

Via Electronic Mail: DOER.SMART@mass.gov

October 31, 2025

Grace Fletcher, SMART Program Manager
Massachusetts Department of Energy Resources
100 Cambridge Street, 9th Floor
Boston, MA 02114

Joint Comments of Clean Energy Groups on SMART 3.0 PY 2026 Annual Report

Dear Ms. Fletcher,

The Alliance for Climate Transition ("ACT"), Solar Energy Industries Association ("SEIA"), Solar Energy Business Association of New England ("SEBANE"), and Coalition for Community Solar Access ("CCSA"), jointly, the "Clean Energy Groups," or "Industry," appreciate the opportunity to submit comments to the Massachusetts Department of Energy Resources ("DOER") regarding the SMART 3.0 Annual Report for the 2026 Program Year ("PY").

ACT leads the just, equitable, and rapid transition to a clean energy future and a diverse climate economy. ACT is the only organization in the Northeast that covers all of the clean energy market segments, representing the business perspectives of investors and clean energy companies across every stage of development. Our 300+ members include companies based in Massachusetts, doing business, or hoping to make future investments in the state.

SEIA is the national trade association for the solar and storage industry, leading the transformation to a clean energy economy. SEIA works with its 1,000+ member companies and other strategic partners to fight for policies that create jobs in every community and shape fair market rules that promote competition and the growth of flexible, reliable, low-cost solar power. There are at least 453 solar companies based in Massachusetts along with regional and national companies doing business in the Commonwealth. The Massachusetts solar market value is \$12.4 billion, creating over 11,600 jobs. Massachusetts is currently ranked 13th in the nation for total installed solar capacity, with 5,477 megawatts ("MW") installed, enough to power more than 936,000 homes.

SEBANE is a non-profit trade association representing 80 member companies from across the solar value chain, including residential installers and commercial developers, component manufacturers, financiers, and service providers. SEBANE's mission is to protect and promote the New England solar industry through informed policy advocacy, coalition building, and stakeholder education.

CCSA is a national coalition of over 120 businesses and non-profits working to expand customer choice and access to solar to all American households and businesses through community solar. Together, we are building the electric grid of the future where every customer has the freedom to support the generation of clean, local solar energy to power their lives. Through legislative and regulatory advocacy, and the support of a diverse coalition—including advocates for competition, clean energy, ratepayers, landowners, farmers, and environmental justice—we enable policies that unlock the potential of distributed energy resources, starting with community solar.

We sincerely appreciate the opportunity to comment on the proposed incentive rates, adders, and allocated capacity through the annual report process. This feedback process is critical to achieving the key objective of SMART 3.0—to ensure that project compensation fairly reflects market conditions, current project costs and program requirements—and that the program is adequately sized to ensure we are on track to meet our climate targets and demand from development pipelines.

Incentive Levels

The Clean Energy Groups appreciate that the PY 2026 Annual Report reflects revenue requirement modeling that BW Research Partners ("BW") has performed; however, our collective membership has found that the results of the modeling do not align with the experiences and market conditions that developers are facing on the ground at this time. Recognizing that: (i) the underlying assumptions needed to model a revenue requirement—including capital costs, financing costs, financing structures, and offtake strategies—are proprietary, confidential and sensitive information that is difficult to gather quickly; (ii) specific, data-driven and objectively grounded feedback is most helpful to DOER; and (iii) the industry is in a particularly uncertain time of upheaval; we engaged Sustainable Energy Advantage ("SEA") to conduct a cost-based analysis of base compensation rates, the Community Shared Solar Adder, and the Energy Storage System Adder needed to meet project revenue requirements under the SMART 3.0 program requirements. SEA's analysis is attached to this comment letter.

We believe SEA's analysis is materially different than BW's because: (i) the timing of BW's survey was too early to capture impacts from House Resolution ("HR") 1 (*i.e.*, the One Big Beautiful Bill Act); (ii) it is difficult to get a large number of survey responses and the responses themselves are often context-dependent; and (iii) when BW didn't have survey data it relied on less applicable national numbers instead of more relevant regional data. We therefore recommend that the Annual Report have flexibility on timing to be able to incorporate impacts of major policy or market shifts in between data collection and the start of the program year, and that DOER or its consultant adopt the approach NYSERDA has taken in New York, which relies on deep dive interviews with developers to better understand cost elements and how they may vary.

SEA's analysis indicates large gaps between critically needed revenue requirements for base compensation rates for all project size categories over 25 kW. Though without having complete insight into BW's modeling, we assume these are driven by differing cost input assumptions, particularly cost increases driven by the passage of HR 1, and additional actions from the federal government - some of which have only materialized after BW conducted its market survey.

SEA's analysis is robust, objective, and better considers both DOER's goals for renewable energy development and the economic realities developers face. Accordingly, we recommend that DOER adopt base compensation rates aligned with the results of SEA's analysis. At a minimum, if DOER cannot support using a non-contracted analysis as the basis for the rates, holding base compensation rates steady at 2025 levels would be closer to the revenue requirements SEA has identified than the proposed 2026 rates.

Base Compensation Rates

The base compensation rates underlie the fundamentals of the SMART 3.0 program. These rates must be sufficient to meet the capital, operations and management, and financing costs that solar projects experience. The intent of reforming SMART to an annual program was to ensure that base compensation rates are adequate to allow projects to move forward. Our members have found that the proposed 2026 base compensation rates do not meet that objective, and we are sincerely concerned that without adjustments, PY 2026 will be far undersubscribed, and the Commonwealth will lose its ability to capitalize on projects eligible for the federal Investment Tax Credit ("ITC").

SEA's attached analysis provides a full overview of the cost inputs used to model revenue requirements. These cost inputs were gathered in recent months and reflect recent cost increases due to supply chain constraints, tariffs, and Foreign Entity of Concern ("FEOC") requirements resulting from federal policy actions. SEA's modeled base compensation rates also reflect updated program requirements, including mitigation fees that all non-Locational Adder projects over 250 kW will need to pay. The assumed mitigation fees used as cost inputs in the SEA analysis reflect the lowest mitigation formula scores a project could achieve, and therefore, do not compensate projects for siting in less suitable areas. The mitigation fee framework will still serve as an incentive to pursue projects with minimal impacts and as a deterrent for projects with high land use impacts. It is critical that mitigation costs be factored into the compensation rates because as proposed, the draft Land Use Guideline does not provide an opportunity for any non-Locational Adder project to receive a score of zero.

SEA's analysis finds that base compensation rates need to be significantly higher than the proposed PY 2026 levels, and in fact, most categories require an increase from the PY 2025 levels. We recommend DOER adopt the resulting base compensation rates levels from SEA analysis:

STGU Capacity	Base Compensation Rates
>25 kW and <=250 kW AC	\$0.304/kWh
>250 kW and <=500 kW AC	\$0.251/kWh
>500 kW AC and <= 1 MW AC	\$0.225/kWh
>1 MW AC and <= 5 MW AC	\$0.169/kWh

If DOER is constrained in its ability to adopt these rates specifically, we strongly urge that PY 2026 rates be kept at the PY 2025 levels.

Energy Storage Adder

SEA's analysis shows that the proposed 2026 energy storage adder is insufficient, and that the 2025 adder value is grossly inadequate. The modeled results translate to a needed multiplier value that is higher in all configurations than the SMART 2.0 Tranche 1 values, and in some cases dramatically higher. We therefore strongly recommend resetting the multiplier to the Tranche 1 values.

Also, it is important to note that the storage model scenarios that included Clean Peak revenues are presenting a very optimistic view of that revenue stream by modeling Clean Peak revenue at a constant percentage of the ACP. This may be true for Clean Peak resources that are awarded a contract through the 83E procurement, but for all other resources including SMART projects, the Clean Peak market will saturate over time, and CPEC prices will fall. This dynamic is the reason that the Clean Peak program has been very slow to catalyze standalone storage deployment, as uncontracted CPEC revenue has essentially zero value to financing partners. The modeled Clean Peak value in SEA's analysis is a best-case scenario, and the modeled revenue requirement for the ESS adder is therefore a conservative estimate. We therefore recommend DOER focus your attention and make decisions based off the scenarios without CPEC Revenue, which show a \$0.02-\$0.10 deficiency in the multiplier needed to make energy storage economic.

The ESS adder is critical to get right. The SMART program requires projects over 1 MW to pair with energy storage because that storage greatly improves the grid value of the SMART project, furthering the benefits and energy cost savings to ratepayers. The Clean Energy Groups are committed to making solar plus storage projects succeed. The regulatory requirement to pair with co-located energy storage makes the compensation for the energy storage component just as important as the base compensation rate for the solar component. While projects can petition for a good cause exemption from the storage requirement, the eligibility requirements to participate in SMART of an executed Interconnection Agreement and receipt of non-ministerial permits means that these projects have completed years of development work assuming energy storage, and dropping the storage from the project will require redoing interconnection studies

and modifying permits, further setting the projects back in costs and timeline. The Clean Energy Groups are also concerned that if the energy storage adder is insufficient, DOER will receive a glut of good cause exemption requests, creating administrative burdens and bottlenecks in moving projects through the application process.

Community Shared Solar Adder

The Clean Energy Groups asked SEA to model the incremental revenue needed for a traditional Community Shared Solar ("CSS") project because the program requirements for CSS changed dramatically from what was modeled in the program review and what became the basis for the 2025 adder value. To our surprise, the analysis provided CSS adder results consistent with the \$0.07/kWh adder value in PY 2025 and proposed for PY 2026 - *provided that* base compensation rates are aligned with actual revenue requirements. We therefore recommend DOER keep this adder at the 2025 levels along with base compensation rates - however, we urge careful and continued monitoring and engagement of this market segment.

A key driver of the incremental costs for community solar are the upfront customer acquisition costs and ongoing customer management costs. These are very market specific, so relying on the estimates SEA collected in Rhode Island is not appropriate. We attempted to survey members and collect more data points on this particular input, but were only able to gather two reliable quotes. There are reasons to believe that customer acquisition and management costs are significantly higher in Massachusetts than in other community solar markets because Massachusetts is one of a very few states that has a low-income requirement but does not have consolidated billing. Consolidated billing has been shown to reduce the customer turnover rate of a project by 20% as compared to projects without consolidated billing.¹ Reducing customer turnover rates translates into reduced customer acquisition and management costs.

The lack of consolidated billing in Massachusetts has made serving low-income customers very difficult. There is very high customer turnover and collection risk associated with billing low-income customers, which results in higher costs to the project owner. The cost and risk is so high that we understand many providers in fact will not commit to managing a traditional CSS project in Massachusetts. We therefore directed SEA to model the compliance pathway allocating 15% of the project to low-income customers at a 100% discount, as that pathway does not require collecting payment from those customers. The results of that analysis show that the current CSS Adder is sufficient - but *only if* base compensation rates are sufficient.

The modeling also assumed that projects will dedicate the maximum allowable allocation to nonresidential customers, assuming that these customers are less expensive to serve and can receive a discount level below the residential minimum of 20%. However, we have not been able

¹ Sandler, Simon, Bentham Paulos, and Jenna Harmon. 2024. Community Solar Billing: An Exploration of Implementation and Alternatives, p. 1. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-90867. <https://www.nrel.gov/docs/fy25osti/90867.pdf>.

to validate that assumption at this time, and project costs will be higher if more of the capacity serves residential customers.

Given limited data on the incremental costs of filling and managing a CSS project, and because projects do not *have* to pursue the CSS track and may instead choose to develop as a Qualifying Facility, we again recommend DOER at a minimum maintain the \$0.07/kWh CSS Adder, continue to monitor CSS uptake, and quickly adjust the CSS adder value if projects do not fill the capacity set asides for CSS within a reasonable time period.

Flat incentive for <25kW

For projects under 25 kW, the Clean Energy Groups also finds the proposed incentive to not be reflective of current market dynamics. The proposed \$0.03/kWh, a continuation of 2025 levels, does not incorporate the loss of the 25D Residential Clean Energy Tax Credit. The 25D credit, a 30% tax credit for customers who purchase their home solar or home solar and storage system, has made rooftop solar and storage a more accessible and affordable offering. The impact of losing the 25D credit is already being felt because projects must be completed by the end of 2025 to qualify. Therefore, consumers who are considering solar are already evaluating quotes that do not include the 25D credit. For projects participating in SMART 3.0, not providing an increase to the incentive fails to address a portion of the gap contractors and prospective customers will need to grapple with in 2026. The incentive also remains below the value offered for Class I RECs, despite participation in SMART increasing project costs due to equipment, metering, and administrative costs.

For third-party owned projects under 25 kW that may still qualify for the 30% investment tax credit, compliance with FEOC requirements and ongoing supply chain challenges creates significant uncertainty and will increase project costs. These challenges are being intensified by the current administration's unpredictable tariff policies that have already driven up the cost of equipment. With FEOC guidance expected later this year, it is unclear how difficult and expensive FEOC compliance will be. Additionally, the TPO requirements, in their current form, are simply incompatible with all third-party ownership models and will make SMART unworkable for the industry. However, if DOER guidance addresses the concerns raised by industry, a higher incentive than the 2025 level will be necessary to incentivize SMART participation, stabilize the market, and support the continued deployment of residential rooftop projects through SMART. A workable SMART program with a sufficient flat incentive that makes it worthwhile for projects to participate is critical to support continued deployment of residential solar in Massachusetts.

Capacity Allocation and Interplay between PY 2025 and PY 2026

The Clean Energy Groups expect that the 450 MW-AC allocation for PY 2026 could be appropriate but is at risk of being insufficient depending on decisions DOER makes for both PY 2025 and PY 2026.

We understand that DOER makes decisions on the total “budget” or tolerable ratepayer impact of the SMART program assuming all allocated program year capacity is utilized. The Clean Energy Groups are very appreciative of the 900 MW that was allocated for PY 2025 because it sends a strong signal that Massachusetts is committed to building solar, and ensures that ITC-eligible projects will not be unnecessarily delayed or restrained by a discretionary MW cap. However, we unfortunately do not expect that the industry will be able to fill 900 MW based on the short program year, the challenges with the Energy Storage Adder and uncertainty on Forest Carbon eligibility, and the available existing universe of projects that have or will have a signed Interconnection Services Agreement and permits in hand by the end of the year. We urge DOER to consider this likely substantial undersubscription for 2025 in determining 2026 rates, capacity, and total cumulative ratepayer impact.

We have heard from many of our members that concerns around the Energy Storage Adder and land use requirements in particular are causing developers to pause on applications for projects that are eligible to submit for PY 2025. We have heard from others that there are still many elements of the new SMART program requirements and guidelines that they are digesting and need to understand more completely before taking action. We attempted to survey members to get a robust quantitative sense of this dynamic, and received responses from a relatively small set of 12 companies. Collectively though, those companies indicated that they were holding back or had material concerns about 42% of their project pipelines that could otherwise qualify for PY 2025.

These companies also indicated that the proposed Forest Carbon eligibility score in the draft Land Use Guideline is putting a large amount of their development pipeline at risk - with approximately 135 MW across nine companies that develop projects subject to the Forest Carbon scoring. An additional 50 MW of solar is at risk under the current Energy Storage Adder proposals, but the true impacts are likely greater, as developers are still trying to evaluate their options to move projects forward under various PV-storage configurations.

In short - if DOER were to address the Energy Storage Adder for PY **2025** and quickly amend the Land Use Guideline to grandfather projects initiated before the Forest Carbon scoring was published and/or adjust the ineligibility threshold as we recommended in our comments on the Land Use Guideline, more projects will be able to enter PY 2025, and 450 MW for the PY 2026 capacity may be sufficient. If DOER addresses these issues for PY 2026 but not before 2025 closes, there is significant risk that PY 2026 would be oversubscribed, and we would recommend increasing the allocation by 100 MW to accommodate these projects.

One of the largest concerns - and uncertainties - of whether 450 MW will be sufficient is the unequal development activity at this point in time across the electric distribution companies. Currently, there are more eligible projects in Eversource's territory given the more advanced stages of the Eversource Capital Investment Projects. There is a strong likelihood that 450 MW is

sufficient for 2026 in total, but the 220.55 MW allocation for Eversource will not be sufficient if the backlog of projects is not cleared in PY 2025. We recommend DOER adopt greater flexibility to make mid-program year adjustments to the capacity allocations.

Finally, in assessing if the following year program capacity is appropriate, it would be helpful for stakeholders to easily identify how much capacity has been allocated so far in the current program year. We recommend DOER establish easily accessible public dashboards for stakeholders to have clear, timely information on program availability across utility-specific allocations and capacity set-asides. The NY-Sun program provides a good model for tracking program capacity in real time.²

Other Elements of the Annual Program Year Assessment

We refer DOER back to the Clean Energy Groups' prior comments on the Guideline on Base Compensation Rates, Compensation Rate Adders, and Annual Assessments. We recommend that the Annual Report provide clear and transparent information about how each element of the Assessment (*e.g.*, progress towards GHG Emission Limits, Historic Participation, and Ratepayer Impacts) has informed the ultimate recommendations on the program year capacity allocation and incentive levels.

On behalf of our members, we thank you for your consideration and commitment to developing programs that drive forward the development of solar energy resources in the Commonwealth.

Sincerely,

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² <https://www.nyserda.ny.gov/All-Programs/NY-Sun/Contractors/Dashboards-and-incentives>

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Independent Evaluation of SMART 3.0 2026 Proposed Compensation

Prepared for the Coalition for Community Solar Access (CCSA) by Sustainable Energy Advantage, LLC (SEA)

October 30, 2025

Introduction: Background/ Research Questions



Procedural Background and Research Questions

- On August 28, 2025, the Massachusetts Department of Energy Resources (DOER) issued revised regulations (clean, redlined) for the Solar Massachusetts Renewable Target (SMART) Program, known as “SMART 3.0.”
- On October 1, 2025, the Massachusetts Department of Energy Resources (DOER) posted the Solar Massachusetts Renewable Target (SMART) Draft Program Year 2026 Annual Report.
- For its comments regarding the Draft 2026 Annual Report, the Coalition for Community Solar Access (CCSA) engaged Sustainable Energy Advantage, LLC (SEA) to determine, on an independent basis:
 - The levelized cost over a 20-year period for the proxy projects that form the basis for the SMART program’s proposed 2026 Base Compensation Rates (BCRs), incorporating the cost and financing implications associated with the passage of the One Big Beautiful Bill Act (OBBBA);
 - The incremental capital and operating costs for projects that qualify for the program’s proposed Community Shared Solar (CSS) and Energy Storage (ESS) adders; and
 - How these values, when combined, compare to the compensation values proposed in the Draft 2026 Annual Report.

Analysis Inputs/Methodology



Modeling Process Overview and Main Data Sources (1)

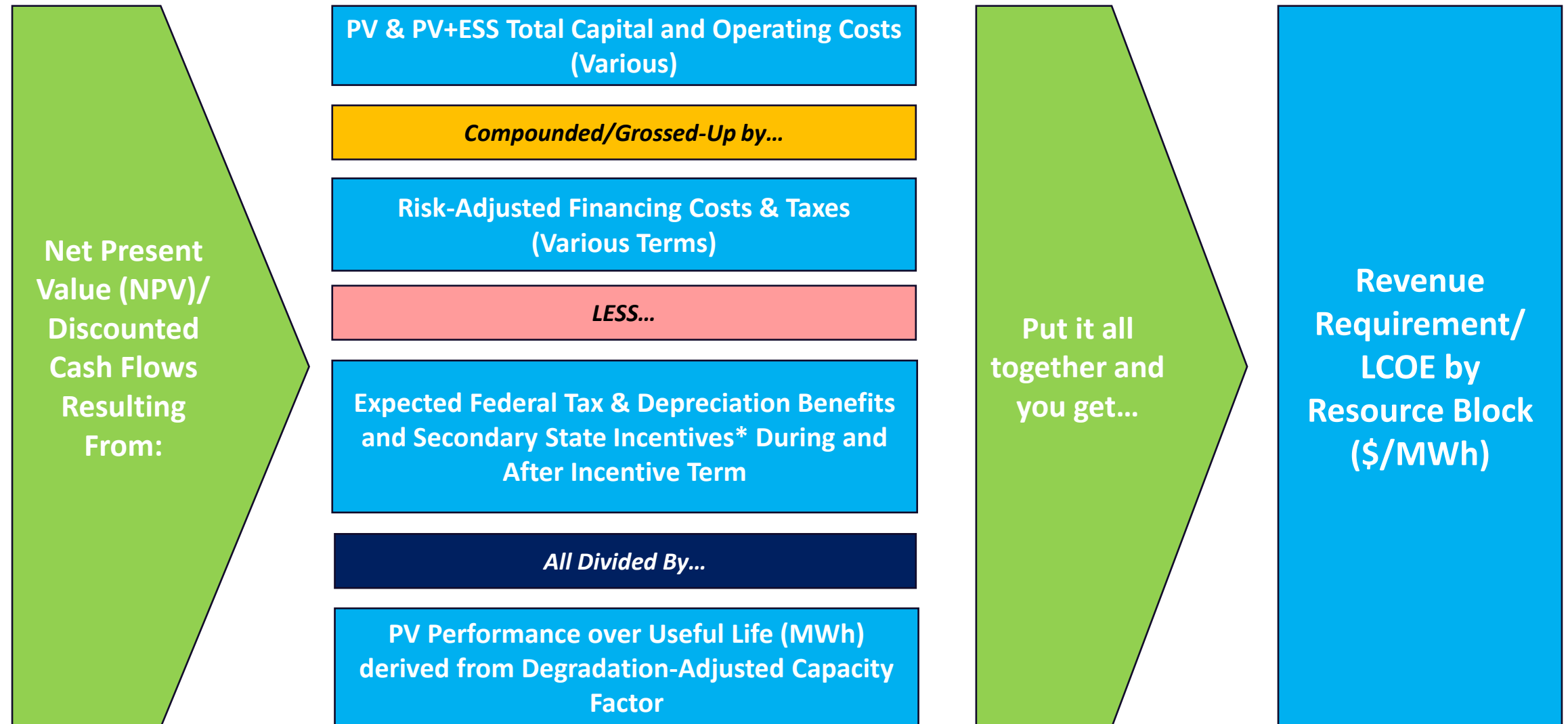
- SEA utilized a customized version of the Cost of Renewable Energy Spreadsheet Tool (CREST) Model (a tool SEA developed for the National Renewable Energy Laboratory).
- The purpose of the customized version of CREST is to establish revenue requirements (on a levelized cost of energy basis) for:
 - MA SMART-eligible solar PV; and
 - MA SMART-eligible solar PV paired with battery energy storage (PV+BESS) project resource classes.
- For the purposes of the instant analysis, SEA focused its analysis on projects expected to qualify for the SMART program and close financing in calendar year 2026.

Modeling Process Overview and Main Data Sources (2)

- Standard (and customized) modeled inputs in MA CREST include:
 - Capacity factor and production degradation;
 - Installed costs (incl. incremental costs of recently promulgated Chinese tariffs and anticipated Foreign Entity of Concern (FEOC) requirements);
 - Financing costs (e.g., interest on term debt, debt tenor, % of debt, after-tax equity IRR);
 - O&M costs;
 - Project management costs;
 - Land lease;
 - Incremental operating and installed costs for certain project types (e.g., community solar);
 - Clean Peak Energy Credit (CPEC) revenues at a 0.3x multiplier for PV+BESS projects
- The above-described inputs are sourced from a mix of public and confidential sources, including but not limited to:
 - SEA's support for the Rhode Island Office of Energy Resources in developing [Renewable Energy Growth Program offerings for the forthcoming 2026 Program Year](#);
 - The Task 1 [cost analysis](#) SEA completed for the SMART Programmatic Review on behalf of DOER in 2023-2024; and
 - Values characterized using data from SEA/Customized Energy Solutions' [Clean Peak Market Outlook \(CPMO\)](#) service.



Simplified Representation of CREST Calculation of Project Revenue Requirement



***In the MA DER context, the secondary state incentive in question is Clean Peak Energy Certificates for paired PV+BESS projects.**



Impact of Federal Tax Policy on Cost Drivers

- P.L. 119-21 – The One Big, Beautiful Bill Act (OBBBA) signed into law on July 4, 2025, made extensive changes to many of the tax credits and programs created by P.L. 117-169 – Inflation Reduction Act of 2022 (IRA).
- Sections 70512 and 70513 terminated the Clean Electricity Production Credit (CEPC) and Clean Electricity Investment Credit (CEIC) for certain projects, including:
 - 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)
 - 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
- For the purposes of the instant analysis (and consistent with the annual assessment), SEA assumed that projects qualifying for SMART during the 2026 PY will secure the CEIC, as well as the ability to assume interconnection costs in the CEIC basis.
- SEA estimates incremental capital costs for FEOC compliance based on market participant interviews.
 - Market participants reported costs in the range of \$50-\$200/kW for solar PV, with spread driven by supplier choices, risk tolerance, and project segment, and +10% of total BESS capital cost.
 - Market participants further reported that FEOC compliance cannot be leveraged for the Domestic Content Bonus Credit in most cases.

Impact of Federal Trade Policy on BESS Cost Drivers

- Since April, the Trump Administration has relied on its interpretation of the [International Emergency Economic Powers Act \(IEEPA\)](#) to pursue incremental “reciprocal” tariffs on all Chinese manufactured products beyond those imposed by Biden Administration.
 - Said tariffs apply generally to cell, pack and balance of system (BOS) costs – elements of which the supply chain originates almost entirely from China
 - Unless/until action is taken by the U.S. Supreme Court in [Learning Resources v. Trump](#) to vacate tariffs under IEEPA, total impact for installed capital costs is assumed to exceed Biden Administration values by 25%+ on a durable basis (and based on the status of negotiations with China at any given time, as much as 70%+) on a total project capital cost basis
- **Bottom Line:** While cost declines for battery cells and battery packs partially offset such increases, the net effect is a substantial increase relative to the 2023-2024 timeframe.

Solar PV Inputs and Modeling Methods (1)

- Solar PV cost and performance inputs, by size bin, are provided below and on the next two slides.
- For the community shared solar (CSS) case, inputs not specified in the “CSS Premium or Alternate Input” column are the same as those in the “>1-5 MW_{AC}” column.

Component	>25-250 kW _{AC}	>250-500 kW _{AC}	>500 kW-1.0 MW _{AC}	>1-5 MW _{AC}	CSS Premium or Alt. Input
Performance Inputs					
<i>Nameplate Capacity (kW_{DC})</i>	275	600	1300	6500	-
<i>Capacity Factor</i>	13.63%	13.63%	13.82%	14.37%	-
<i>Annual Degradation</i>	0.80%	0.80%	0.80%	0.50%	-
<i>Useful Life (Years)</i>	20	20	20	20	-
<i>COD Year</i>	2027	2027	2028	2029	-
Cost Inputs					
<i>Total Installed Cost (\$/kW)</i>	\$3,014	\$2,539	\$2,530	\$2,021	+\$72.54
<i>FEOC Compliance Cost (\$/kW)</i>	\$150	\$150	\$150	\$100	-

Solar PV Inputs and Modeling Methods (2)

Component	>25-250 kW _{AC}	>250-500 kW _{AC}	>500 kW-1.0 MW _{AC}	>1-5 MW _{AC}	CSS Premium or Alt. Input
Cost Inputs (cont.)					
Mitigation Fee (\$)*	-	\$32,008	\$69,352	\$346,758	-
Inverter Replacement Cost (\$/kW)	\$74.06	\$74.06	\$74.06	\$74.06	-
Inverter Replacement (Year)	12	12	12	12	-
Fixed O&M (\$/kW-yr)	\$14.00	\$12.00	\$12.00	\$11.00	+\$19.00
O&M Escalation Factor (%)	3.00%	3.00%	3.00%	3.00%	-
Non-O&M Escalation Factor (%)	2.00%	2.00%	2.00%	2.00%	-
Insurance (% of Costs)	0.34%	0.57%	0.57%	0.57%	-
Project Management (\$/yr)	\$3,406	\$4,688	\$5,750	\$18,292	-
Site Lease (\$/yr)	\$16,500	\$21,500	\$22,500	\$81,750	-
Property Taxes (\$/yr)	\$3,050	\$5,450	\$12,800	\$49,750	-
Financing Inputs					
Debt (% of Costs, Optimized to Min./Avg. Debt Service Coverage Req'ts)**	50%	50%	50%	50%	49%
Debt Term (Years)	19	19	19	19	-

* The adopted values represent the minimum fee that would apply to each project assuming a project footprint of approximately 3.88 acres per MW_{DC}.

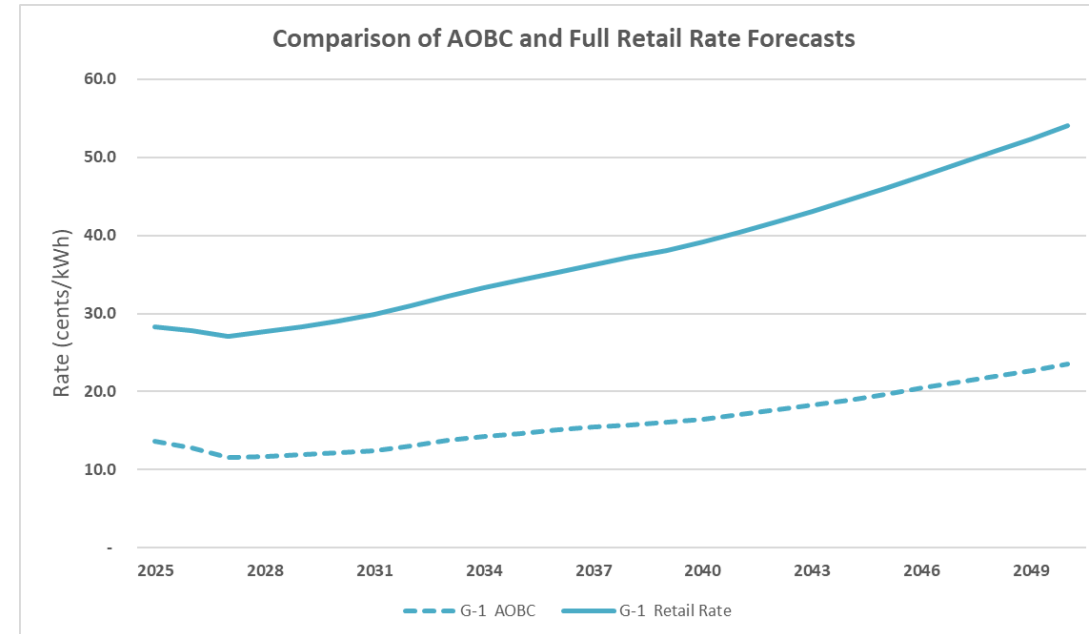
** SEA assumed average DSCRs of 1.25 for standalone solar PV and 1.35 for shared solar (per Norton Rose 2025 Cost of Capital values). Per market participant feedback, SEA assumes equivalent financial terms for paired PV+BESS projects as for solar PV only when said projects are equally eligible for tariff compensation.

Solar PV Inputs and Modeling Methods (3)

Component	>25-250 kW _{AC}	>250-500 kW _{AC}	>500 kW-1.0 MW _{AC}	>1-5 MW _{AC}	CSS Premium or Alt. Input
Financing Inputs (cont.)					
<i>Interest Rate on Term Debt (%)</i>	7.48%	7.48%	7.48%	7.48%	-
<i>Lender's Fee (% of Borrowing)</i>	1.00%	1.00%	1.00%	1.00%	-
<i>After-Tax Equity IRR (%)</i>	10.12%	9.96%	9.96%	9.64%	11.2%
<i>State Tax Rate (%)</i>	8.00%	8.00%	8.00%	8.00%	-
<i>Federal Tax Rate (%)</i>	21.00%	21.00%	21.00%	21.00%	-
Discount Inputs					
<i>R-1 Offtake (%)</i>	-	-	-	-	35%
<i>R-2 Offtake (%)</i>	-	-	-	-	15%
<i>G-1 Offtake (%)</i>	-	-	-	-	50%
<i>R-1 Discount (%)</i>	-	-	-	-	20%
<i>R-2 Discount (%)</i>	-	-	-	-	100%
<i>G-1 Discount (%)</i>	-	-	-	-	15%

Bill Credit Expenses & Changed CSS Adder Requirements (1)

- SEA modeled the required (and expected) bill credit discounts for CSS project subscribers as an annual expense in the CREST model.
- SEA assumed that CSS projects participate as AOBC facilities and receive bill credits equal to the generation (i.e., basic service) component of the G-1 retail rate.
- SEA developed its retail rate forecast (shown in figure at top right) using:
 - 12-month average rates from National Grid, Eversource East, and Eversource West
 - 2025 Annual Energy Outlook (AEO) New England Residential Electric Price Forecast Index, average of 'Reference' and 'Low Economic Growth' scenarios
- SEA calculated the effective discount rate (see table at bottom right) as a weighted average accounting for:
 - The percentage offtake by rate class, and
 - The difference in the required (or expected) discount rates for each rate class.
- SEA calculated the annual bill credit discount expense as the product of the annual forecasted bill credit value and the effective discount rate.



	R-1	R-2	G-1
Offtaker Rate Class (% Split)	35%	15%	50%
Discount Rate (%)	20%	100%	15%
Effective Discount Rate (%)	29.50%		

Bill Credit Expenses & Changed CSS Adder Requirements (2)

- As shown in the table at bottom, DOER replaced the CSS/LICSS Adders under SMART 1.0/2.0 with a single CSS Adder under SMART 3.0 with material minimum required low income participation.
- SEA initially assumed the new CSS installed cost premium would fall between the premiums assumed for the former CSS and LICSS adders. The installed cost premium reflects customer acquisition costs, which differ by offtaker class.
- However, SEA later received confidential Massachusetts developer quotes for customer acquisition and subscriber management that were significantly lower than the premiums used in the Programmatic Review and aligned with national values from a recent [Wood Mackenzie report](#).
- SEA therefore adopted the average of the quoted and national customer acquisition values for the installed cost premium. To address ongoing customer management costs, SEA adopted an average of the subscriber management premium for the LICSS Adder and a quoted value (applied to fixed O&M expenses as $\$/kW_{DC}\text{-yr}$).
- It is also SEA's understanding that there is a preference amongst CSS market participants for eligibility pathway 2(a)(ii) of the most recent iteration of [225 CMR 28.00](#), which requires at least 15% of production be allocated to Low Income Customers at no cost, over 2(a)(i), which requires at least 40% of production be allocated to Low Income Customers at a minimum 40% discount. Developers explained that without consolidated billing, many customer aggregators are not comfortable enrolling and billing Low Income Customers.

Project Type (SMART Iteration)	Generator Rate Class	Offtaker Rate Class (% split)			Discount Rate (%)			Installed Cost Premium ($\$/kW_{DC}$)	Operating Cost Premium ($\$/kW\text{-yr}$)
		R-1	R-2	G-1	R-1	R-2	G-1		
CSS (1.0/2.0)	G-1	50%	0%	50%	15%	n/a	15%	\$179.4	\$22.0
LICSS (1.0/2.0)	G-1	0%	50%	50%	n/a	40%	15%	\$414.8	\$29.0
CSS (3.0)*	G-1	35%	15%*	50%	20%	100%	15%	\$72.5	\$19.0

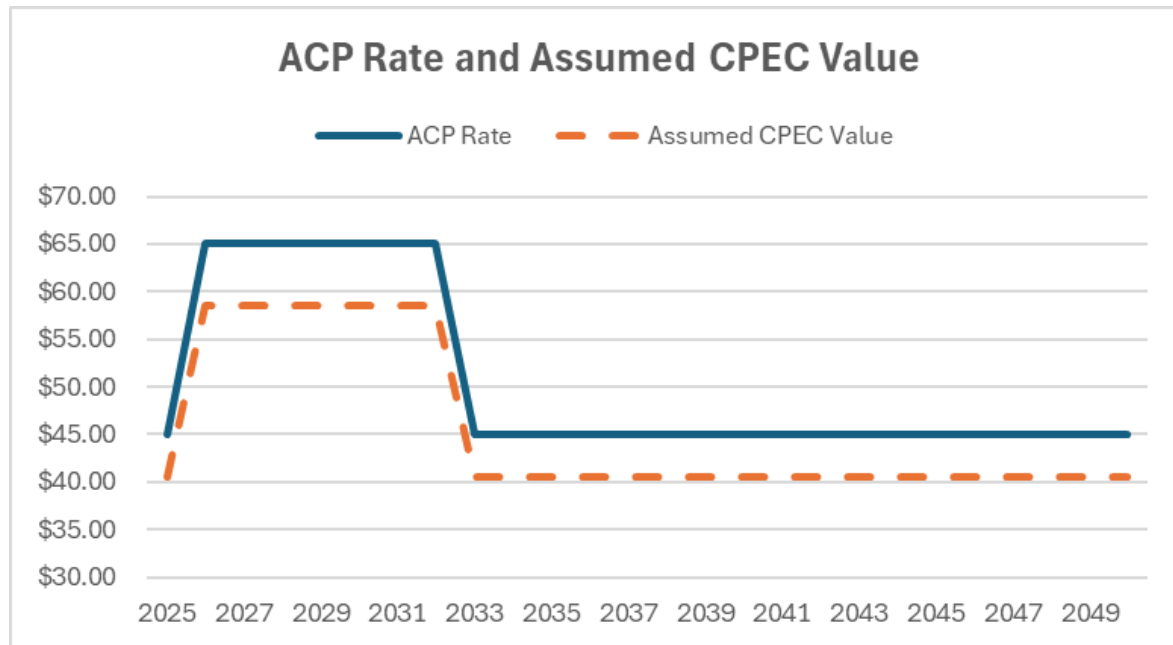
BESS Inputs & Modeling Methods (1)

- SEA analyzed paired BESS using varying assumptions for the size (% of PV system capacity) and duration (hours).
 - BESS installed cost inputs utilized in the analysis are provided in the table at right
 - Values incorporate both OBBBA-driven FEOC compliance and current/anticipated tariff values for Chinese manufactured products.
- SEA assumes **battery replacement at year 10, with a cost of 49% of initial capital expenditure** (based on expected cost declines after COD and partial replacement of initial equipment).
- SEA further assumes:
 - BESS fixed O&M costs = \$9/kWh.
 - PV+BESS system production equals 100.1% of standalone to account for capturing clipped energy and the net impact of round-trip efficiency losses.

Storage Size (kWh)	2023/24 Installed Cost (\$/kWh)	2026 Anticipated Installed Cost (\$/kWh)
2,500	\$499.5	\$665.1
5,000	\$456.4	\$651.6
10,000	\$441.9	\$593.0
20,000	\$424.6	\$559.6

BESS Inputs & Modeling Methods (2)

- SEA modeled Clean Peak Standard (CPS) revenue, a key revenue stream for paired BESS outside of the SMART program.
- SMART systems are subject to a 0.3x multiplier. That is, a SMART system produces 3 Clean Peak Energy Certificates (CPECs) for every 10 CPECs from a non-SMART system.
- CPS-related inputs, by storage duration-adjusted size (kWh), are shown below.

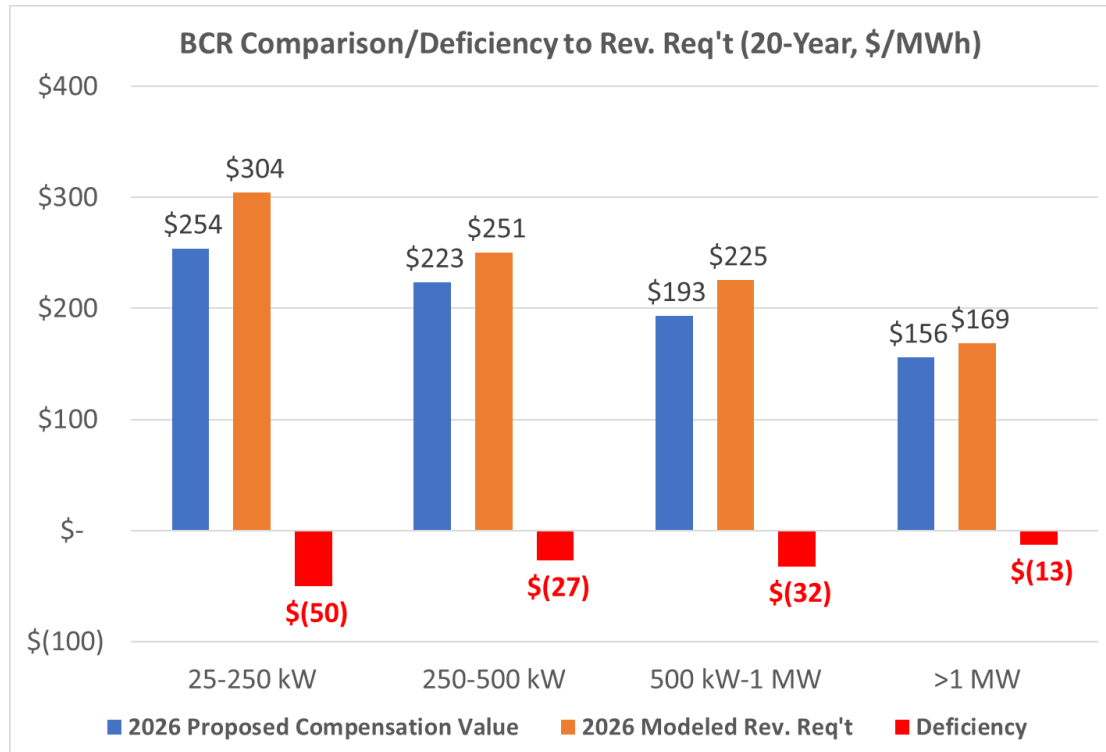


Component	2,500 kWh	5,000 kWh	10,000 kWh	20,000 kWh
Post-Multiplier First Year CPEC Production	647	1,293	2,586	5,172
Degradation Rate (%)	0.50%			
CPEC Value (\$/CPEC)	90% * ACP Rate			

Analysis Results



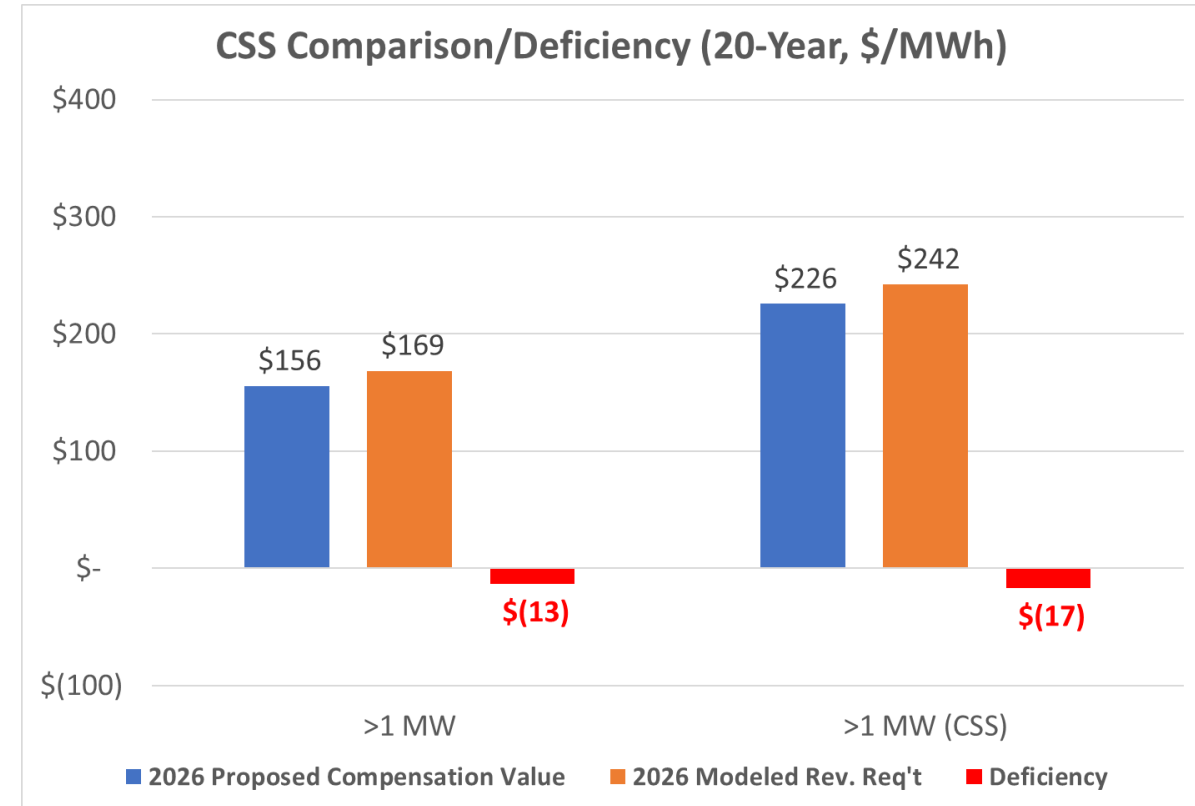
Base Compensation Rate (BCR) Results



- Based on regional cost analysis-derived inputs, the proposed BCRs for the 2026 PY program year are fall short of SEA's modeled revenue requirements, particularly for projects less than or equal to 1 MW_{AC}.
 - For a 25–250 kW_{AC} project, the proposed 2026 program year BCRs offer **\$54/MWh (\$0.054/kWh) less than SEA's modeled revenue requirements** (21% less revenue than needed).
 - For a 250–500 kW_{AC} project, the proposed 2026 program year BCRs offer **\$27/MWh (\$0.027/kWh) less than SEA's modeled revenue requirements** (12% less revenue than needed).
 - For a 500 kW–1 MW_{AC} project, the proposed 2026 program year BCRs offer **\$32/MWh (\$0.032/kWh) less than SEA's modeled revenue requirements** (16% less revenue than needed).
 - For a >1 MW_{AC} project, the proposed 2026 program year BCRs offer **\$13/MWh (\$0.013/kWh) less than SEA's modeled revenue requirements** (8% less revenue than needed).

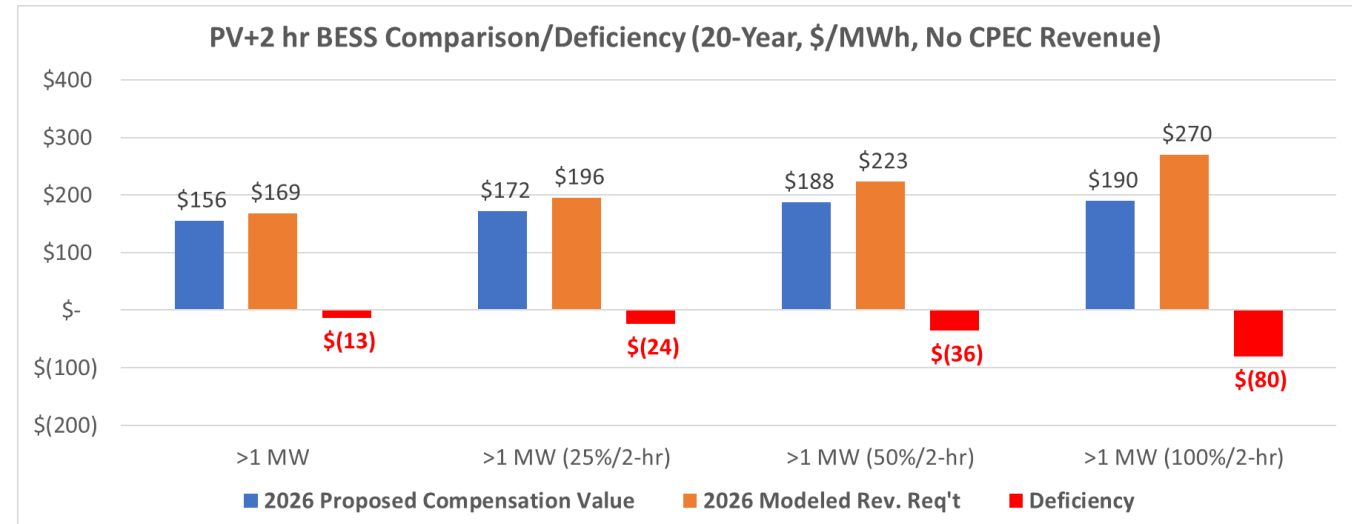
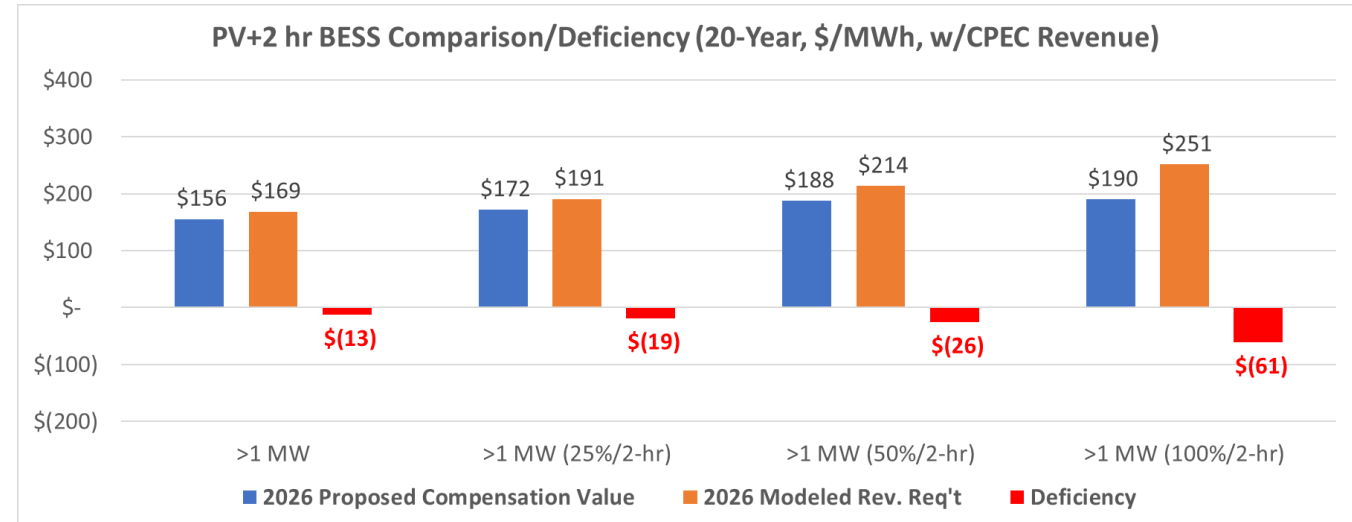
SMART 3.0 CSS Adder Project Results

- For a >1 MW CSS project, the proposed 2026 program year BCRs offer **\$16.7/MWh (\$0.017/kWh)** less than SEA's modeled revenue requirements.
- By comparison, a >1 MW non-CSS project shows a **deficiency of \$13.0/MWh (\$0.013/kWh)**.
- On net, and assuming SEA's *modeled* BCRs in lieu of those proposed, this implies a total incremental compensation level over 20 years required for a CSS project of **\$73.7/MWh (\$0.0737/kWh)**.
- However, at the *proposed* BCRs, CSS projects would require a total incremental compensation level over 20 years of **\$87/MWh (\$0.087/kWh)**.



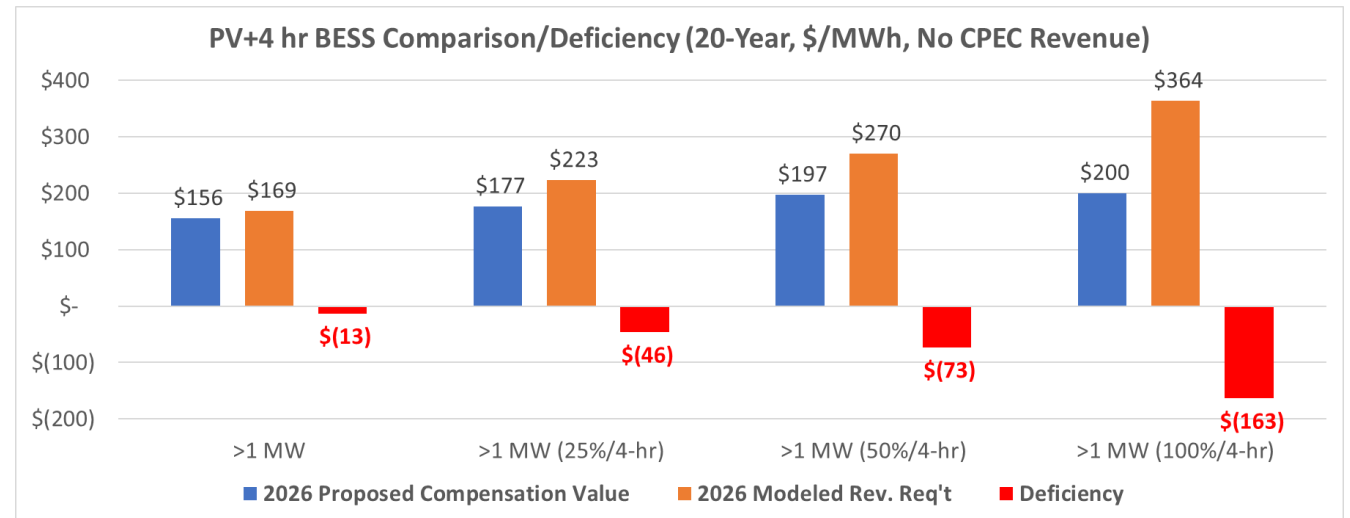
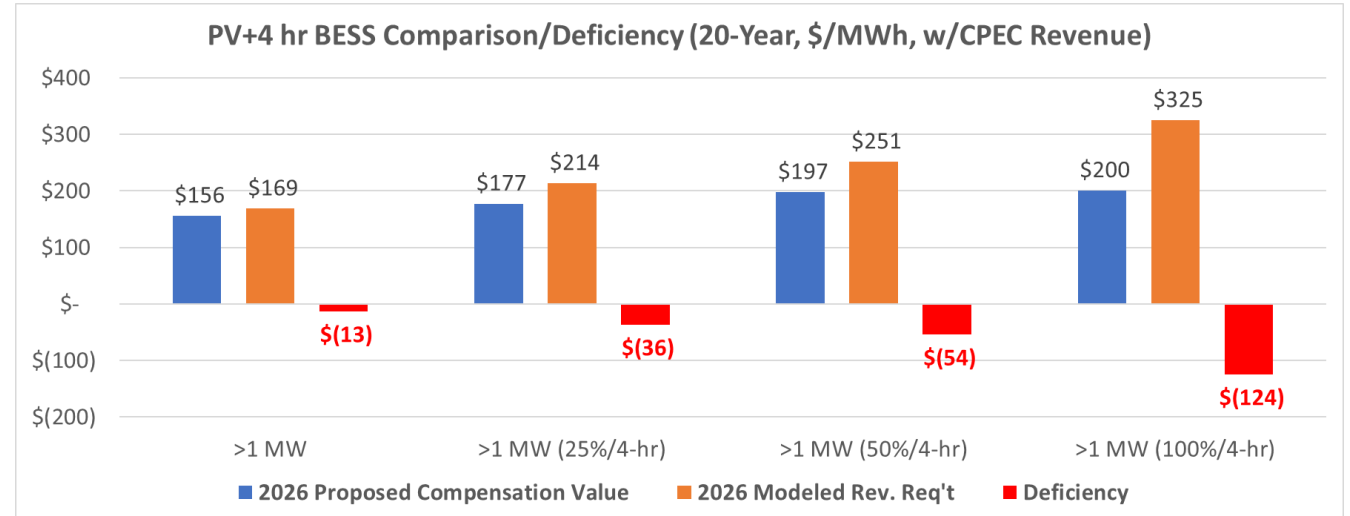
PV + 2-Hour BESS Project Results (Varied by % of PV Nameplate)

- For a >1 MW (25%/2-hr) project, the proposed 2026 program year compensation values offer **\$19–\$24/MWh (\$0.019–\$0.024/kWh)** less than SEA’s modeled revenue requirements for these projects, depending on whether CPEC revenue is included in the calculation.
- For a >1 MW (50%/2-hr) project, the proposed 2026 program year compensation values offer **\$26–\$36/MWh (\$0.026–\$0.036/kWh)** less than SEA’s modeled revenue requirements for these projects, depending on whether CPEC revenue is included in the calculation.
- For a >1 MW (100%/2-hr) project, the proposed 2026 program year compensation values offer **\$61–\$80/MWh (\$0.061–\$0.080/kWh)** less than SEA’s modeled revenue requirements for these projects, depending on whether CPEC revenue is included in the calculation.



PV + 4-Hour BESS Project Results (Varied by % of PV Nameplate)

- For a >1 MW (25%/4-hr) project, the proposed 2026 program year compensation values offer **\$36–\$46/MWh (\$0.036–\$0.046/kWh)** less than SEA’s modeled revenue requirements for these projects, depending on whether CPEC revenue is included in the calculation.
- For a >1 MW (50%/4-hr) project, the proposed 2026 program year compensation values offer **\$54–\$73/MWh (\$0.054–\$0.073/kWh)** less than SEA’s modeled revenue requirements for these projects, depending on whether CPEC revenue is included in the calculation.
- For a >1 MW (100%/4-hr) project, the proposed 2026 program year compensation values offer **\$124–\$163/MWh (\$0.124–\$0.163/kWh)** less than SEA’s modeled revenue requirements for these projects, depending on whether CPEC revenue is included in the calculation.



Modeled Revenue Requirements Relative to ESS Adder Multiplier

- SEA used the SOLVER add-in in Microsoft Excel to the Energy Storage Adder Calculator to determine the Multiplier value required for the adder associated with each relevant configuration to match SEA's calculated incremental cost.
- As shown, depending on the configuration used as the basis for determining the multiplier value, the proposed PY 2026 multiplier is between \$0.01010 and \$0.10080 lower than the calculated required multiplier.

CPEC Revenue?	BESS Configuration	SEA Incremental Cost (\$/kWh)	Required Multiplier to Meet SEA Inc. Cost (\$/kWh)	DOER Proposed Multiplier (\$/kWh)	Delta
Yes	25%/2-yr	\$0.02233	\$0.04010	\$0.03000	\$(0.01010)
Yes	50%/2-yr	\$0.04489	\$0.04200	\$0.03000	\$(0.01200)
Yes	100%/2-yr	\$0.08278	\$0.07240	\$0.03000	\$(0.04240)
Yes	25%/4-yr	\$0.04489	\$0.06300	\$0.03000	\$(0.03300)
Yes	50%/4-yr	\$0.08278	\$0.05970	\$0.03000	\$(0.02970)
Yes	100%/4-yr	\$0.15622	\$0.10450	\$0.03000	\$(0.07540)
No	25%/2-yr	\$0.02711	\$0.04940	\$0.03000	\$(0.01940)
No	50%/2-yr	\$0.05456	\$0.05110	\$0.03000	\$(0.02110)
No	100%/2-yr	\$0.10167	\$0.08870	\$0.03000	\$(0.05870)
No	25%/4-yr	\$0.05456	\$0.07640	\$0.03000	\$(0.04640)
No	50%/4-yr	\$0.10167	\$0.07310	\$0.03000	\$(0.04310)
No	100%/4-yr	\$0.19511	\$0.13080	\$0.03000	\$(0.10080)

* Note that BESS configurations of the same size (in kWh) may have different required multiplier values depending on their configurations. For example, assuming a 5 MW_{AC} solar PV system, a 100%/2-yr (10 MWh) BESS requires a 0.07240 multiplier whereas a 50%/4-yr (also 10 MWh) BESS requires a 0.06300 multiplier. This is due to the design of the Energy Storage Adder formula, which assumes elevated benefits for shorter-duration systems.

Thank You!



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