State of New York

Public Service Commission

Case 21-E-0629: In the Matter of the Advancement of Distributed Solar.

NY-Sun Program: Impacts of the Inflation Reduction Act and the Potential for Incremental Distributed Solar Capacity Beyond the 10 GW Goal

January 5, 2024

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Introduction

The New York State Energy Research and Development Authority (NYSERDA) submits this report in accordance with the New York State Public Service Commission's (Commission) *Order Adopting NY-Sun Mid-Program Modifications,* issued on June 23, 2023 (Mid-Point Review Order).[1] Specifically, the Mid-Point Review Order directed NYSERDA to file:

- A report detailing the federal guidance that has been issued to-date on the Inflation Reduction Act of 2022 (IRA), its impacts on the NY-Sun program, and NY-Sun program adaptations that have been and will be undertaken in response to that guidance,[2] and
- A report detailing the incremental distributed solar capacity that could be procured within the existing budget authorized for the NY-Sun program.[3]

This report consolidates NYSERDA's response to the Commission directives as noted above.

Section 1: Background

On December 17, 2021, NYSERDA and the Department of Public Service (DPS) Staff filed *New York's 10 GW Distributed Solar Roadmap: Policy Options for Continued Growth in Distributed Solar* (Solar Roadmap).[4] The Solar Roadmap presented several policy options for procurement, pricing structures, incentives and cost recovery toward achieving the Climate Act directives including that 70% of the statewide electric generation secured by jurisdictional load-serving entities to meet the electrical energy requirements of all end-use customers in New York must come from renewable sources by 2030 (the 70 by 30 Target).[5] On April 14, 2022, the Commission issued an Order Expanding NY-Sun Program, the 10 GW Order, adopting several recommendations from the Solar Roadmap.[6] In that Order, the Commission adopted the target of achieving 10 gigawatts of distributed solar deployment in New York State by 2030, an expanded Solar Energy Equity Framework (SEEF)[7], and a requirement that developers pay prevailing wages for construction and installation of certain solar projects 1 MWac and larger, in order to be eligible for NY-Sun incentives.[8]

As part of the NY-Sun program implementation, the Commission directed NYSERDA to file a Mid-Point Review within 60 days of the date when either 50% of the Upstate or Con Edison MW Block capacity allocations have been committed, or by December 31, 2025, whichever occurs earliest (MPR Trigger).[9] The 10 GW Order also specified that the Mid-Point Review should consider market or policy factors that are driving changes in the rate of solar development and project development costs. Further, the Commission directed NYSERDA to analyze "other changes to state or federal policy" as part of the Mid-

[1] Case 21-E-0629, In the Matter of Advancement of Distributed Solar, Order Adopting NY-Sun Midpoint Modifications, issued and effective June 23, 2023.
[2] Id. at p.31, Ordering Clause 3.
[3] Id. at p.32, Ordering Clause 7.
[4] Case 21-E-0629, In the Matter of the Advancement of Distributed Solar, New York's 10 GW Distributed Solar Roadmap: Policy Options for Continued Growth in Distributed Solar (filed December 17, 2021).
[5] Climate Leadership and Community Protection Act § 2, amending Environmental Conservation Law §75-0101(5). Chapter 106 of the Laws of 2019.
[6] Case 21-E-0629, In the Matter of the Advancement of Distributed Solar, Order Expanding NY-Sun Program (issued April 14, 2022).
[7] 10 GW Order at p. 41.
[8] The 10 GW Order at pp. 44-47.
[9] The 10 GW Order at p.55.

Point Review. On November 17, 2022, 50% of the new MW Block capacity for Upstate New York had been committed and, therefore, NYSERDA and DPS Staff jointly filed the NY-Sun Program Mid-Point Review (MPR Filing). The Mid-Point Review Order, inter alia, acknowledged that the IRA introduced a substantial number of tax-related factors that could impact NY-Sun incentives.[10] However, the federal guidance on the IRA, at the time, was issued on a piecemeal basis. The Commission directed NYSERDA to submit an informational filing that consolidates and details the federal guidance received to-date on the IRA, its impacts to NY-Sun base incentive and adder rates (including but not limited to the Prevailing Wage Adder and the Inclusive Community Solar Adder (ICSA)) and on the NY-Sun program, and the program adaptations that have been and will be undertaken in response to that guidance.[11]

Section 2: Inflation Reduction Act Guidance and Impact

On August 16, 2022, the IRA was signed into law, with significant implications for the distributed PV market.[12] The Mid-Point Review Filing included an assessment of the potential impact of the IRA on the NY-Sun program, and noted:

> *Given the wide latitude the IRA provides to the Treasury Department and IRS to establish specific guidance and processes for allocating the bonus credits in connection with low income communities, NYSERDA finds that quantifying the impact of the IRA, and adjusting NY-Sun program design elements accordingly cannot be accomplished prior to the publication of the federal guidance. After the release of the federal guidance, NYSERDA will review and update program rules and incentive rates for the SEEF adders. This will be done with the intention of maximizing the benefits of the IRA to New Yorkers, and especially Disadvantaged Communities, in a way that is cost-effective for ratepayers.*

As directed by the Mid-Point Review Order, this report includes discussion regarding how NYSERDA has adapted program rules for the SEEF adders in response to further federal guidance, and the potential impacts on the New York market from other provisions of the IRA, based on the federal guidance released over the last year. Importantly, NYSERDA's review and analysis has reinforced the conclusion drawn in the Mid-Point Review that the extension of the "baseline" federal Investment Tax Credit (ITC) at the 30% level through 2032, including the addition of interconnection expenses as part of the eligible cost basis, is by far the most impactful element of the IRA in terms of NY-Sun expenditures required to reach the 10 GW goal. This analysis is discussed in depth in the next section.

A. Elective (Direct) Pay and Tax Credit Transferability

Under the IRA, tax credit recipients can monetize the ITC using the following two alternative methods in addition to traditional tax equity investment structures.

- The first method allows certain entities, including tax-exempt organizations, rural cooperatives, and state and political subdivisions, to receive a direct payment equal to the amount of ITC.[13] Previously, such organizations needed to enter a power purchase agreement with a private

[10] The MPR Order at p. 20.
[11] See id.
[12] H.R. 5376 - 117th Congress (2021-2022): Inflation Reduction Act of 2022 | Congress.gov | Library of Congress.
[13] IRA Section 6417

company in order to access the ITC or other tax benefits. NYSERDA anticipates that the direct pay provision is likely to spur greater development of state and municipal-owned solar projects.

- The second method allows entities that qualify for a tax credit but are not eligible for elective pay, to transfer or sell all or a portion of their tax credits to unrelated taxpayers in exchange for cash, which could potentially broaden the pool of potential investors and projects, and reduce a project's overall cost of capital by diminishing the need for tax equity partnerships.[14]

The IRS released the proposed regulations on this topic on June 21, 2023.[15] While monetization under the Elective Pay and Tax Credit Transferability may eventually lead to new and lower-cost project financing options, implementation of as such is at a very early stage and is supported by insufficient evidence to draw conclusions regarding its impacts on New York's distributed solar market. Therefore, NYSERDA does not propose adjusting incentive rates in response to these methods at this time.

B. Domestic Content and Energy Communities Bonus Credits

As discussed in the Mid-Point Review and further discussed below, the IRA also provides incremental tax credits for projects that satisfy certain criteria. For example, projects can qualify for a 10% increase in the ITC if they satisfy the new "domestic content" requirement. As per the initial guidance released on May 12, 2023, this requirement is met if both 100% of any steel or iron used in the project was produced in the United States and 40% of manufactured products that are components of the facility were produced in the United States.[16] In NYSERDA's assessment, for projects currently under development, these standards may be challenging to meet due to the present lack of domestic manufacturing capacity, especially for solar PV cells and panels, in relation to domestic demand. Data from Wood Mackenzie estimated annual U.S. panel manufacturing capacity for 2023, as of the third quarter of 2023, at 10.6 GW compared to an estimated 32.0 GW for U.S. solar installations.[17] However, in future, as domestic solar manufacturing ramps up in response to this and other provisions of the IRA, more New York projects may be able to meet eligibility requirements for receiving this credit. Given the current uncertainties regarding domestic manufacturing, and the resulting significant additional costs that the domestic content requirements may impose on projects, NYSERDA does not believe it to be prudent to make adjustments to NY-Sun incentive rates in response to the domestic content bonus credit at this time.

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[14] IRA Section 6418

[15] https://www.federalregister.gov/documents/2023/06/21/2023-12798/section-6417-elective-payment-of-applicable-credits; https://www.federalregister.gov/documents/2023/06/21/2023-12799/section-6418-transfer-of-certain-credits

[16] To meet this requirement, at least 40% of total costs associated with manufactured products must be attributable to manufactured products mined, produced, or manufactured in the US.

[17] Wood Mackenzie *Solar Market Insight Q3 2023*.

For projects that are located in an "energy community," the IRA introduced a 10% increase to the ITC.[18] Proposed regulations to effectuate this provision were released on April 7, 2023,[19] and further clarified on June 15, 2023.[20] As it appears, a very limited geographic area within New York may meet the definition of an "energy community."[21] However, the proposed regulations describe requirements for a "brownfield site safe harbor" for projects under 5 MWac that are located at sites where a completed Phase I Environmental Site Assessment identifies the presence or potential presence of a hazardous substance. This creates an opportunity for some projects receiving NY-Sun incentives to qualify for the energy communities tax credit. In many cases, the requirements to qualify as a brownfield site for the purpose of energy communities bonus credit appears to be less stringent than those for the NY-Sun landfill/brownfield adder.

Upon review, NYSERDA concludes that: i) the current eligibility requirements for the NY-Sun landfill/brownfield adder are appropriate to meet State policy goals; and ii) the potential for certain projects to qualify for both the energy communities bonus credit and the NY-Sun landfill/brownfield adder will help support those policy goals by encouraging additional solar development on sites that are not prime agriculture land. NYSERDA does not propose to make any related adjustments to the NY-Sun incentive rates at this time.

C. Low-Income Communities Bonus Credit

As provided in the IRA, solar projects with a capacity less than 5 MWac, such as those participating in the NY-Sun program, may also seek an allocation of bonus ITC if they are placed in service in connection with low-income communities. Specifically, projects located in low-income communities or on Indian land may be eligible for a 10% bonus credit and low-income benefit projects and low-income residential building projects may be eligible for a 20% bonus credit. Total annual allocation of such credits is limited to 1,800 MW nationwide.[22] While commercially-owned projects when installed on residences (i.e., residential leases and power purchase agreements) are eligible, residential projects purchased by the homeowner (i.e., cash purchase and/or consumer loan) are not eligible for the ITC.

In August 2023, the Internal Revenue Service (IRS) released its final guidance regarding the Low-Income Communities Bonus Credit (LICBC.)[23] Further, on October 18, 2023, the U.S. Department of Energy (DOE)

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[18] IRA Section 45(b)(11)(B) defines energy communities to include those located at one of the following: (i) brownfield sites, (ii) communities that (A) at any time after 2009 had employment or tax revenues in excess of certain thresholds that are attributable to the extraction, processing, transport or storage of coal, oil or natural gas industries and (B) had an unemployment rate at or above the national unemployment rate for the prior year and (iii) communities located in census tracts in which (or census tracts adjoining census tracts in which) a coal mine has been closed after 1999 or a coal-fired electric generating unit has been retired.

[19] https://www.irs.gov/pub/irs-drop/n-23-29.pdf

[20] https://www.irs.gov/pub/irs-drop/n-23-45.pdf

[21] As per the Department of Energy and National Energy Technology Laboratory's Energy Community Tax Credit Bonus map tool, only nine of New York's 62 counties and 42 of its 4,919 census tracts qualify as energy communities based on historical fossil fuel employment, historical unemployment rates, and proximity to recent coal plant closures. https://arcgis.netl.doe.gov/portal/apps/experiencebuilder/experience/?data_id=dataSource_3-188bf476e26-layer-6%3A1064&id=a2ce47d4721a477a8701bd0e08495e1d

[22] IRA Sections 48(e) and 48E(h).

[23] The final guidance, application portal, and related program documents can be found at https://www.energy.gov/justice/low-income-communities-bonus-credit-program (DOE LIBC website).

opened an application portal[24] to support the administration of the LICBC. The LICBC's nationwide annual cap of 1,800 MW is allocated across four categories: (i) Category 1: Located in a Low-Income Community (700 MW); (ii) Category 2: Located on Indian Land (200 MW); (iii) Category 3: Qualified Low-Income Residential Building Project (200 MW); and (iv) Category 4: Qualified Low-Income Economic Benefit Project (700 MW).[25] The LICBC is available as a limited competitive annual allocation where a qualifying project is likely to receive LICBC allocation subsequent to it securing a NY-Sun award. This is likely to make the addressing of impacts of the LIBC allocation to be challenging. Because the policy goals of the LICBC are shared by New York, the NY-Sun Program seeks to balance the opportunity to increase the benefits of solar deployment for disadvantaged communities with the potential to reduce New York ratepayer impacts by adjusting the requirements of the NY-Sun award for projects that receive LICBC allocation as discussed below.

- NYSERDA has already adjusted the NY-Sun Program rules for the Inclusive Community Solar Adder and the terms of the second Expanded Solar for All procurement to account for the impact of the LICBC, specifically the 20% bonus credit under Category 4. In each case, the Program rules require projects receiving an allocation of LICBC to increase the cost savings delivered to low-income households (i.e., increase bill credit discount from 10% to 20%) without an increased NY-Sun compensation. This approach encourages project developers to pursue the LICBC and deepens benefits to New Yorkers – compared to retroactively reducing the NY-Sun incentive on a "dollar for dollar" basis that would likely dissuade project developers from applying for the competitive LICBC at all. Further, the required bill credit discount adjustment from 10% to 20% represents a material cost increase to the project, though our analysis suggests that it is more than offset by the added value of the bonus tax credit.
- For the projects receiving the LICBC allocations under Category 1 or Category 2, NYSERDA does not intend to make program adjustments because these allocations are based on a project's geographic location and provide a 10% increase in the project's ITC. Neither category features eligibility criteria that closely match any current SEEF offering. Further, the smaller bonus credit (10% versus 20%) and wide range of potential project sizes and types would make calculating and administering of any retroactive incentive adjustment extremely challenging.
- NYSERDA has not yet made any adjustments to program rules related to projects that may be eligible for both the NY-Sun Multifamily Affordable Housing Incentive (MAHI) and Category 3 of the LICBC. The NY-Sun MAHI and LICBC Category 3 have significant overlap in both eligibility criteria and policy intention, and the value of the bonus tax credit (20%) is considerable. Projects that receive the Category 3 LICBC may require less support from NY-Sun. However, related program adjustments to the MAHI will need to take into account the ownership structure of the properties, the geographic location of the properties, the level of benefits directly delivered to building residents, the timing of the LICBC allocations, and other factors identified by stakeholders. NYSERDA, consistent with the NY-Sun Program practice of adjusting incentive-rates based market conditions, will consult with stakeholders and DPS to assess a need to make future adjustments to the relevant Program rules.

[24] DOE LIBC website.
[25] DOE LIBC website.

D. Environmental Protection Agency Greenhouse Gas Reduction Fund Solar for All Competition

In addition to the many provisions extending and enhancing the ITC for distributed solar projects, the IRA authorized the United States Environmental Protection Agency (EPA) to implement the Greenhouse Gas Reduction Fund (GGRF), a $27 billion fund designed to achieve the following objectives: (i) reduce greenhouse gas emissions and other air pollutants; (ii) deliver the benefits of greenhouse gas- and air pollution-reducing projects to American communities, particularly low-income and disadvantaged communities; and (iii) mobilize financing and private capital to stimulate additional deployment of greenhouse gas and air pollution reducing projects.[26] The GGRF was implemented via three grant competitions, including the $7 billion Solar for All grant competition, which will award up to 60 grants to states, territories, Tribal governments, municipalities, and eligible nonprofit recipients to expand the number of low-income and disadvantaged communities primed for distributed solar investment.[27] On June 28, 2023, the EPA announced its Notice of Funding Opportunity for the Solar for All competition where applications will be evaluated based on the quality of the proposed programs' ability to deliver "meaningful benefits" to low-income and disadvantaged communities and households, including a minimum household savings of 20% of the average household utility bill in the utility territory. Applications will also be evaluated on the quality and extent of the plan to dedicate program planning capacity to incorporate forthcoming EPA guidance on applying Build America, Buy America, and Davis-Bacon Act prevailing wage requirements to Solar for All program operations.

NYSERDA, on behalf of New York and in coalition with the City of New York, New York City Department of Housing Preservation and Development (HPD) and the New York State Division of Housing and Community Renewal (HCR), submitted a Solar for All application on October 12, 2023, requesting $400 million (the maximum allowable award size) towards a portfolio of proposed financial assistance programs supporting distributed solar projects benefitting New York's low-income and disadvantaged communities and households. Proposed programs fall under three broad categories: (i) expanding and enhancing NYSERDA's existing low-income and disadvantaged communities solar programs; (ii) new NYSERDA-administered programs, including novel financing strategies and funding for enabling infrastructure upgrades, such as roof repairs and electrical panel upgrades; and (iii) new programs administered by coalition members, including *Public Solar NYC*, which will provide a menu of solar financing and ownership options for low-income New York City residents, and Housing Agency Direct Administration, which will leverage the close engagement between affordable housing agencies and building owners to increase solar access for low-income residents of affordable housing. If awarded in the requested amount, NYSERDA estimates that Solar for All funding will support deployment of approximately 385 MW of distributed solar capacity incremental to both the Commission approved 10 GW goal and any expansion proposed herein.

Section 3: Potential for Additional Distributed Solar Capacity Within the Current NY-Sun Budget

Estimate of "Surplus" NY-Sun Budget

As of September 30, 2023, the NY-Sun Program has awarded incentives to 6,637 MW of distributed solar capacity across the state, and is authorized to award incentives to an additional 1,664 MW of distributed

[26] https://www.epa.gov/greenhouse-gas-reduction-fund/about-greenhouse-gas-reduction-fund

[27] https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all

solar capacity to reach the 10 GW by 2030 goal.[28] To fully procure and deploy the incentivized NY-Sun capacity authorized by the Commission, NYSERDA estimates that a total of approximately $2,846,000,000 of the Commission-authorized funds will be needed (inclusive of funds expended and committed to date), leaving approximately $421,000,000 unexpended from the Commission-approved NY-Sun budget. While many factors have impacted the deployment of NY-Sun funds, including rising project costs and interest rates, the net saving of $421,000,000 is primarily driven by the extension of the “baseline” 30% ITC as effectuated by the passage of the IRA[29] that is likely to be available to solar projects built during the NY-Sun program implementation.

As discussed in the Mid-Point Review filing, the analysis and budget accompanying the 10 GW Distributed Solar Roadmap was developed prior to the passage of the IRA, and assumed that the ITC, as available at that time, would be reduced to 10% for commercial systems and eliminated entirely for residential systems by 2024. To achieve the 10 GW distributed solar, NY-Sun incentive rates were anticipated to rise during the program period to balance the decline in tax credit revenue that NYSERDA’s analysis then indicated was necessary. In response to the passage of the IRA, NYSERDA reduced the “base” Upstate Region Commercial incentive from $0.17 per watt in June 2022, to $0.12 per watt in July 2022, and further to $0.05 per watt in November 2022. Similarly, NYSERDA did not, as was originally planned prior to the passage of the IRA, increase incentive rates for the Con Edison Region Non-residential incentives for projects under 1 MW; instead, NYSERDA reduced such incentives by $0.20 per watt from the previous levels in July 2023. Along the same lines, NYSERDA also reduced rates for the Upstate Region Residential and Non-residential incentive blocks by $0.10 per watt in 2023. In combination, these incentive “step-downs”, are significant deviations from NYSERDA’s previously estimated, requested and budgeted incentives in the 10 GW Distributed Solar Roadmap, primarily enabled by the passage of the IRA, which have resulted in the estimated “surplus” budget of $421,000,000.

For the purposes of estimating the “surplus” NY-Sun budget, NYSERDA revised its analysis using updated assumptions for project costs and financial hurdle rates, based on developer interviews and 2023 NY-Sun application data, to reflect the current market environment. The revised analysis primarily assumes that, on average, project costs and NY-Sun incentive rates would remain relatively stable for the duration of the program period. For the Con Edison Nonresidential incentives, NYSERDA used the already-published rates for future blocks on the Program dashboard.

However, NYSERDA recognizes that the program end date is over seven years away, and that considerable uncertainty remains in the solar market, national policy landscape, and national and global economy. Project siting and interconnection has become increasingly challenging. The ability to make necessary adjustments to incentive rates, block design, and incentive adders in response to changing conditions, and in consultation with DPS and stakeholders, has been fundamental to the success of NY-Sun to date. Program-specific factors that may lead to higher-than-estimated program expenditures

[28] In addition to the capacity incentivized through NY-Sun, approximately 607 MW of additional capacity that will contribute to the statewide 2030 goal is anticipated to be installed without requiring NY-Sun incentives, including projects located within the Long Island Power Authority service area.

[29] Strictly speaking, for projects with a capacity of 1 MW-AC or higher, the IRA provides a “base” ITC of 6%, with an increased credit of 24% upon meeting prevailing wage and apprenticeship requirements, with grandfathering provisions. However, NYSERDA expects almost all projects not qualifying for the grandfathering provisions to comply with these requirements and avail of at ITC of at least 30%, referred to as the “baseline” ITC level here.

include an increased uptake of "beneficial siting" incentive adders for brownfields, canopies, floating PV, and/or the introduction of new categories of siting adders; shifts in the remaining approved incentivized capacity across market sectors (for example, from Commercial/Industrial to Nonresidential or Residential incentive blocks); or other factors. The surplus budget estimate includes adjustments accounting for these potential factors.

NY-Sun Budget Adjustment

In assessing how the estimated NY-Sun budget surplus might be utilized, NYSERDA wants to bring to the Commission's attention that, while the "Incremental 4 G W" authorized in the 10GW Order was fully funded with new collections, the previously authorized NY-Sun expansion to 6GW and associated $573 million budget increase was not fully funded.[30] The Commission Order Approving Clean Energy Fund Modifications ("the September 2021 Order") directed NYSERDA to use uncommitted legacy funds (i.e., resulting from project attrition) of up to $343 million to fully fund the NY-Sun Program.[31] In the event uncommitted funds were not sufficient, the September 2021 Order authorized NYSERDA to reallocate up to $118.3 million from NY Green Bank (NYGB) to NY-Sun to satisfy the remaining 6 GW NY-Sun funding as authorized within the 6 GW Order. [32]

NYSERDA has been monitoring and reporting the cumulative shortfall balance annually where the most recent annual filing, through December 31, 2022, reported a current shortfall of $104.7 million.[33] Current projections for the calendar year ending December 31, 2023, indicate a shortfall of approximately $70-$75 million dollars. Through responsible budget management, the anticipated funding shortfall is projected to be significantly reduced from the original estimate of $118.3 million to the current estimate of up to $75 million. However, it's also important to note that, based on program projections, minimal additional uncommitted legacy funds are expected to be available to further reduce this shortfall. Absent an alternative, the next step would be for NYSERDA to exercise the Commission granted authority to draw funds from NYGB to close the uncommitted legacy fund shortfall as the working capital needs arise. As an alternative, and as discussed in Section 3 above, the surplus from the "Incremental 4 GW" may now also be available to address the $70-$75 million shortfall. Such adjustment will still allow for the availability of budget surplus to potentially deliver additional distributed solar capacity beyond that authorized in the 10 GW Order, as described below.

If NYSERDA avoided drawing upon the NYGB funds, it would allow continued availability of funding for NYGB activities, including those that are directly complementary to the development of community solar projects serving disadvantaged communities. Since inception, NYGB has invested over $700 million into the New York's community solar market through a variety of loan products, which supported projects or project developers during various phases of the project lifecycle. Currently, NYGB is focusing investments on community solar projects that serve disadvantaged communities by offering more

[30] Case 19-E-0735, Order Extending and Expanding Distributed Solar Incentives (issued May 14, 2020), the 6 GW Order.

[31] Case 14-M-0094, Petition of New York State Energy Research and Development Authority Requesting Additional NY-Sun Program Funding and Extension of Program Through 2025, Order Approving Clean Energy Fund Modification, issued September 9, 2021, at P.70.

[32] See id.

[33] Case 14-M-0094, Petition of New York State Energy Research and Development Authority Requesting Additional NY-Sun Program Funding and Extension of Program Through 2025, NYSERDA's CEF Quarterly Report for Quarter 4, 2022, filed March 1, 2023.

favorable financing terms and requiring no FICO score minimums. Since 2020, NYGB has offered lower interest rates for the long-term loans made to community solar project owners in an effort to incentivize those project owners to allocate more production, and ultimately bill credits, toward subscribers who are members of disadvantaged communities. These long-term loan products reduce the effective interest rate charged to project owners in a stepwise manner based on the percentage of subscribers who are members of disadvantaged communities, as long as project owners allocate at least 40% of their residential production to such subscribers. Depending on the level of subscription by members of disadvantaged communities, the net present value of the reduced interest rate has between a 3 to 6 cent per watt value to project owners. As a result, NYSERDA recommends the Commission address the remaining shortfall tied to the 6GW Order by: allowing for up to $75,000,000 of the surplus in the authorized Incremental 4 GW collections noted in this filing to be utilized to fund the remaining shortfall associated with the NY-Sun 6GW order; and allowing for the remainder of the surplus – $346,000,000 – to be utilized to support the attainment of incremental solar capacity beyond 10GW as noted within this filing.

An alternative to this approach would be to direct a portion of the estimated surplus NY-Sun Budget to address not just the remaining projected shortfall of up to $75 million, rather, to reimburse the full $118.3 million that the September 2021 Order authorized NYSERDA to reallocate from NYGB to NY-Sun. The $43.3 million difference between the two figures above reflects uncommitted legacy program funds that were previously applied to NY-Sun from legacy programs that are largely closed out at this time. The Commission may consider the best use of funds in a future order. "Reimbursing" this $43.3 million retroactively, if so elected, would further reduce funds available to support incremental solar capacity beyond 10GW. In the event of unanticipated market changes that may challenge attainment of 10 GW goal, the available uncommitted legacy funds and NYGB revenues – in a total amount not to exceed $118 million - may be directed to ensure successful achievement of 10 GW goal.

For the purposes of this filing, a total potential surplus budget of $346,000,000 is used for the analysis of incremental solar capacity beyond the 10 GW target as reviewed in detail in the next section. Table 1 below summarizes the NY-Sun budget elements described above.

Table 1: NY-Sun Budget Summary

	$ (millions)	MW
Total Authorized NY-Sun Budget	*3,267*	*8,301*
NY-Sun commitments as of 9/30/2023 (including completed and awarded projects)	2,051	6,637
Estimated additional commitments needed to achieve 10 GW Goal	795	1,664
Adjustment for "6 GW Shortfall"	75	-
Estimated surplus for incremental solar capacity beyond 10 GW	346	*see Table 2*

Analysis of Incremental Solar Capacity Potential

As directed by the MPR Order, NYSERDA has conducted an analysis estimating the "incremental distributed solar capacity that could be procured within the already existing budget authorized for the

NY-Sun program." This analysis is shaped by the further directive that "[t]he Commission expressly requires that such additional capacity must consist only of CDG projects that commit at least 40% of project capacity to residential subscribers within DACs." NYSERDA has developed a group of six scenarios to illustrate the potential for additional incremental solar capacity, as summarized in Table 1 below. The scenarios include:

- A scenario where all incremental capacity is procured from "opt-in" community solar projects supported by the existing "Inclusive Community Solar Adder" program model;
- A scenario where all incremental capacity is procured from an "automatic enrollment" or "Statewide Solar for All" (SSFA) program model;[34] and
- A scenario where incremental capacity is evenly split between the two models.

For each of the aforementioned scenarios, NYSERDA estimated the potential incremental capacity that projects are required to provide:

- A minimum customer bill discount rate of 10%; and
- A minimum customer bill discount rate of 20%

For the purpose of providing a clear illustration, NYSERDA engaged the following assumptions and simplifications.:

- 40% of the remaining budget, approximately $141 million, would be committed to projects in the Con Edison region; and 60% of the remaining budget, approximately $205 million, would be committed to projects in the Upstate region;
- 50% of the capacity associated with the "Inclusive Community Solar Adder" model would be dedicated to eligible subscribers,[35] including no less than 40% of each project's capacity dedicated to low-to-moderate income residents and residents of disadvantaged communities;[36]
- 100% of the capacity associated with the "Statewide Solar for All" model would be dedicated to eligible low-income residential subscribers;
- All projects above 1 MWac would receive the Prevailing Wage Adder at the current level; and
- Uptake for the Brownfield/Landfill, Floating PV, and Canopy Adders would continue at the current pace and incentive rates.

Table 1 presents estimates of total potential incremental capacity beyond the 10 GW target and is not indicative of a more detailed program design, and/or future incentive block sizes or rates.

<u>Table 2: Estimated Additional MW Deployment with Surplus Funding, by Scenario</u>

[34] Statewide Solar For All is a proposed project configuration where a project's utility company would assign 100% of the project's Value Stack credits to the utility's pool of Energy Assistance Program customers. This business model has the benefit of reducing solar developer customer acquisition costs.
[35] The ICSA model includes higher incentive payments for projects that demonstrate that more than the 40% minimum capacity requirement has been dedicated to eligible subscribers. The 50% capacity assumption was used by NYSERDA in this analysis to reflect this aspect of the program model for the purpose of more accurate budget estimates. NYSERDA has also assumed that community solar sited on multifamily affordable housing will represent a portion of Con Edison deployment in these scenarios.
[36] See the following sections for further discussion and recommendations on residential household eligibility.

Scenario Number	Project Configuration	Customer Bill Discount	Upstate MW Funded	ConEd MW Funded	Statewide MW Funded
#1	100% ICSA	10%	670	94	784
#2	100% Statewide Solar For All	10%	1,102	132	1,254
#3	50%-50% ICSA/SSFA Split	10%	833	110	963
#4	100% ICSA	20%	456	81	557
#5	100% Statewide Solar For All	20%	621	108	750
#6	50%-50% ICSA/SSFA Split	20%	526	93	639

NYSERDA wishes to emphasize that the assumptions employed herein do not represent specific recommendations for the division of program budget/capacity by region or project type. As discussed in the following sections, NYSERDA requests that any additional capacity that is authorized by the Commission be administered through the existing NY-Sun structure, including the NY-Sun Program practice of adjusting incentive rates and capacity blocks based on program uptake and other market conditions.

Section 4: Discussion

This section includes discussion in support of NYSERDA's "Requested Actions" as listed in the next section.

Deployment of Incremental Distributed Solar Capacity

Based on the continued progress of distributed solar deployment in New York and the analysis presented in Section 3, NYSERDA believes that deploying the incremental capacity, beyond the 10 GW target and as estimated in the scenarios above, is feasible. As such, NYSERDA requests that the NY-Sun program be authorized to fully commit and expend the currently approved NY-Sun Program budget, with the aforementioned adjustment for the legacy funding shortfall, to incentivize incremental distributed solar capacity beyond the previously adopted 10 GW target. NYSERDA also requests the Commission's continued grant of flexibility for NYSERDA, in consultation with DPS and stakeholders, to adapt the Program to market conditions. As discussed in the previous section, over the next seven years, NYSERDA will continue to assess potential Program adjustments to meet the Program goals, capture programmatic efficiencies and build a sustainable equitable solar market.

Residential Customer Eligibility

Regarding additional capacity to be incentivized within the current NY-Sun budget, the MPR Order "expressly requires that such additional capacity must consist only of CDG projects that commit at least 40% of project capacity to residential subscribers within DACs." At present, residential community solar subscribers benefitting from the Solar Energy Equity Framework as approved in the 6 GW Order and 10 GW Order, include "moderate income" residential households (those with household incomes between 60% and 80% of Area Median Income) residing outside of the geographically defined disadvantaged communities. Limiting the eligibility to residential subscribers within DACs would represent a shift from the program eligibility criteria previously approved and currently at use by NYSERDA (for example, in the implementation of the Inclusive Community Solar Adder.) As such, NYSERDA seeks clarification that, the eligibility criteria for the minimum 40% capacity to residential community solar subscribers will include "moderate income" residential households as well as members of disadvantaged communities when supported through the Solar Energy Equity Framework as well as for implementation of the Program beyond the 10 GW goal. NYSERDA also wants to highlight that, if clarified as such, the NY-Sun Program eligibility will remain aligned with federal programs where the federal LICBC and EPA Solar for All funding is also set at 80% of Area Median Income.

Further, the Solar Energy Equity Framework supports onsite residential, affordable housing projects, and predevelopment/technical assistance within the Solar Energy Equity Framework as approved in the 6 GW and 10 GW Orders. NYSERDA requests the Commissions authorization for the NY-Sun Program to continue to support the onsite residential, affordable housing projects, and predevelopment/technical assistance within the Solar Energy Equity Framework as approved in the 6 GW and 10 GW Orders with a portion of the additional funds discussed herein based on future market conditions, program uptake, and in consultation with DPS and stakeholders.

Consideration of a 20% customer discount target

In response to the customer discount requirement of 20% as set forth by both the EPA Solar for All program and Category 4 of the LICBC, as well as feedback from stakeholders, NYSERDA analysis included scenarios for a 20% minimum bill credit discount (compared to the current 10% minimum) as described in Section 3. Implementing a 20% bill credit discount floor is likely to deepen benefits for participating residential subscribers and better position New York projects to maximize federal funding opportunities. However, by necessity, it would require a higher level of incentive funding on a per-watt/per-project basis, resulting in lesser incentivized capacity. NYSERDA will continue to assess Program requirements related to customer discounts and seek further stakeholder feedback.

Section 5: Requested Actions

For the reasons discussed in this filing, NYSERDA requests the Commission consideration and authorization to:

(i) commit and expend the NY-Sun program budget of $3,266,846,000 approved in the 10 GW Order to achieve deployment of eligible distributed solar beyond the 10 GW goal;
(ii) allow for up to $75,000,000 of the authorized Incremental 4 GW collections to be utilized to fund the current shortfall associated with the NY-Sun 6GW Order as discussed in this filing;
(iii) include all program funds above and beyond those necessary to achieve the 10 GW goal, estimated at $346,000,000, within the Solar Energy Equity Framework, with this amount targeted to community solar projects that each dedicate no less than 40% of their capacity to residential customers who are members of disadvantaged communities (and/or have household income at or below 80% of Area Median Income);
(iv) continue to include residential customers with household incomes between 60%-80% of Area Median Income, as well as members of disadvantaged communities, within the 40% capacity minimum for community solar projects supported through the Solar Energy Equity Framework as approved in the 6 GW and 10 GW Orders;

(v) continue to support onsite residential, affordable housing projects, and predevelopment/technical assistance within the Solar Energy Equity Framework as approved in the 6 GW and 10 GW Orders with a portion of the additional funds discussed herein based on future market conditions, program uptake, and in consultation with DPS and stakeholders. For clarity, any such adjustments would not significantly impact the total additional program capacity achieved within the budget.