NEW YORK STATE OF OPPORTUNITY. | NYSERDA

NY-Sun Annual Performance Report Through December 31, 2017

Final Report

March 2018

NYSERDA's Promise to New Yorkers:

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

Mission Statement:

Advance innovative energy solutions in ways that improve New York's economy and environment.

Vision Statement:

Serve as a catalyst – advancing energy innovation, technology, and investment; transforming New York's economy; and empowering people to choose clean and efficient energy as part of their everyday lives.

NY-Sun Annual Performance Report through December 31, 2017

Final Report

Prepared by:

New York State Energy Research and Development Authority

Albany, NY

March 2018

Table of Contents

Summary

NY-Sun is a $1 billion initiative to expand solar capacity throughout New York State that uses public funds in a strategic manner to build a self-sustaining solar market. NY-Sun provides financial support for solar electric systems installed by solar installation contractors who have qualified to receive NY-Sun incentives, as well as have a comprehensive approach to reducing solar costs and barriers. The NY-Sun's goal is to install three gigawatts (GW) of solar electric capacity by 2023 while building a self-sustaining solar industry. Highlights of the NY-Sun Initiative for 2017 include the continued growth of the pipeline for commercial/industrial projects, expanded resources for local governments, and tools to assist the solar market's transition to the Value of Distributed Energy Resources framework.

Through the end of December 31, 2017, 972 megawatts (MW) of solar have been installed statewide with NYSERDA funding, with an additional 1,119 MW in the pipeline. Installations through the end of 2017 represent greater than 1000% growth since 2011, and New York State now ranks third nationally in solar jobs, demonstrating 11% year-over-year growth from 2016.[1] Of the total solar capacity installed in the State, 492 MW have been installed across residential, commercial, and industrial sectors through the NY-Sun initiative, counting toward the 3 GW Goal, with an additional 1,094 MW in the pipeline. The NYSERDA-funded solar capacity installed statewide as of the end of 2017 generates approximately 1,124,879 MWh[2] of electricity each year, reducing annual carbon dioxide emissions by 592,042 metric tons.[3,4]

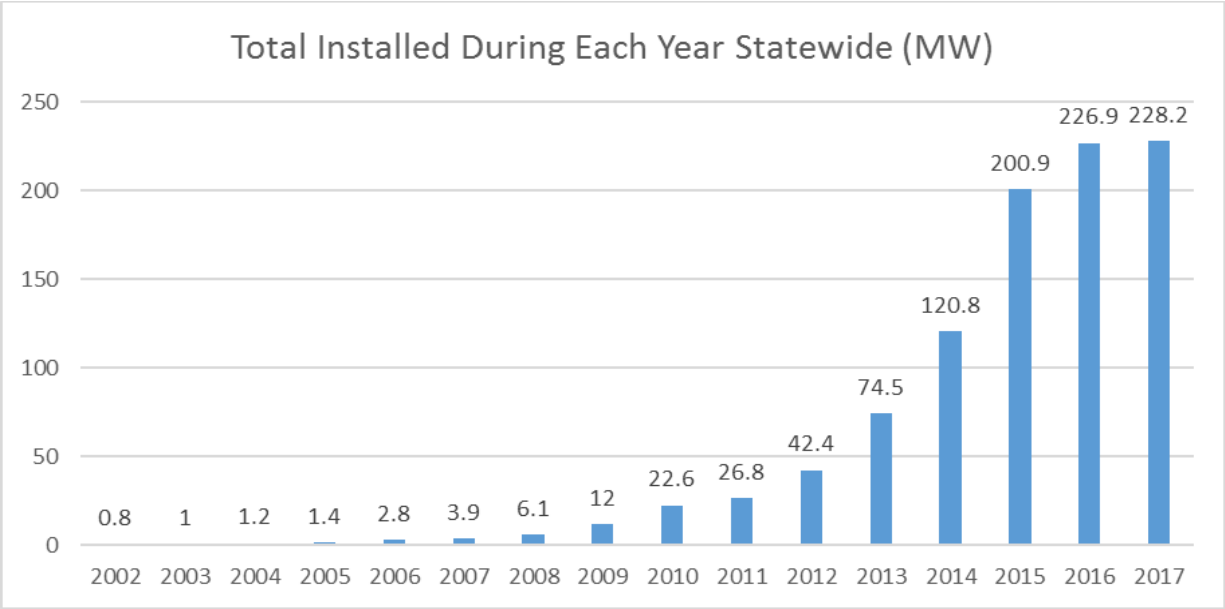
1 National Solar Job Census, https://www.thesolarfoundation.org/national/

2 The NY-Sun program does not determine the delivery or use of energy (MWh) from projects that receive funding, and NYSERDA makes no claim to the environmental attributes of that energy. Generation from NY-Sun-funded projects may be used by customers for their own voluntary use or used toward meeting State requirements to deliver renewable energy to electricity customers in New York State, depending on ownership of the renewable energy Certificates from those projects.

3 With the submittal of its Clean Energy Fund Investment Plan Budget Accounting and Benefits chapter on February 22, 2016, NYSERDA adopted the NYS Public Service Commission's recommendation in its January 21, 2016 Order Establishing the Benefit Cost Analysis Framework that the State's GHG emissions factor methodology shift from an average grid emission profile to a marginal-grid emission profile. Due to this shift, the State's factor to calculate GHG emissions reductions has changed from 625 pounds CO2e/MWh to 1,160 pounds CO2e/MWh. The emissions reductions calculated for this quarterly report reflect the new factor of 1,160 pounds CO2e/MWh.

4 Note that the megawatt-hours included in Table 2 are estimated amounts based on a statewide capacity factor. NYSERDA does not, by filing this report, make any claim to the environmental attributes associated with those megawatt-hours.

Figure S-1. Total Solar Electric Capacity Installed in New York State by Year



1 New York Solar Market

1.1 Residential and Small Commercial

The residential solar market slowed in most parts of the State during 2017,[5] mirroring a national trend.[6] Reasons include unusually low-electricity prices, the retrenchment of national solar companies, and an increase in solar module prices in anticipation of tariffs on overseas manufacturers. NYSERDA responded to this trend by (1) increasing the Upstate Residential Megawatt Block 8 from $0.30 per watt to $0.35 per watt, (2) continuing efforts to reduce "soft" solar installation costs, such as the New York State Unified Solar Permit, and (3) continuing efforts to expand the market, such as Solarize NY. The exception to this trend continued to be the area served by Con Edison, which accounted for more than half of the residential project applications received by NYSERDA in 2017.

The market for small commercial projects (projects with a capacity of 200 kilowatts or less) in the upstate region was stagnant, while the Con Edison region experienced significant growth. Throughout 2017, NY-Sun staff engaged solar installers to better understand the barriers to the expansion of the small commercial solar market. To address these issues, NY-Sun will propose significant changes to the MW Block structure, which are described in more detail below. For the first time, Community Distributed Generation (Community DG) projects played a significant role in the small commercial market, making up almost 10% of new project applications. Seven small commercial Community DG projects, totaling 1.43 MW DC, were completed in 2017.

Although NY-Sun incentives have not been available for most residential projects in the area served by Public Service Electric and Gas Long Island since April 2016, federal and state tax credits and net metering still support the market. In addition, Green Jobs - Green New York (GJGNY) financing and the NY-Sun Affordable Solar incentive for low- and moderate-income customers remain available. Through the end of 2017, 761 Long Island projects have received GJGNY financing without any NY-Sun incentive.

---

5 For county and regional-level trends in New York solar installations, visit NY-Sun Summary Data and Trends at https://www.nyserda.ny.gov/All-Programs/Programs/NY-Sun/Solar-Data/Solar-Data-Summary-and-Trends

6 For information on national solar trends, please see the U.S. Solar Market Insights Report, published by GTM Research and the Solar Energy Industry Association (https://www.seia.org/research-resources/solar-market-insight-report-2017-q4)

Residential solar customers had multiple financing options available to them in 2017, including loans from private banks, the GJGNY loan program, and financing provided directly through their solar installer. GJGNY provided financing for 1,113 residential projects completed in 2017. Again, mirroring national trends, a smaller proportion of residential solar projects were leases or power purchase agreements in 2017 compared to 2016, with 48% structured as direct purchases by the customer compared to 36% in 2016.

1.2 Commercial and Industrial

The pace of large commercial project development (projects with a capacity between 200 and 2,000 kilowatts) continued to increase in 2017. Thirty-four projects were completed in 2017 from the State's Competitive Bid Program, which was replaced by the Megawatt Block (MW Block) incentive structure for new applications in July 2014.

The Commercial/Industrial MW Block project pipeline continued to grow in 2017. Two hundred forty-four new project applications were received and approved in 2017. Most of these projects will be sited in the program's upstate region (all areas not served by Con Edison or PSEG Long Island) and will use the State's Community DG policy to credit offsite customers for the electricity generated by the project. Forty-one Commercial/Industrial projects were completed in 2017, more than double the previous year.

Most of the projects completed in 2017 were initiated at least 12 months prior, reflecting the continued lengthy timeline for project development for large solar projects. Throughout 2017, NYSERDA and its partners implemented program and policy measures to reduce project development barriers and the associated costs and time, which are described below. NYSERDA staff also actively reviewed the pipeline of projects with approved incentive applications throughout the year and worked with developers to cancel applications for 84 projects that were unlikely to completedevelopment. This process, which will continue in 2018, has allowed NY-Sun to include additional funding and capacity in the proposed revisions to the MW Block structure described below.

2 NY-Sun Incentive Program

As described above, demand for NY-Sun Incentives varied across different sectors and regions in 2017. Appendix A provides a complete review of the progress for each part of the program's MW Block structure. In addition to the availability of the incentives, the NY-Sun program continued to make improvements to program process and resources in 2017. In late 2017, NY-Sun also initiated a redesign of the MW Block incentive structure for commercial solar projects.

2.1 Megawatt Block Redesign

In response to the Value of Distributed Energy Resources Phase One Decision issued by the New York Public Service Commission in March 2017[7] and changing solar market conditions, NY-Sun has begun a revision of the MW Block incentive block structure for commercial projects. In late 2017, NY-Sun initiated a process to make important revisions to the MW Block incentive structure for commercial solar projects. This process commenced with a stakeholder meeting held on December 14, 2017,[8] and will continue into 2018. Proposed changes target areas where market adoption has been slow and include revised incentive levels; the introduction of added incentives for projects on brownfields/landfills, parking canopies, and affordable multifamily housing; and changes to the system size caps in each region and sector.

2.2 Quality Assurance

NY-Sun employs a rigorous quality assurance process, which involves both document review and field inspections on completed projects using a targeted sampling method. In 2017, 900 field inspections were performed, and the solar contractor responsible for the project corrected any identified deficiencies. In 2017, NY-Sun expanded the residential photo inspection process introduced in 2016 to provide additional

7 Value of Distributed Energy Generation Phase One Decision: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={5B69628E-2928-44A9-B83E-65CEA7326428}

8 Presentations from this and subsequent stakeholder meetings can be found at https://www.nyserda.ny.gov/All-Programs/Programs/NY-Sun/Project-Developers/Participating-Contractor-and-Builder-Resources

oversight in a cost-effective manner, while giving contractors more timely feedback on any deficiencies, and performed 370 photo inspections. NY-Sun is also working to adapt the quality assurance process to ensure continued oversight once the MW Block program is complete and solar projects no longer receive funding from NYSERDA.

2.3 Open NY

NY-Sun publishes project-level data for projects completed in 2000 and forward on the Open NY Open Data platform.[9] The solar electric dataset consists of completed and pipeline projects for residential, small commercial, and commercial/industrial projects.It also includes information such as city, sector, electric utility, inverter and module manufacturer, project cost, incentive amount, total nameplate rating, expected annual production, contractor business name for completed projects, and additional project information, such as participation in Community DG, GJGNY, or the Affordable Solar program.

In 2017, NY-Sun expanded the range of solar project data available and the tools available for visualizing data and trends. The new Solar Data Summary and Trends page on the NY-Sun website allows visitors to review and compare data on a county, regional, or statewide level using an interactive map interface.[10] In addition, to support growing public intertest in Community DG, the NY-Sun website now features a Community DG project map that allows visitors to see nearby projects and access project information.

---

9 Open NY: https://data.ny.gov/Energy-Environment/Solar-Electric-Programs-Reported-by-NYSERDA-Beginn/3x8r-34rs

10 https://www.nyserda.ny.gov/All-Programs/Programs/NY-Sun/Solar-Data/Solar-Data-Summary-and-Trends

3 Reducing Solar Costs and Barriers

The NY-Sun initiative includes a comprehensive set of strategies to reduce solar costs and barriers. NY-Sun seeks to reduce non-hardware costs in key areas such as interconnection, customer education and outreach, and local policies and permitting processes. NY-Sun, in collaboration with other NYSERDA programs and external partners, will also continue to seek new ways to support grid efficiency by incorporating battery storage, locational incentives and financing when needed. These strategies are being implemented alongside the NY-Sun incentives.

3.1 Clean Energy Siting & Soft Cost Reduction Initiative

In December 2017, NYSERDA filed a Clean Energy Fund investment plan for the Clean Energy Siting and Soft Cost Reduction initiative.[11] This initiative will coordinate a portfolio of activities that aggressively target the most urgent soft cost barriers to clean energy market growth, with an initial focus that includes distributed solar cost reduction efforts managed by NY-Sun. The Clean Energy Siting & Soft Cost Reduction initiative will perform the following tasks:

- Synchronize and lead projects across NYSERDA and other state agencies, integrating and coordinating expertise and resources to best advance New York State's clean energy goals.
- Create a central forum for representatives from industry, authorities having jurisdiction (AHJ), and utility companies to address soft cost barriers and collaboratively identify solutions.
- Research and develop soft cost solutions to support the many stakeholders involved in clean energy deployment.
- Provide comprehensive direct technical assistance for AHJ officials across New York State in a demand-driven fashion, based on requests from AHJ officials and jurisdictions facing significant clean energy development challenges, as well as active outreach to AHJs where clean energy projects are under development.
- Provide financial assistance to encourage solution innovation pertaining to soft costs and recognize communities that have taken steps to significantly reduce soft costs.

NY-Sun has, in 2017 and years prior, implemented soft cost reduction efforts in line with this framework. The work described in the Local Permitting and Policies (section 3.2) reflects the approach that will be taken through the Clean Energy Siting & Soft Cost Reduction initiative.

[11] Clean Energy Fund Multi-Sector Solutions chapter: https://www.nyserda.ny.gov/-/media/Files/About/Clean-Energy-Fund/CEF-Multi-Sector-Solutions-chapter.pdf

3.2 Local Permitting and Policies

3.2.1 Guidebook for Local Governments

In August 2017, an updated version of the NY-Sun Solar Guidebook for Local Governments was released that offers information, tools, and step-by-step instructions to support local government efforts to develop solar energy resources and create clean energy jobs. New additions to the guidebook address the most pressing issues in New York State's solar market today, including the State Environmental Quality Review process, the siting of solar projects in agricultural areas, and the negotiation of payment- in-lieu-of-tax (PILOT) agreements, including an MS Excel-based PILOT Calculator to help determine appropriate payment amounts based on transparent project cost and revenue information.

3.2.2 Technical Assistance

The NY-Sun Guidebook for Local Governments is complemented by free technical assistance, provided by NY-Sun staff and partners, to help local governments become solar-ready. In 2017, technical assistance was provided to over 50 counties, towns, and villages throughout New York State. In-person meetings and workshops were held by NY-Sun staff at the request of over 20 municipalities, often organized at a county level.

The most frequent topic of requests for assistance from municipalities in 2017 were property tax issues and the successful negotiation of PILOT agreements. Over half of the meetings and workshops held have focused on this issue as individual municipalities decide whether to "opt out" of the Real Property Tax Law 487 exemption from property tax payments for solar projects. Through the technical assistance effort, NY-Sun has provided municipalities with clear, trustworthy information about implementing PILOT agreements as an alternative to opting out of the exemption and has helped municipalities negotiate PILOT agreements with solar developers. This has led to the reduction of related costs for projects in these municipalities by approximately half.

3.3 Interconnection

In 2017, NY-Sun supported the implementation of the Interconnection Management Plan approved by the New York State Public Service Commission in January 2017,[12] which was based on a proposal jointly submitted by the solar industry and utilities. The people and entities contributing to major improvements in the interconnection process as experienced by solar developers in 2017[13] include the Interconnection Management Plan (comprising further refinements order by the Commission), the work of the interconnection ombudsmen at NYSERDA, the New York Department of Public Service, the utilities, and the continued progress of the Interconnection Technical Working Group and Interconnection Policy Working Group. However, project-specific interconnection costs remain a critical factor in determining the economic viability of large commercial projects and were an important factor in the cancellation of projects with approved NY-Sun Commercial/Industrial incentive applications.

3.4 Value of Distributed Energy Resources Assistance

The Value of Distributed Energy Generation Phase One Decision was released by the Public Service Commission in March 2017,[14] and the Phase One Implementation Order was released in September 2017.[15] This new methodology takes the first step in moving beyond Net Energy Metering (NEM) to a more accurate valuation and compensation of distributed energy resources. VDER factors include the price of the energy, the avoided carbon emissions, the cost savings to customers and utilities, and other savings from avoiding expensive capital investments.

---

12 Order Adopting Interconnection Management Plan and Cost Allocation Mechanism and Making Other Findings: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={22BEAB22-7F9F-45B8-89FD-0E8AD84692B4}

13 Detailed information on these activities can be found on the New York Department of Public Service Distributed Generation Information webpage: www.dps.ny.gov/distgen.htm

14 Value of Distributed Energy Generation Phase One Decision: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={5B69628E-2928-44A9-B83E-65CEA7326428}

15 Value of Distributed Energy Generation Phase One Decision: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={5B69628E-2928-44A9-B83E-65CEA7326428}

NY-Sun has developed multiple resources and tools to assist solar market participants with the transition to the VDER framework. The Value of Distributed Energy Resources page on the NY-Sun website[16] consolidates relevant information, including Frequently-Asked-Questions, documents, recorded webinars, and the updated capacity of "Phase One Tranches" for Community DG compensation. Most importantly, the page features the Value Stack Calculator, which is a downloadable, MS Excel-based tool that can provide an accurate estimate of the compensation for a solar project's electric generation under the VDER framework.

3.5 Solarize

Solarize campaigns are locally-organized, community outreach efforts aimed at getting a critical mass of area homes and businesses to go solar and achieve significant cost savings. NY-Sun supported 19 Solarize campaigns around the State during 2017, resulting in 389 residential solar installations totaling 3 MW of new capacity. Residential solar customer savings for this round totaled more than $780,000 compared to average solar installation costs. In addition, 2017 featured new campaign strategies focused on Community DG projects and rooftop commercial customers. Five campaigns that offered Community DG subscription options resulted in 175 subscriptions totaling 1.2 MW of capacity in new Community DG projects. NY-Sun will support additional Solarize campaigns in 2018, including campaigns focused on rooftop residential, rooftop commercial, and Community DG projects.

3.6 Low- and Moderate-Income Solar Access

3.6.1 Affordable Solar Onsite Residential Incentive

The Affordable Solar Onsite Residential Incentive, launched in October 2015, doubles the incentive provided by the NY-Sun program for solar installed on owner-occupied residences of low- and moderate-income households. Through the end of 2017, 296 projects were completed using the added incentive, with an additional 53 projects in the pipeline. More than 65 solar installers have used the added incentive to serve low- and moderate-income homeowners across the State.

[16] https://www.nyserda.ny.gov/vder

During 2017, NY-Sun conducted a survey of homeowners who had installed solar with the help of the Affordable Solar Incentive as well as interviews with participating solar installers to identify ways to improve and expand the program. In 2018, NY-Sun will propose adjustments to the program structure that maintains a stable total-incentive level for qualifying homeowners as well as other process improvements.

3.6.2 Affordable Solar Predevelopment and Technical Assistance Program

The Affordable Solar Predevelopment and Technical Assistance Program launched in December 2016. This program provides funding to address barriers in achieving solar benefits for low- to moderate-income households through solar for multifamily, affordable housing and community solar. Funding to proposals will offset costs for nonengineering predevelopment and technical assistance activities.

Through the end of 2017, six proposals have been approved and awarded funding totaling more than $790,000. The awarded proposals address a range of predevelopment and technical assistance needs for solar projects located throughout New York State.[17]

3.6.3 Low-Income Community Solar Initiative: Solar For All

In December 2017, NYSERDA filed a Clean Energy Fund investment plan for Low-Income Community Solar initiative that will enable approximately 10,000 low-income New Yorkers to participate in community solar subscriptions that reduce their total electricity bill. The initiative, which is also referred to as Solar For All, will be implemented beginning in 2018. NY-Sun will, through a competitive solicitation process, secure community solar subscriptions and provide them to low-income customers at no cost. NY-Sun will also work with low-income energy efficiency programs, utilities, community agencies, solar project developers, investors, and other stakeholders to market the program to low-income customers.

[17] For more details on the projects and activities that have been funded through Affordable Solar Predevelopment and Technical Assistance, please see the presentation slides from the program webinar held on December 18, 2017: https://www.nyserda.ny.gov/-/media/Files/Programs/NYSun/20171218-WebinarAffordableSolarPredevelopment-TechnicalAssistance.pdf

4 Summary of Benefits and Funding

Tables 1 and 2 provide detailed information about solar capacity and expected solar production as related to projects funded through the NY-Sun initiative. With nearly 1.6 GW of installed and pipeline capacity, NY-Sun is making good progress toward meeting its goal to install 3 GW of solar capacity by 2023. Tables 3 and 4 provide capacity and expected production information for all NYSERDA-supported projects, including those that were not part of the NY-Sun initiative. Tables 5 and 6 provide detailed information about budgets, expenditures, and committed funds for NYSERDA NY-Sun and all solar funding, respectively.

Table 1. NY-Sun: Capacity Toward 3GW Goal (MW)

Program	Projects Completed (Installed Units) with Adjustments through 12/31/16	Projects Completed (Installed Units) 1/1/17 - 12/31/17	Projects Completed (Installed Units) through 12/31/17	Applications Approved but Not Yet Contracted (Current Pipeline)	Projects Contracted but Not Yet Completed (Current Pipeline)	Total (Current Pipeline + Installed Units) through 12/31/17
Residential / Small Commercial	260.50	112.94	373.44	4.79	80.72	458.94
Commercial / Industrial	18.33	31.03	49.35	12.94	919.89	982.18
Competitive PV	21.22	41.34	62.56	0.00	69.34	131.91
Grand Total	300.04	185.31	485.35	17.73	1,069.95	1,573.03

Table 2 NY-Sun: Expected Annual Production Associated with 3GW Goal (MWh)

Program	Projects Completed (Installed Units) with Adjustments through 12/31/16	Projects Completed (Installed Units) 1/1/17 - 12/31/17	Projects Completed (Installed Units) through 12/31/17	Applications Approved but Not Yet Contracted (Current Pipeline)	Projects Contracted but Not Yet Completed (Current Pipeline)	Total (Current Pipeline + Installed Units) through 12/31/17
Residential / Small Commercial	305,784	132,570	438,354	5,617	94,747	538,719
Commercial / Industrial	21,512	36,421	57,933	15,192	1,079,801	1,152,927
Competitive PV	24,908	48,532	73,440	0	81,399	154,838
Grand Total	352,204	217,523	569,727	20,810	1,255,948	1,846,484

Table 3. All Solar: Statewide Capacity Funded by NYSERDA (MW)[18]

Program	Projects Completed (Installed Units) with Adjustments through 12/31/16	Projects Completed (Installed Units) 1/1/17 - 12/31/17	Projects Completed (Installed Units) through 12/31/17	Applications Approved but Not Yet Contracted (Current Pipeline)	Projects Contracted but Not Yet Completed (Current Pipeline)	Total (Current Pipeline + Installed Units) through 12/31/17
Residential / Small Commercial*	395.51	115.36	510.86	4.79	82.37	598.03
Commercial / Industrial	18.33	31.03	49.35	12.94	919.89	982.18
Competitive PV	110.36	57.10	167.46	0.00	80.38	247.84
NYPA - RGGI	4.64	2.06	6.70	0.00	1.47	8.17
LIPA - RGGI	212.03	19.00	231.03	5.38	12.23	248.64
Financing Only	3.18	3.63	6.82	0.00	0.00	6.82
Grand Total	744.05	228.17	972.22	23.11	1,096.35	2,091.68

Table 4. All Solar Statewide: Expected Annual Production Funded by NYSERDA (MWh) [19,20,21]

Program	Projects Completed (Installed Units) with Adjustments through 12/31/16	Projects Completed (Installed Units) 1/1/17 - 12/31/17	Projects Completed (Installed Units) through 12/31/17	Applications Approved but Not Yet Contracted (Current Pipeline)	Projects Contracted but Not Yet Completed (Current Pipeline)	Total (Current Pipeline + Installed Units) through 12/31/17
Residential / Small Commercial*	464,260	135,412	599,672	5,623	96,691	701,986
Commercial / Industrial	21,512	36,421	57,933	15,192	1,079,801	1,152,927
Competitive PV	115,585	64,632	180,217	0	93,439	273,656
NYPA - RGGI	5,450	2,414	7,865	0	1,724	9,589
LIPA - RGGI	248,890	22,301	271,191	6,314	14,362	291,867
Financing Only	3,735	4,265	8,000	0	0	8,000
Grand Total	859,432	265,447	1,124,879	27,130	1,286,017	2,438,026

*Funding includes supplemental funding such as RGGI, ARRA, VEPO and SBCIII

18 NYPA Customers and LIPA Service Territory represents incentive funding supported with proceeds under the Regional Greenhouse Gas Initiative (RGGI).

19 NYPA Customers and LIPA Service Territory represents incentive funding supported with proceeds under the Regional Greenhouse Gas Initiative (RGGI).

20 Note that the megawatt-hours included in Table 2 are estimated amounts based on a statewide capacity factor. NYSERDA does not, by filing this report, make any claim to the environmental attributes associated with those megawatt-hours.

21 The NY-Sun program does not determine the delivery or use of solar energy (MWh) from projects that receive funding. Generation from NY-Sun-funded projects may be used by customers for their own voluntary use or used toward meeting State requirements to deliver renewable energy to electricity customers in New York State, depending on ownership of the environmental attributes and/or renewable energy certificates (RECs) from those projects. Where NYSERDA has not acquired the RECs from a NY-Sun-funded project, NYSERDA makes no claim to the environmental attributes of that energy.

Table 5. NY-Sun Financial Status in Dollars as of December 31, 2017[22]

Program	Pre-encumbrances	Open Encumbrances	Expended Funds	Grand Total	Budgeted Funds 2014-2023
Residential/Small Commercial	1,731,710	30,309,723	217,138,772	249,180,205	533,522,000
Commercial/Industrial	4,490,844	296,650,856	6,861,016	308,002,716	473,804,532
Competitive PV	-	50,380,644	9,336,824	59,717,468	59,717,468
Program Implementation	336,993	1,778,101	3,168,650	5,283,744	32,600,000
Low-Moderate Income	8,406	853,046	654,642	1,516,094	13,000,000
Consumer Education	-	3,108,708	391,292	3,500,000	3,500,000
Administration	-	361,812	6,051,267	6,413,079	38,706,000
Evaluation	-	72,114	77,886	150,000	2,500,000
NYS Cost Recovery Fee	-	-	1,426,126	1,426,126	19,250,000
Total	6,567,953	383,515,004	245,106,475	635,189,432	1,176,600,000

[22] Administration, Evaluation, and Cost Recovery Fee are for 2016–2023 NY-Sun Only.

Table 6. All Solar Financial Status in Dollars as of December 31, 2017[23],[24]

Program	Pre-encumbrances	Open Encumbrances	Expended Funds	Grand Total	Budgeted Funds 2006–2023
Residential/Small Commercial	1,731,710	31,660,256	439,322,229	472,714,195	813,463,808
Commercial/Industrial	4,490,844	296,650,856	6,861,016	308,002,716	471,784,307
Competitive PV	-	83,082,516	84,318,825	167,401,341	167,401,342
Program Implementation	336,993	1,778,101	3,168,650	5,283,744	32,600,000
Low-Moderate Income	8,406	853,046	654,642	1,516,094	13,000,000
Consumer Education	-	3,108,708	391,292	3,500,000	3,500,000
Administration	-	361,812	6,051,267	6,413,079	38,706,000
Evaluation	-	72,114	77,886	150,000	2,500,000
NYS Cost Recovery Fee	-	-	1,426,126	1,426,126	19,250,000
Total	6,567,953	417,567,409	542,271,933	966,407,295	1,562,205,457

[23] Administration, Evaluation, and Cost Recovery Fee are for 2016–2023 NY Sun Only.

[24] All Solar Financial Status as of December 31, 2016 are a subset of the numbers in Table 3. NY-Sun Financial Status as if December 31, 2016. Tables 3 and 4 are not additive.

Appendix A: Completed and Pipeline Megawatt Blocks by Block[25]

Table A-1. Long Island Residential Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	37	31.71	0.01
2	15	12.22	0.02
3	20	16.29	0.07
4	77	66.98	0.93
Total	149	127.20	1.03

Table A-2. Con Edison Residential Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	14	11.58	0
2	6	4.80	0
3	9	7.30	0.01
4	12	9.81	0.04
5	17	14.63	0.04
6	18	15.30	0.39
7	38	21.90	13.60
8	70	0.00	0
9	120	0.00	0
Total	304	85.27	14.13

[25] For more information about blocks and block design, please refer to the NY-Sun MW Block Dashboards https://www.nyserda.ny.gov/All-Programs/Programs/NY-Sun/Megawatt-Block-Dashboards and the 2016–2023 Operating Plan. NY-Sun periodically adjusts block sizes based on project cancellations and market needs; the tables in this section show the original block capacities. http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwjXk9LvzNPSAhUl3YMKHdOXBZ4QFggeMAE&url=http%3A%2F%2Fdocuments.dps.ny.gov%2Fpublic%2FCommon%2FViewDoc.aspx%3FDocRefId%3D%257BF5DA32B6-FB3F-4F7E-BBCB-609B41E0FAC4%257D&usg=AFQjCNETRfoH_TgN7yDLVmlYMIxVJOp87A&bvm=bv.149397726,d.eWE

Table A-3. Upstate Residential Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	40	35.69	0.02
2	15	12.80	0.01
3	19	16.20	0.01
4	22	19.02	0.03
5	24	21.83	0
6	35	31.71	0
7	70	78.43	5.64
8	75	2.71	8.18
9	148	0.00	0.00
Total	448	218.38	13.71

Table A-4. Long Island Nonresidential Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	7	5.76	0
2	6	5.02	0
3	7	4.79	0.45
4	9	4.87	3.59
5	15	3.39	12.75
6	14	0.00	0.00
Total	58	23.84	16.79

Table A-5. Con Edison Nonresidential Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	6	3.53	0
2	4	0.79	0.29
3	7.5	4.86	1.36
4	8	3.21	11.42
5	10	0.02	4.57
6	15	0.00	0.00
7	35	0.00	0.00
8	45	0.00	0.00
9	73	0.00	0.00
10	101	0.00	0.00
Total	304.5	12.41	17.64

Table A-6. Upstate Nonresidential Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	35	19.14	2.04
2	8	5.17	1.21
3	10	4.83	4.12
4	12	5.22	2.02
5	18	6.50	4.98
6	23	2.62	7.67
7	33	14.25	19.31
8	77	0.00	0.00
9	95	0.00	0.00
10	145	0.00	0.00
Total	456	57.72	41.35

Table A-7. Con Edison Commercial/Industrial Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	15	9.26	4.37
2	20	0.65	12.12
3	20	0.00	0.00
4	25	0.00	0.00
5	25	0.00	0.00
6	30	0.00	0.00
7	30	0.00	0.00
8	35	0.00	0.00
9	35	0.00	0.00
10	40	0.00	0.00
11	45	0.00	0.00
12	50	0.00	0.00
13	55	0.00	0.00
Total	425	9.91	16.49

Table A-8. Rest of State Commercial/Industrial Block Structure

Block	Design MW Capacity	Completed MW Capacity as of 12/31/17	Pipeline MW Capacity as of 12/31/17
1	120	22.20	54.96
2	120	7.27	58.07
3	130	0.36	67.14
4	130	0.95	65.06
5	140	6.28	81.55
6	140	0.00	122.02
7	150	0.71	71.41
8	150	0.00	105.34
9	160	0.45	121.58
10	170	0.00	132.91
11	180	0.00	35.94
Total	1590	38.21	915.98

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

To learn more about NYSERDA's programs and funding opportunities, visit nyserda.ny.gov or follow us on Twitter, Facebook, YouTube, or Instagram.

New York State Energy Research and Development Authority

17 Columbia Circle
Albany, NY 12203-6399

toll free: 866-NYSERDA
local: 518-862-1090
fax: 518-862-1091

info@nyserda.ny.gov
nyserda.ny.gov

State of New York
Andrew M. Cuomo, Governor

New York State Energy Research and Development Authority
Richard L. Kauffman, Chair | Alicia Barton, President and CEO

SUN-2017-annual-r-1-v1
3/18