	\$3,741	2**	\$3,517	\$3,517	\$3,253	\$3,781	
CT RRES	550	\$3,718	\$3,700	\$3,200	\$4,150	N/A	No Data	No Data	No Data	No Data	
NY - NYSEDA Solar Electric Programs	1,354	\$3,378	\$3,185	\$2,773	\$3,719	618	\$3,385	\$3,115	\$2,800	\$3,809	
RI Small Scale REG	3***	\$4,336	\$4,965	\$3,839	\$5,147	N/A	No Data	No Data	No Data	No Data	
RI REF	21	\$3,624	\$3,370	\$3,017	\$3,923	13	\$3,406	\$3,350	\$3,188	\$3,729	
Energy Sage - RI Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - MA Accepted Bids*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - NY Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - CT Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage - ME Accepted*	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	N/A	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	<i>Withheld</i>	
EnergySage Accepted Averages	N/A	\$2,802	\$2,814	\$2,708	\$2,891	N/A	\$2,795	\$2,787	\$2,742	\$2,831	
LBNL Tracking the Sun Advance Dataset RI	17	\$3,569	\$3,496	\$3,017	\$3,796	N/A	No Data	No Data	No Data	No Data	
LBNL TTS - All NE States	2,527	\$3,527	\$3,265	\$2,800	\$4,000	N/A	No Data	No Data	No Data	No Data	

\*SEA has withheld the state-specific summary statistics, since these values represent the output of non-public datasets that are normally provided for a fee that were generously provided to SEA by EnergySage specifically for this analysis.

\*\*Excluded from analysis due to small sample size

\*\*\*Averaged with 2024 RI REF due to small sample size

# Medium Solar Installed Cost Summary Statistics

Medium Solar, Installed Costs											
>25-250 kW											
Time Period		2024 (Full Year)						2025 (Partial Year)			
Dataset	Sample Size	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	N	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	
MA SMART (Qualified & Operational)	86	\$2,908	\$2,571	\$2,225	\$3,392	9	\$2,152	\$2,145	\$2,021	\$2,175	
CT Residential Renewable Energy Solutions	35	\$3,501	\$3,512	\$2,912	\$3,838	N/A	No Data	No Data	No Data	No Data	
NY - NYSEDA Solar Electric Programs	412	\$3,371	\$3,200	\$2,672	\$3,776	172	\$3,316	\$3,149	\$2,582	\$3,807	
CT NRES	195	\$2,822	\$2,706	\$2,375	\$3,062	N/A	No Data	No Data	No Data	No Data	
RI REG	24	\$2,638	\$2,537	\$2,415	\$2,989	7	\$3,364	\$3,460	\$2,595	\$4,019	
RI REF	19	\$3,238	\$3,150	\$2,650	\$3,700	12	\$3,144	\$3,040	\$2,405	\$3,418	
LBNL Tracking the Sun Advance Dataset RI	14	\$3,271	\$3,352	\$2,814	\$3,549	N/A	No Data	No Data	No Data	No Data	
LBNL TTS - All NE States	586	\$3,215	\$2,997	\$2,454	\$3,600	N/A	No Data	No Data	No Data	No Data	

# Commercial Solar Installed Cost Summary Statistics

Commercial Solar, Installed Costs											
>250-1 MW											
Time Period		2024 (Full Year)						2025 (Partial Year)			
Dataset	Sample Size	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	N	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	
MA SMART (Qualified & Operational)	19	\$3,063	\$2,668	\$2,102	\$3,948	N/A	No Data	No Data	No Data	No Data	
NY - NYSERDA Solar Electric Programs	43	\$2,148	\$2,130	\$1,892	\$2,455	30	\$2,633	\$2,240	\$2,031	\$2,813	
CT NRES	7	\$2,546	\$2,259	\$2,066	\$2,750	N/A	No Data	No Data	No Data	No Data	
RI REG	11	\$3,444	\$3,602	\$3,080	\$4,000	N/A	No Data	No Data	No Data	No Data	
LBNL Tracking the Sun Advance Dataset RI	N/A	N/A	N/A	N/A	N/A	N/A	No Data	No Data	No Data	No Data	
LBNL TTS - All NE States	104	\$2,469	\$2,265	\$1,999	\$2,793	N/A	No Data	No Data	No Data	No Data	

# Large Solar Installed Cost Summary Statistics

Large Solar, Installed Costs											
1-5+ MW											
Time Period		2024 (Full Year)						2025 (Partial Year)			
Dataset	Sample Size	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	N	Average (\$/kW)	Median (\$/kW)	25th Percentile (\$/kW)	75th Percentile (\$/kW)	
MA SMART (Qualified & Operational)	2	\$1,746	\$1,746	\$1,693	\$1,799	N/A	No Data	No Data	No Data	No Data	
NY - NYSEDA Solar Electric Programs	28	\$1,919	\$1,735	\$1,641	\$2,158	9	\$1,964	\$1,720	\$1,660	\$2,038	
CT NRES	27	\$2,335	\$2,255	\$2,034	\$2,683	N/A	No Data	No Data	No Data	No Data	
RI REG	1	\$2,275	\$2,275	N/A	N/A	N/A	No Data	No Data	No Data	No Data	
LBNL Tracking the Sun Advance Dataset RI	N/A	No Data	No Data	No Data	No Data	N/A	No Data	No Data	No Data	No Data	
LBNL TTS - All NE States	34	\$2,050	\$1,895	\$1,507	\$2,495	N/A	No Data	No Data	No Data	No Data	

# Solar Cost Adjustments

- The following costs are added onto the “base” costs derived through state databases

IC Cost Adder	IC Cost Adj.	Meter Relocation Adj.	Prevailing Wage Adj.	Electrician Labor Adj.
Small Solar I	N/A	N/A	N/A	\$30
Small Solar II	N/A	N/A	N/A	\$30
Medium Solar	N/A	\$120	N/A	\$30
Commercial Solar I	N/A	\$60	N/A	\$30
Commercial Solar II	N/A	N/A	N/A	\$30
Large Solar I	\$263	N/A	\$28.75	\$30

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