



NYSERDA

New York State Renewable Portfolio Standard

**Annual Performance Report
through December 31, 2015**

Final Report

March 2016

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.

**New York State Renewable Portfolio Standard
Annual Performance Report through December 31, 2015**

Final Report

Prepared by:

New York State Energy Research and Development Authority

Albany, NY

March 2016

Table of Contents

List of Figures	iii
List of Tables.....	iii
Summary	S-1
1 Background.....	1
1.1 Tiered Approach to Implementing the RPS	3
1.1.1 Main Tier	3
1.1.1.1 Maintenance Resource	4
1.1.2 Customer-Sited Tier	4
1.1.3 Voluntary Market	5
1.2 Intervening Commission Orders and Activities	5
1.2.1 2015 Commission Orders	6
1.2.2 Successor to New York’s RPS.....	7
1.2.3 New York Generation Attribute Tracking System	8
2 Progress and Results	9
2.1 Progress and Results – Main Tier.....	10
2.1.1 New York Wind Power Capacity Additions	12
2.1.2 Main Tier Economic and Environmental Impacts.....	13
2.2 Progress and Results – Customer-Sited Tier	15
2.2.1 Progress and Results – Residential/Small Commercial, Commercial/Industrial and Competitive PV Program.....	17
2.2.2 Progress and Results – Fuel Cell Program.....	17
2.2.3 Progress and Results – Anaerobic Digester Gas-to-Electricity Program.....	18
2.2.4 Progress and Results – On-Site Wind Program	19
2.2.5 Progress and Results – Solar Thermal Program	20
3 Program Funding and Budgets.....	26
3.1 Funding Commitments and Expenses	28
Appendix A: Orders and Activities	A-1
Appendix B: Main Tier Solicitation Results through December 31, 2015.....	B-1
Appendix C: Main Tier Contracts as of December 31, 2015.....	C-1
Appendix D: Financial Status Report as of December 31, 2015	D-1
Appendix E: Projected Cash Flow Estimates as of December 31, 2015.....	E-1

List of Figures

Figure 1. RPS 2015 Renewable Energy Target Components.....	2
Figure 2. RPS Main Tier and Maintenance Resources by County.....	12
Figure 3. New York State Wind Power Capacity Additions.....	13
Figure 4. RPS-Funded Residential/Small Commercial Solar Electric Installations by County	21
Figure 5. RPS-Funded Competitive Solar Electric and Commercial/Industrial Electric Installations by County	22
Figure 6. RPS-Funded Solar Thermal Installations by County.....	23
Figure 7. RPS-Funded On-Site Wind Installations by County.....	24
Figure 8. RPS-Funded Fuel Cell and Anaerobic Digester Installations by County	25
Figure 9. RPS Program Budget through 2024 and Program Expenses through December 31, 2015	27

List of Tables

Table 1. NYSERDA 2015 RPS Procurements and Energy Targets and Progress as of December 31, 2015	9
Table 2. Project Development Status for Active Main Tier Contracts as of December 31, 2015	11
Table 3. RPS-Funded Customer-Sited Tier Actual and Expected Installed Capacity (MW) and Energy Production (MWh) as of December 31, 2015	16
Table 4. RPS-Funded Customer-Sited Tier Funding Budget through 2015 by Program	29

Summary

This report summarizes activities conducted through December 31, 2015, by the New York State Energy Research and Development Authority (NYSERDA) and the New York State Department of Public Service (DPS) in implementing the New York State Renewable Portfolio Standard (RPS). The program has reached its final year. It includes background on the RPS; objectives and performance targets; and a summary of overall program outcomes, funding, and expenses as well as the development of a successor program to New York State's RPS. Key concluding achievements of this groundbreaking program include:

- Progress¹ toward the NYSERDA Main Tier and Customer-Sited Tier 2015 combined target of 10.4 million MWh is approximately 60%. This number includes committed and pending contracts.
- From 10 completed Main Tier solicitations, NYSERDA currently has contracts with electricity generators for 68 large-scale projects. These projects will add more than 2,137 megawatts (MW) of new renewable capacity to the State's energy mix.
- Customer-Sited Tier programs have supported the installation of over 350 MW of capacity.
- 24% of statewide generation is coming from renewable energy sources.

A separate report² describes progress toward NY-Sun's goal to generate 3-gigawatt (GW) of solar electric power and the NY-Sun statewide solar electric programs.

¹ Progress is defined as energy production and installed capacity associated with funding that is "encumbered/contracted" or "pending contracting" as of December 31, 2015

² NYSERDA. 2016. "NY-Sun Annual Performance Report through December 31, 2015." nyserdera.ny.gov/publications

1 Background

The 2002 State Energy Plan (SEP) noted the possible consequences of New York State's heavy dependence on fossil fuels.³ The SEP stated that the State's fossil fuel resources (gas, coal, and oil) are largely imported from abroad or out-of-state and have significant long-term negative environmental impacts. Recognizing the need for a proactive approach to the State's energy and environmental challenges, in February of 2003, the Commission initiated a proceeding to explore the development of an RPS. On September 24, 2004, following an extensive stakeholder process, the Commission issued an Order adopting an RPS with a goal of increasing the proportion of renewable energy used by New York State consumers from 19.3% then (considered the baseline resources) to at least 25% by the end of 2013.⁴

As part of the September 24, 2004 Order, the Commission designated NYSERDA as the central procurement administrator for the RPS program. Specifically, NYSERDA is responsible for obtaining the Main Tier (larger, utility-scale resources) and Customer-Sited Tier (smaller, behind-the-meter resources) targets with the remainder to be made through a variety of initiatives as described in the following sections.⁵

In the same Order, the Commission directed the major investor-owned utilities to collect funds from ratepayers to be administered by NYSERDA for the purpose of supporting NYSERDA's implementation responsibilities.

After a 2009 Program Review,⁶ in an April 2, 2010 Order, the Commission established NYSERDA Main Tier and Customer-Sited Tier program targets to support production of approximately 10.4 million megawatt-hours (MWh) of renewable energy annually by 2015.⁷ Including changes in the allocations of

³ New York State. 2002. State Energy Plan. June, page 1–1.

⁴ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Regarding Retail Renewable Portfolio Standard;" issued and effective September 24, 2004.

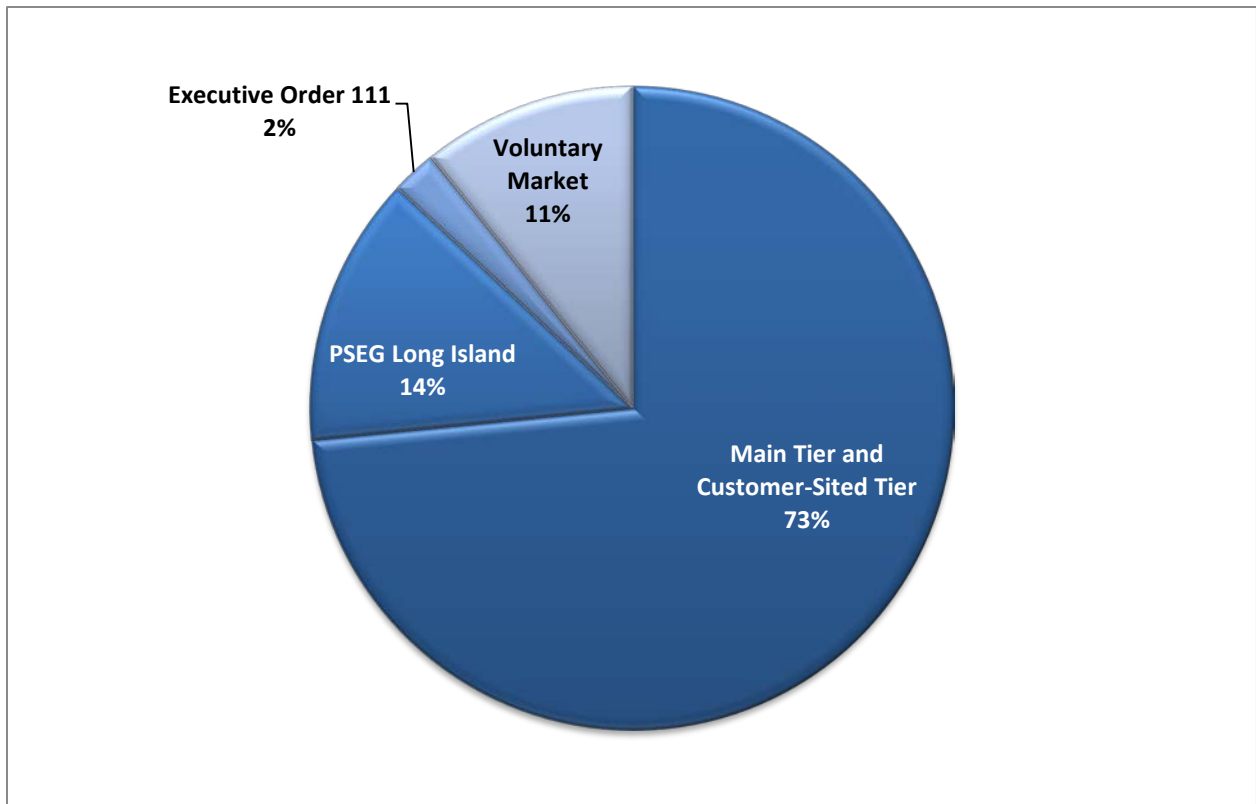
⁵ PSEG Long Island operates the Long Island Power Authority's transmission and distribution system under a 12-year contract. PSEG Long Island is a subsidiary of Public Service Enterprise Group Incorporated (NYSE:PEG), a publicly traded diversified energy company with annual revenues of \$11 billion.

⁶ February 19, 2009. New York State Renewable Portfolio Standard Evaluation Report: 2009 Review (Evaluation Report). The Evaluation Report relied on the reports of two NYSERDA contractors: KEMA, New York Main Tier RPS: Impact and Process Evaluation (March 2009) and Summit Blue Consulting, New York State Renewable Portfolio Standard: Market Conditions Assessment—Final Report.

⁷ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Authorizing Customer-Sited Tier Program Through 2015 and Resolving Geographic Balance and Other Issues Pertaining to the RPS," issued and effective April 2, 2010.

these targets based on the 2012 Customer-Sited Tier Program Operating Plan,⁸ the targets consist of approximately 9.5 million MWh from the Main Tier and 0.9 million MWh from the Customer-Sited Tier. These calculations assume: (1) a reduction, due to energy efficiency efforts including those supported by the Commission-established Energy Efficiency Portfolio Standard program, of electricity consumption by 15% over a business-as-usual growth forecast for the year 2015, and (2) renewable electricity purchases made through a variety of initiatives including the Main Tier and Customer-Sited Tier, voluntary market activity, Executive Order 111, and PSEG Long Island contributions as depicted in Figure 1.

Figure 1. RPS 2015 Renewable Energy Target Components



⁸ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, Renewable Portfolio Standard Customer-Sited Tier Program Operating Plan (2012-2015), filed June 29, 2012. <http://www.nyscrda.ny.gov/-/media/Files/EDPPP/Energy-and-Environmental-Markets/RPS/RPS-Documents/NYSERDA-RPS-operating-plan.pdf>

1.1 Tiered Approach to Implementing the RPS

The Commission established two tiers of resource types under the RPS. The Main Tier consists primarily of medium- to large-scale electric generation facilities that deliver their electrical output into the wholesale power market administered by the New York Independent System Operator (NYISO). The Commission established the Customer-Sited Tier because of the importance of accelerating the development of emerging technologies, associated environmental benefits, and ability to site technologies in urban, heavily-loaded areas. The Customer-Sited Tier consists of smaller, “behind-the-meter” resources, such as solar electric systems, fuel cells, small wind facilities, anaerobic digester gas, and similar technologies that for the most part produce electricity for use on-site.⁹

The Main Tier program operates through the issuance of periodic competitive solicitations; the Customer-Sited Tier resources are supported through first-come/first-served open enrollment programs that provide a combination of standard offer incentives for the “buy-down” of capital costs and/or energy production. The Commission specifies eligible resources and technologies for both the Main Tier and Customer-Sited Tier.¹⁰ The RPS also includes a process for evaluating new resources and technologies for eligibility in the program as it progresses and for financially supporting existing baseline renewables through Maintenance Resource determinations by the Commission as described in the following sections.

1.1.1 Main Tier

NYSERDA, through Main Tier contracts, pays a production incentive to renewable electricity generators selected through competitive solicitations for the electricity they deliver for end use in New York. In exchange for receiving the production incentive, the renewable generator transfers to NYSERDA all rights and/or claims to the RPS Attributes¹¹ associated with each megawatt-hour of renewable electricity generated, and guarantees delivery of the associated electricity to the New York State ratepayers.

⁹ As a result of a Commission decision, customer-sited generators can choose to compete for long-term contracts via the Main Tier program component.

¹⁰ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Approving Implementation Plan, Adopting Clarifications, and Modifying Environmental Disclosure Program,” Appendix B, issued and effective April 14, 2005; and “Order Authorizing Customer-Sited Tier Program Through 2015 and Resolving Geographic Balance and Other Issues Pertaining to the RPS Program,” issued and effective April 2, 2010.

¹¹ RPS Attributes include any and all reductions in harmful pollutants and emissions, such as carbon dioxide and oxides of sulfur and nitrogen. RPS Attributes are similar to Renewable Energy Certificates that are commonly used in other RPS programs to catalog and recognize environmental attributes of generation.

The RPS Attributes include any and all reductions in harmful pollutants and emissions, such as carbon dioxide and oxides of sulfur and nitrogen. By acquiring the RPS Attributes, rather than the associated electricity, the program ensures that increasing amounts of renewable electricity will be injected into the State's power system while minimizing interference with the State's competitive wholesale power markets.

1.1.1.1 Maintenance Resource

Only renewable energy systems installed on or after January 1, 2003, or existing facilities that generate renewable energy that is incremental to historical levels of renewable energy generation are eligible to participate in the Main- and Customer-Sited Tiers. However, in creating the RPS Program, the Commission recognized that 19.3% of the energy sold at retail in New York was being generated by renewable resources that existed prior to the RPS being adopted in 2004 (baseline resources). For the purpose of ensuring the continuing operation of these valuable existing resources, the Commission's September 24, 2004 Order¹² established an additional Maintenance Resource program that was reaffirmed in an April 2010 Order.¹³ To be eligible to receive RPS program funding as a Maintenance Resource, a baseline resource is required to demonstrate financial hardship through a formal request to the Commission. The Commission then determines the existence and degree of hardship and makes a determination as to the eligibility of the facility for Maintenance Resource treatment.

1.1.2 Customer-Sited Tier

In 2014 and early 2015, the Customer-Sited Tier (CST) Standard Offer and Competitive Solar PV programs were transitioned to a MW Block structure under which the solar electric markets would continue to grow while NYSEERDA steadily reduced and eventually will eliminate cash incentives in a transparent and predictable manner. The other CST-eligible technologies include fuel cells, anaerobic digester biogas, on-site wind, solar thermal, in addition to a general CST funding pool which was established by the Commission in 2014.¹⁴

¹² Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Regarding Retail Renewable Portfolio Standard;" issued and effective September 24, 2004.

¹³ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Authorizing Customer-Sited Tier Program Through 2015 and Resolving Geographic Balance and Other Issues Pertaining to the RPS;" issued and effective April 2, 2010.

¹⁴ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Reallocating of unencumbered 2013 Customer Sited Tier (CST) funds and the creation of a General Funding Pool;" issued and effective July 2, 2014.

1.1.3 Voluntary Market

Several program design features were incorporated into the Main Tier in an effort to support the ultimate program goal of transitioning to the voluntary market. For example, as a result of a Commission Order and beginning with the second Main Tier solicitation, NYSERDA instituted a limitation that caps bids at 95% of a facility's attributes, thus guaranteeing that a minimum of 5% of the renewable energy generated by contracted resources is available for voluntary sales. Also, an increasing percentage of Main Tier projects have taken advantage of a program design feature that permits partial bidding, thus leaving additional output available for non-RPS sales including the voluntary market in New York State. In addition, NYSERDA provides flexibility for contractors to suspend deliveries to NYSERDA in order to make sales to the New York voluntary green market. As of December 31, 2015, three facilities have exercised the suspension option.¹⁵

In 2013, 531,367 MWh were purchased by 24 energy service companies, five six Investor-owned utilities, one public authority, one educational institution, and one electric cooperative, according to DPS. (Visit <http://www3.dps.ny.gov/e/energylabel.nsf> for additional information.) This generation excludes Long Island Power Authority transactions and those associated with baseline (pre-existing) resources. The total voluntary market purchases including Long Island Power Authority and baseline resources for 2013 was 1,637,371 MWh. This total does not include bilateral contractual purchases of renewable energy by load serving entities.

1.2 Intervening Commission Orders and Activities

Since the September 24, 2004 Order establishing New York State's RPS, a series of Commission Orders and other activities ensued that have resulted in programmatic changes. A series of new orders issued in 2015 are described in the following section; other intervening Orders and activities are summarized in Appendix A.

¹⁵ Contractors are not obligated to serve the New York State voluntary market with any output not under contract with NYSERDA, but contractors who suspend delivery to NYSERDA are required to make sales into the New York State voluntary market.

1.2.1 2015 Commission Orders

In January 2015, the Commission denied a request from Global Structured Finance Advisors and GP Renewables and Trading, LLC, on behalf of certain municipal customers of the New York Power Authority (NYPA), that the Commission create a voluntary “SBC/RPS Opt-In” mechanism for all NYPA municipal customers.¹⁶ Because NYPA customers are exempt from the System Benefits Charge (SBC), the Energy Efficiency Portfolio Standard (EEPS), and the Renewable Portfolio Standards (RPS) surcharge, they are not eligible to participate in programs funded by these surcharges. Through the proposed mechanism, NYPA municipal customers would be able to opt in, by individual meter, to the SBC and the RPS surcharge, and thereby would become eligible to participate in SBC and RPS surcharge-funded programs. The petition was denied, as it results in a redesign of the program that is inequitable, by forcing utility customers who cannot opt-out of the surcharges to subsidize the subset of NYPA customers that believe they would benefit from opting into participation in the programs.

In May 2015, the Commission denied a request by Sterling Energy Group, Inc. (Sterling) and its wholly owned subsidiary, Niagara Generation LLC, to restructure an existing RPS contract executed with NYSERDA that was awarded in a competitive solicitation under the Main Tier program.¹⁷ It also denied Sterling’s request to establish a new program to provide for supplemental benefits for biomass facilities, similar to the Main Tier program.

In July 2015, the Commission authorized NYSERDA to enter into a four year and seven month Maintenance resource contract with ReEnergy to receive additional financial support for its Chateaugay biomass facility. The contract will commence upon the facility’s return to commercial operation, but no later than July 1, 2016, and upon a demonstration by ReEnergy that it has executed a long-term power purchase agreement (PPA) or some other long-term arrangement with an independent third party that will keep the plant in operation beyond the term of its Maintenance Resource contract.

¹⁶ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order issued Commission denied the Petition proposed by Global Structured Finance Advisors and GP Renewables and Trading LLC, because the Opt-in mechanism is inequitable to customers of investor-owned utilities;” issued and effective January 13, 2015.

¹⁷ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Denying Request for Restructuring Main Tier Contract;” issued and effective May 20, 2015.

In December 2015, the Commission authorized NYSERDA to continue to implement the RPS CST programs through February 29, 2016, while the Commission completed its review of the Clean Energy Fund (CEF) proposal.¹⁸

1.2.2 Successor to New York’s RPS

In February 2015, the Commission recognized a changed landscape since it first implemented the RPS in 2004 and directed a reassessment of New York’s approach for encouraging the expansion of large-scale renewable energy generation. Although the current RPS goals expired at the end of 2015, a February 26, 2015 Order¹⁹ directed NYSERDA to issue a budget and plan for a 2016 Main Tier solicitation while a successor program to New York’s Renewable Portfolio Standard was developed and implemented.

The Commission directed Department of Public Service Staff to work with NYSERDA to prepare a Large-Scale Renewable (LSR) options paper, which NYSERDA filed on June 1, 2015. Subsequent to the release of the LSR Options Paper, the State Energy Planning Board issued the 2015 New York State Energy Plan, which proposes that the State achieve 50% of the State’s electricity generated from renewable resources by 2030 (50 by 30 goal).

In December 2015, to ensure the 50 by 30 goal is achieved rather than simply aspired to, Governor Andrew M. Cuomo directed the Department of Public Service to develop a Clean Energy Standard (CES) and to present the Commission with a program framework for a CES mandating achievement of the 50 by 30 goal. The Governor noted that “the Clean Energy Standard provides a cost-effective, efficient, and enforceable mandate to meet the goal of ensuring clean, resilient, and affordable energy for all New Yorkers.” DPS staff filed a CES white paper with the Commission in January 2016 that established the framework for the new CES.

¹⁸ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Extending Clean Energy Programs;” issued and effective December 11, 2015.

¹⁹ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Adopting Regulatory Policy Framework and Implementation Plan for a reformed retail electric industry;” issued and effective February 26, 2015.

1.2.3 New York Generation Attribute Tracking System

The New York State Legislature amended the Public Authorities Law to require NYSERDA to establish a generation attribute tracking system that records electricity generation attribute information within the State. NYSERDA has partnered with DPS and the NYISO, the administrator of the New York wholesale electricity market, and engage stakeholders to create a Web-based electronic information system called the New York Generation Attribute Tracking System (NYGATS). NYSERDA and its contractor anticipate that the system will be operational in 2016.

NYGATS will issue and track electronic certificates recording the generation attributes associated with each megawatt-hour of electricity generated within the State and for electricity imported into and consumed in New York State, in part to support the market for tradable Renewable Energy Certificates (RECs). NYGATS will be designed to interface and exchange information with other certificate tracking systems.

NYGATS will also support New York's Environmental Disclosure Program (including fuel mix and emissions for electricity consumed in the State), the RPS, and voluntary green power or renewable energy certificate transactions (among other policies and programs).

2 Progress and Results

The NYSERDA program target, established in the Commission’s April 2, 2010 Order, for the combined Main Tier and Customer-Sited Tier, is approximately 10.4 million MWh by 2015. In response to an April 24, 2012 Order, NYSERDA published the 2012-2015²⁰ Customer-Sited Tier Program Operating Plan on June 29, 2012, which revised the Customer-Sited Tier targets based on increased funding allocations for some programs.²¹ The plan set forth the program goals and implementation strategies for the Customer-Sited Tier program for the 2012 through 2015 period.

As shown in Table 1, progress²² through December 31, 2015, in both the Main Tier and the Customer-Sited Tier, is more than 6.2 million MWh. This amount represents progress of about 60% toward the NYSERDA portion of the RPS target. Current Customer-Sited Tier contracts and accepted applications are anticipated to support the installation of systems capable of producing 979,984 MWh, which represents 112% of the total Customer-Sited Tier portion of the NYSERDA RPS target.²³ Expected energy production associated with Main Tier facilities under contract as of December 31, 2015 is nearly 5.3 million MWh or 55% of the Main Tier target.²⁴

Table 1. NYSERDA 2015 RPS Procurements and Energy Targets and Progress as of December 31, 2015²⁵

	Target (MWh)	Progress (MWh)	Progress as % of Target
Customer-Sited Tier	878,089	979,984	112%
Main Tier	9,519,765	5,261,324	55%
Total	10,397,854	6,241,308	60%

²⁰ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Authorizing Customer-Sited Tier Program through 2015 and Resolving Geographic Balance and Other Issues Pertaining the RPS Program,” issued and effective April 2, 2010.

²¹ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, Renewable Portfolio Standard Customer-Sited Tier Program Operating Plan (2012-2015), filed June 29, 2012. <http://www.nyserda.ny.gov/-/media/Files/EDPPP/Energy-and-Environmental-Markets/RPS/RPS-Documents/NYSERDA-RPS-operating-plan.pdf>

²² Progress is defined as energy production and installed capacity associated with funding that is “encumbered/contracted” or “pending contracting” as of December 31, 2015.

²³ The Customer-Sited tier target was increased by more than 40% in 2012 from 625,390 MWh in 2011 to 878,089 MWh, largely as a result of the NY-Sun initiative

²⁴ Progress is defined as energy production and installed capacity associated with funding that is “encumbered/contracted” or “pending contracting” as of December 31, 2015.

²⁵ The achievement of the targets set forth in Table 1 will be measured on the basis of energy productions associated with funding that is “encumbered/contracted” or “pending contracting” as of the end of program year 2015.

Although more than 6.2 million MWh are currently under existing or pending contracts, actual production will likely vary from time to time. Renewable resources are by nature intermittent making it difficult for facility operators to estimate their annual electricity production with a high degree of accuracy. In addition, financing and construction-related impediments can cause delays in facility construction. Project development delays and underperformance of operating projects impact annual reporting of program progress and results. As such, data being reported at any given time may reflect unexpected variations in performance.²⁶

2.1 Progress and Results – Main Tier

NYSERDA has conducted 10 competitive Main Tier solicitations in pursuit of the Main Tier target. The 10th competitive Main Tier Solicitation (RFP 3084) awards were made in September 2015, and facilities are expected to be operational by July 31, 2018. The solicitation was issued on April 7, 2015. The solicitation was conducted in concurrence with a Commission Order dated July 2, 2014, wherein the Commission authorized NYSERDA to increase the maximum length RPS Main Tier contracts to a term not to exceed 20 years with the flexibility to set maximum contract terms of less than 20 years for select types of technologies and facilities. In addition, NYSERDA was directed to issue at least one additional solicitation in 2015.²⁷

The 10th solicitation resulted in five awards that represent 116 MW of new renewable energy capacity from which NYSERDA could provide production incentives for approximately 356,056 MWh per year. The total funding commitment associated with RFP 3084 was approximately \$175 million, and the weighted average price for these contracts was \$24.57 per RPS Attribute (MWh) over the 20-year term of the awarded contracts. Summaries of the results of each of the prior Main Tier solicitations are included in Appendix B. An update of the solicitation contracts is included in Appendix C.

As of December 31, 2015, NYSERDA has existing contracts to procure RPS Attributes from 68 large-scale electricity generation projects, including facility upgrades or facility repowering.²⁸ Three

²⁶ Changes may arise after the announcement of solicitation awards. For example, awarded contracts may not be signed, facilities may not be built as proposed, and contractual adjustments may be instituted based on repeated underperformance or other contractual nonperformance. Contractual adjustments reflecting these inevitable circumstances occur regularly. Data presented in Appendix D and E of this report includes any adjustments that have been instituted through December 31, 2015.

²⁷ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Modifying Renewable Portfolio Standard Program Eligibility Requirements,” issued and effective May 22, 2013.

²⁸ RFP 916 permitted contract delivery terms of less than 10 years.

projects are located outside of New York State: one project is located in Quebec (Canada) and two projects are located in Pennsylvania. The remaining projects are located in New York State. When all of the projects reach commercial operation, 2,137 MW of new renewable capacity will be added,²⁹ of which 2,089 MW will be located in New York State.

Wind power is the predominant generating technology in the Main Tier, representing 1,951 MW of new renewable capacity under contract, of which 1,673 MW was in operation at the end of 2015. The balance of new capacity is comprised of hydroelectric upgrades, biogas (landfill gas to electricity), anaerobic digestion to electricity, fuel cells, and biomass (direct and co-fired) facilities. As of December 31, 2015, 59 projects representing approximately 1,855 MW are operating, with the remaining nine projects representing approximately 281 MW and expected to be in operation by July 31, 2018. Table 2 provides further details on the status of Main Tier projects.

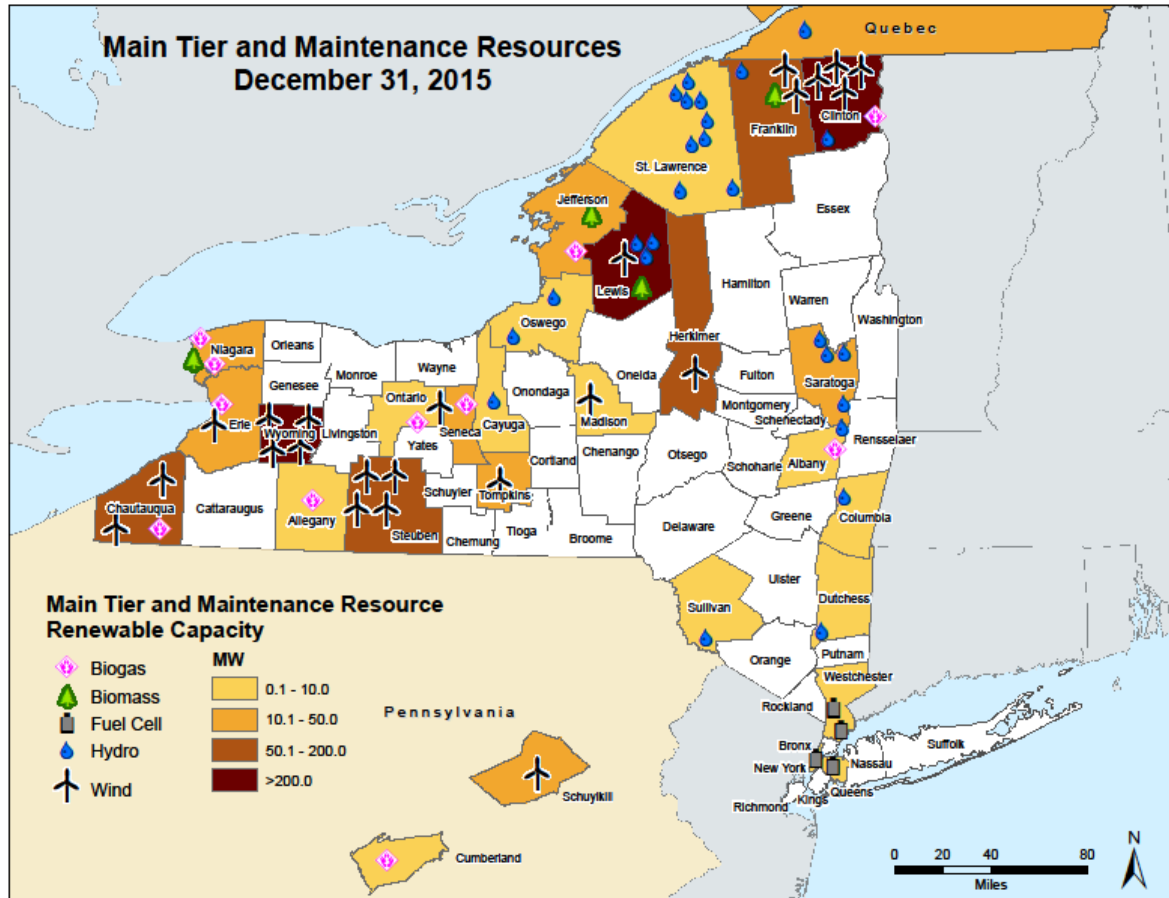
Figure 2 identifies the location of each Main Tier and Maintenance Resource facility either under contract or having a pending contract with NYSERDA. Appendix C provides additional details about each Main Tier and Maintenance Resource facility currently participating in the RPS.

Table 2. Project Development Status for Active Main Tier Contracts as of December 31, 2015

	MW Operating	MW in Development/ Construction	Total MW	Number Operating	Number in Development/ Construction	Total Number
Wind	1,672.9	278.0	1,950.9	19	5	24
Hydroelectric	51.6	0.6	52.1	25	1	26
Biomass	69.3	0.0	69.3	2	0	2
Biogas	60.1	2.2	62.3	10	2	12
Fuel Cell	1.3	0.8	2.1	3	1	4
Total	1,855.1	281.3	2,136.7	59	9	68

²⁹ New Renewable Capacity generally refers to the Nameplate Capacity of facilities under contract in the RPS that did not exist prior to the start of the RPS program, including any portion not under contract with NYSERDA.

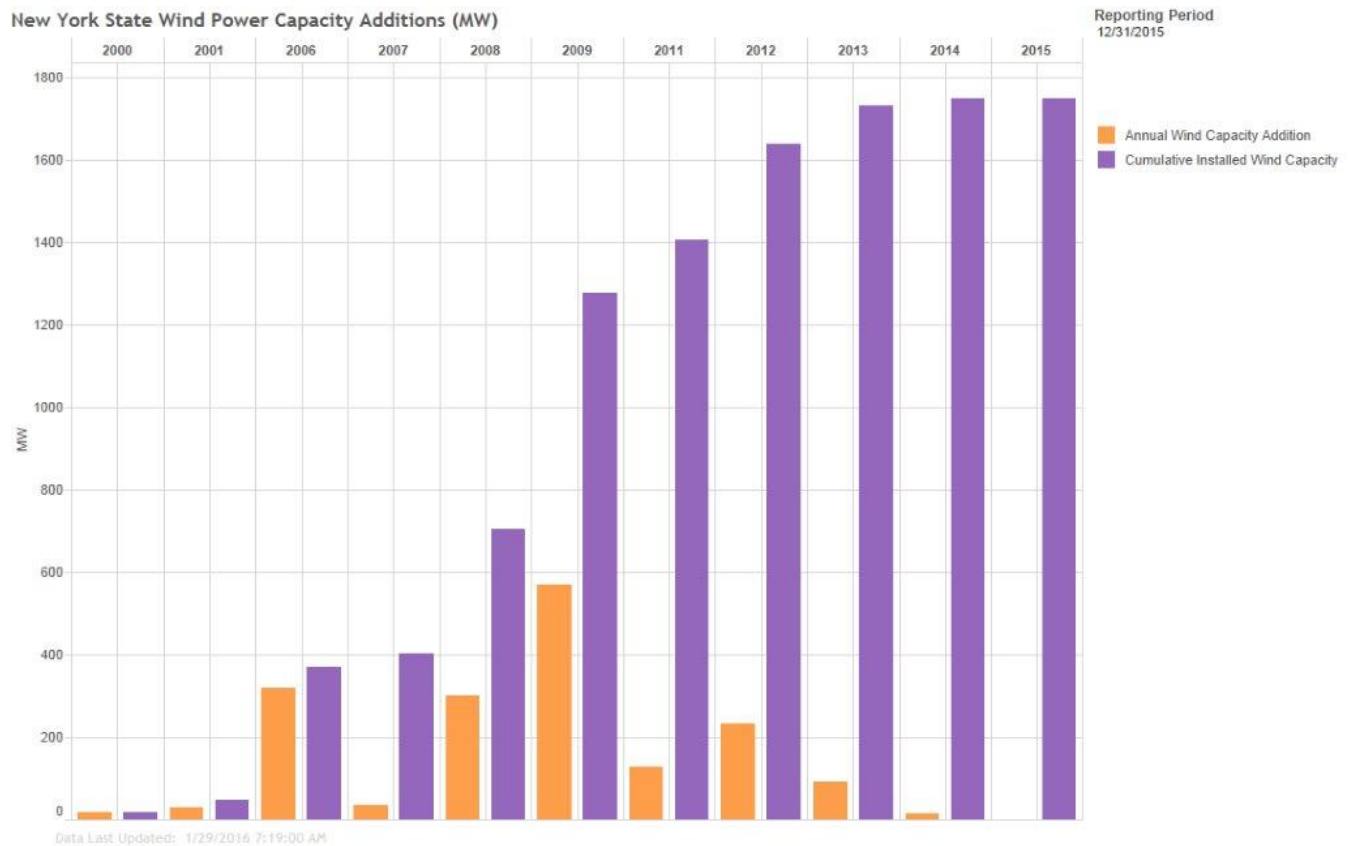
Figure 2. RPS Main Tier and Maintenance Resources by County



2.1.1 New York Wind Power Capacity Additions

The cumulative installed wind capacity in New York State through the end of 2015 is approximately 1,750 MW, which is more than 36 times the capacity that existed in New York State prior to having an RPS program. Figure 3 shows the wind power capacity additions to New York State by year.

Figure 3. New York State Wind Power Capacity Additions



2.1.2 Main Tier Economic and Environmental Impacts

In its September 2004 Order, the Commission identified economic benefits to New York State as one of the formal objectives of the RPS Program. Progress in the program through December 31, 2015, in meeting the RPS targets has yielded, and is expected to yield, significant economic benefits to the State of New York and its associated locales. Economic benefits accrue from the planning, development, construction, and operation of renewable energy facilities. These economic benefits come in the form of long and short term jobs, property tax or payment- in-lieu of tax benefits to local governments and school districts, biomass fuel purchases, as well as from lease and/or royalty payments to landowners.

A study conducted as part of the 2013 RPS program evaluation analyzed the verified direct investments in New York State associated with a subset of 18 Main Tier and Maintenance Resource RPS contracts, and estimated direct investments associated with the remaining projects with current Main Tier contracts as of December 31, 2012.³⁰ The resulting data was then used to project New York State-specific direct investments attributable to all current RPS projects.

This analysis only considered the direct impacts of the portfolio of Main Tier RPS contracts as of December 31, 2012, without consideration of multiplier or induced effects, or net impacts. These investments were then compared with the value or cost of RPS contracts for a direct benefit-cost analysis of current projects in the Main Tier RPS program.

Key findings of this analysis included:

- Approximately \$2.7 billion of direct investments in New York State are expected over the projected life of the portfolio of Main Tier RPS facilities as of December 31, 2012, as measured in jobs, payments to public entities, in-state purchases and land leases.
- For every \$1 spent on the acquisition of RPS Attributes for the portfolio of Main Tier RPS projects under contract with NYSERDA as of December 31, 2012, New York State is expected to capture on average approximately \$3 in direct investments associated with project spending over project lifetime on a Net Present Value basis.³¹
- Overall, for every 1 MWh of renewable energy that is generated under the RPS, approximately \$27 is directly invested in New York State by RPS facilities.

The new renewable generation capacity from contracts awarded under the 10 completed Main Tier competitive solicitations and future solicitations will provide environmental benefits to New York State. The environmental benefits of having electricity generated by the RPS facilities from 2006 through 2015, as opposed to the State's "system-mix," amounts to approximately 6,700 tons of nitrogen oxides; 12,200 tons of sulfur dioxides; and 6.4 million tons of carbon dioxide in reduced emissions over this time period.³²

³⁰ NYSERDA. 2013. "NYSERDA Renewable Portfolio Standard Main Tier 2013 Program Review, Final Report," September 5. <http://www.nysERDA.ny.gov/-/media/Files/EDPPP/Energy-and-Environmental-Markets/RPS/RPS-Documents/2013/2013-RPS-investments-NYS.pdf>

³¹ Net Present Value refers to the difference between the present value of cash inflows and the present value of cash outflows. Net Present Value is used in capital budgeting to analyze the profitability of an investment or project.

³² Emission factors are updated during the process of developing the New York State Energy Plan. Therefore, with the release of the 2014 Draft State Energy Plan emission factors changed in 2013.

2.2 Progress and Results – Customer-Sited Tier

NYSERDA, in consultation with the DPS, issued the 2012-2015 Customer-Sited Tier Operating Plan on June 29, 2012, which sets forth general program specifications, capacity and generation targets, and associated budgets.³³ A separate report³⁴ describes progress against the NY-Sun 3-GW goal.

The 2015 goal established for the Customer-Sited Tier program funding under the 2012 Customer-Sited Tier Operating Plan was estimated at 510.8 MW and 878,089 MWh, respectively as outlined in Table 3.³⁵ An updated Customer-Sited Tier Operating Plan was filed in 2015 that includes the Customer-Sited Tier expected results based on subsequent adjustments and additions to funding allocations.

According to the 2012 Customer-Sited Tier Operating Plan, the numbers illustrate expectations and are not intended as hard targets.³⁶ Actual rates of achievement are expected to vary somewhat from these numbers.

Progress toward program targets, measured in terms of capacity and energy associated with contract commitments and pending contracts as of December 31, 2015 are presented in Table 3. General descriptions and 2015 updates for the Customer-Sited Tier programs are presented in the following sections.

³³ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Renewable Portfolio Standard Customer-Sited Tier Program Operating Plan (2012-2015),” filed June 29, 2012.

³⁴ NYSERDA. 2016. “NY-Sun Annual Performance Report through December 31, 2015.” nyserdera.ny.gov/publications

³⁵ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Renewable Portfolio Standard Customer-Sited Tier Program Operating Plan (2012-2015),” filed June 29, 2012.

³⁶ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Authorizing the Expansion of the Solar Photovoltaic and Geographic Balance Programs from 2012 through 2015 and the Reallocation of Main-Tier Unencumbered Funds,” issued and effective April 24, 2012.

Table 3. RPS-Funded Customer-Sited Tier Actual and Expected Installed Capacity (MW) and Energy Production (MWh) as of December 31, 2015

Actual and Expected Capacity (MW)

		2015 MW Target	Cumulative Capacity Installed	Capacity Under Contract but not yet Installed	Accepted Applications but not yet Contracted	Grand Total
Solar PV - Residential/Small Commercial	Target MW	157.0	0.0	0.0	0.0	157.0
	MW		240.38	90.53	2.25	333.16
Solar PV - Commercial/Industrial	Target MW	0.0	0.0	0.0	0.0	0.0
	MW		1.70	46.79	2.90	51.39
Competitive PV	Target MW	252.7	0.0	0.0	0.0	252.7
	MW		84.97	192.28	5.67	282.91
Fuel Cells	Target MW	8.6	0.0	0.0	0.0	8.6
	MW		3.85	0.32	4.62	8.78
Anaerobic Digester Biogas	Target MW	31.9	0.0	0.0	0.0	31.9
	MW		9.40	2.91	2.57	14.88
On-Site Wind	Target MW	25.5	0.0	0.0		25.5
	MW		4.60	2.34		6.94
Solar Thermal	Target MW	35.1	0.0	0.0	0.0	35.1
	MW		6.68	5.61	3.62	15.91
Grand Total	Target MW	510.8	0.0	0.0	0.0	510.8
	MW		351.57	340.77	21.63	713.97

Actual and Expected Annual Generation (MWh)

		2015 MW Target	In Operation	Under Contract but not yet Installed	Accepted Applications but not yet Contracted	Grand Total
Solar PV - Residential/Small Commercial	Target MWh	184,279	0	0	0	184,279
	Total MWh Progress		282,167	106,270	2,640	391,077
Solar PV - Commercial/Industrial	Target MWh	0	0	0	0	0
	Total MWh Progress		1,995	54,920	3,405	60,320
Competitive PV	Target MWh	300,381	0	0	0	300,381
	Total MWh Progress		87,030	220,414	6,659	314,103
Fuel Cells	Target MWh	66,075	0	0	0	66,075
	Total MWh Progress		30,448	2,521	38,456	71,424
Anaerobic Digester Biogas	Target MWh	225,490	0	0	0	225,490
	Total MWh Progress		73,010	19,125	16,885	109,020
On-Site Wind	Target MWh	61,910	0	0		61,910
	Total MWh Progress		8,048	7,321		15,369
Solar Thermal	Target MWh	39,954	0	0	0	39,954
	Total MWh Progress		7,836	6,585	4,250	18,670
Grand Total	Target MWh	878,089	0	0	0	878,089
	Total MWh Progress		490,534	417,155	72,295	979,984

2.2.1 Progress and Results – Residential/Small Commercial, Commercial/Industrial and Competitive PV Program

The Standard Offer PV Program was initiated in March 2008 to replace the similar System Benefits Charge (SBC)-funded solar electric incentive program, and was designed to provide incentives to encourage the development of a sustainable solar electric market in New York State. The program incentivized both residential systems up to 25 kW and commercial systems up to 200 kW. The program design allowed for adjustments to incentive levels in response to consumer demand and other market factors in a way that avoided program starts and stops and enabled solar electric installation businesses to continue to grow in New York State. The current Program Opportunity Notice (PON 2112) opened on July 1, 2010, and will remain in effect through December 31, 2023, or until funds are expended, whichever occurs first.

Significant changes were approved for the program in 2014. In April 2014, the Public Service Commission issued an Order authorizing funding of the solar electric MW Block programs. The order was in response to NYSERDA's September 2013 petition requesting funding through 2023 to allocate funds to support, implement, and administer the MW Block programs.

In 2014, the Competitive PV Program issued the final competitive solicitation (PON 2956) and transitioned to the MW Block structure for the NY-Sun Commercial/Industrial program for system sizes greater than 200 kW, which launched in May 2015. The MW Block structure builds on and incorporates lessons-learned in the success of the RPS Customer-Sited Tier Competitive PV Program for large-scale projects by providing a long-term commitment and open application process to support a sustained solar electric market in New York State.

A separate report³⁷ discusses NY-Sun's 2015 activities for solar electric programs and tracks progress against the NY-Sun 3-GW goal.

2.2.2 Progress and Results – Fuel Cell Program

The Fuel Cell Program was released in December 2007. Incentives are provided in the form of capacity buy-down and performance-based payments for commercially mature fuel cell modules. During part of this time, experimental fuel cells were supported through the System Benefits Charge programs. Program

³⁷ NYSERDA. 2016. "NY-Sun Annual Performance Report through December 31, 2015." nyserdera.ny.gov/publications

payments are differentiated by the scale and type of application of fuel cell system. There were only three original equipment manufacturers (OEMs) of large fuel cell modules, and their business practices dictate the uptake of large fuel cells in the marketplace. The projects active in NYSERDA's program include systems from Doosan Fuel Cell America, Inc., which purchased Clear Edge Power in 2014, and Bloom Energy.

Eight large fuel cell systems are currently installed at customer sites comprising 3.8 MW of installed capacity and 30,448 MWh of annual electricity production. Twenty-five applications were received and approved by the program in the last quarter of 2015 that comprised 5.9 MW of capacity and 48,944 MWh of annual production. All 25 applications are in the contracting phase.

The Fuel Cell Program also supports small fuel cell systems when installed for continuous duty operation. However, there were no applications for such projects in 2014 or 2015.

2.2.3 Progress and Results – Anaerobic Digester Gas-to-Electricity Program

Anaerobic digestion systems offer a treatment method for organic materials that can produce a continuous supply of biogas energy that can be used for electric power generation systems with relatively high capacity factors. The Anaerobic Digester Gas (ADG)-to-Electricity Program has been offered during 2007 through 2015 through five solicitations. The Program solicitations offered various incentive formulas, but all five versions offered incentives to qualifying projects based on both electric generation capacity and electric generation productions. ADG systems installed at farms treating manure and other agricultural waste products, wastewater treatment plants (WWTPs), and businesses that treat organic wastes.

Over the years the program has been available, 108 applications have been received. A total of 31 projects have been installed, which comprise 9.4 MW of generation capacity. Of these operational systems 25 are based on dairy farms. Counting the applications under review by NYSERDA as of the end of 2015, the CST incentive program has reached about 17% of those large dairy farms in the state with over 750 mature dairy cow equivalents in their herds. The market development approaches of the Clean Energy Fund are being defined to bring the benefits of this technology to more widespread use among New York's dairy farms beyond what has been initiated under the CST Program.

2.2.4 Progress and Results – On-Site Wind Program

The first solicitation of the On-Site Wind Program (PON 1098) was released in April 2007 and ran through June 2010. Funding was provided based on the nameplate rating of the turbine (kW-based funding). Through PON 1098, 56 projects were awarded a total of more than \$1.6 million. All of the projects are currently installed with a total of approximately 0.55 MW in capacity and 487 MWh in annual energy output.

Following stakeholder input, a revised solicitation was issued as PON 2097 at the beginning of October 2010 and closed in December 2011. The major revision was to change the incentive structure from nameplate rating of the wind turbine to computer-model-predicted output (kWh-based funding). Through PON 2097, 65 projects were awarded a total of over \$3.8 million. All of the projects are currently installed with a capacity of approximately 1.86 MW and generate 3,933 MWh per year.

In September 2011, Commission Order³⁸ raised the maximum capacity of on-site wind turbines from 600 kW to 2 MW. NYSERDA engaged with stakeholders to explore how best to support larger turbines relative to the new program cap, while still ensuring that funds would be available to the smaller turbines. As a result, PON 2439, issued in March 2012 with a closing date of February 29, 2016, included a split pool of funding: a dedicated “set-aside” pool for small turbines and a “general” pool for turbines with capacity up to 2 MW. PON 2439 first provided an incentive up to \$400,000 per host site, and then increased it up to \$1 million per host site pursuant to the February 2013 Commission Order.³⁹⁻⁴⁰ Through PON 2439, 154 projects applied, of which 123 projects have been approved for a funding total of more than \$7.8 million. These projects represent approximately 4.5 MW in capacity and 11,000 MWh in annual energy output.

³⁸ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Authorizing Reallocation of Unencumbered Customer- Sited Tier Program Funds Through 2010 and Resolving Other Issues,” issued and effective September 19, 2011.

³⁹ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Authorizing an Increase in the Maximum Project Incentive for the On-Site Wind Program in the Customer-Sited Tier,” issued and effective February 14, 2013.

⁴⁰ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Authorizing Customer-Sited Tier Program through 2015 and Resolving Geographic Balance and Other Issues Pertaining the RPS Program;” issued and effective April 2, 2010.

NYSERDA helped create the Interstate Turbine Advisory Council (ITAC), which was established under the Clean Energy States Alliance in 2011. ITAC has created the Unified List of Wind Turbines, which is used by multiple state incentive programs. For turbines within the size range covered by the Unified List (currently 100 kW and smaller), only those turbines on the list are approved to receive funds from the program. PON 2439 was revised to reference the ITAC Unified List as the listing for program eligibility for turbines within that size range. The program won a prestigious State Leadership in Clean Energy award in 2012 from the Clean Energy States Alliance in recognition of it being an exemplary program.

2.2.5 Progress and Results – Solar Thermal Program

The Solar Thermal Program launched in December 2010. It is an open enrollment program that provides incentives for solar hot water systems that displace electrically heated domestic hot water. The program is available for both residential and nonresidential systems. The program includes a requirement that an electric energy efficiency assessment be conducted as a component of the program. The program incentivizes residential systems up to \$6,000 and nonresidential systems up to \$150,000. Only electrical energy savings associated with solar hot water heating will contribute to program targets.

Funding for the Solar Thermal Program is available under PON 2149, and remains available through February 29, 2016 or until funds are expended, whichever occurs first. Since the program's launch through December 31, 2015, NYSERDA has received 1,312 project applications for all funding sources. In 2015, 197 project applications were approved for RPS funding, representing incentive commitments of \$4,798,587 which exceeds the 2015 program's budget of \$4.3 million, taking advantage of the RPS funding pool.

Figures 4 through 8 summarize the installation progress in the Customer-Sited Tier through December 31, 2015.

Figure 4. RPS-Funded Residential/Small Commercial Solar Electric Installations by County

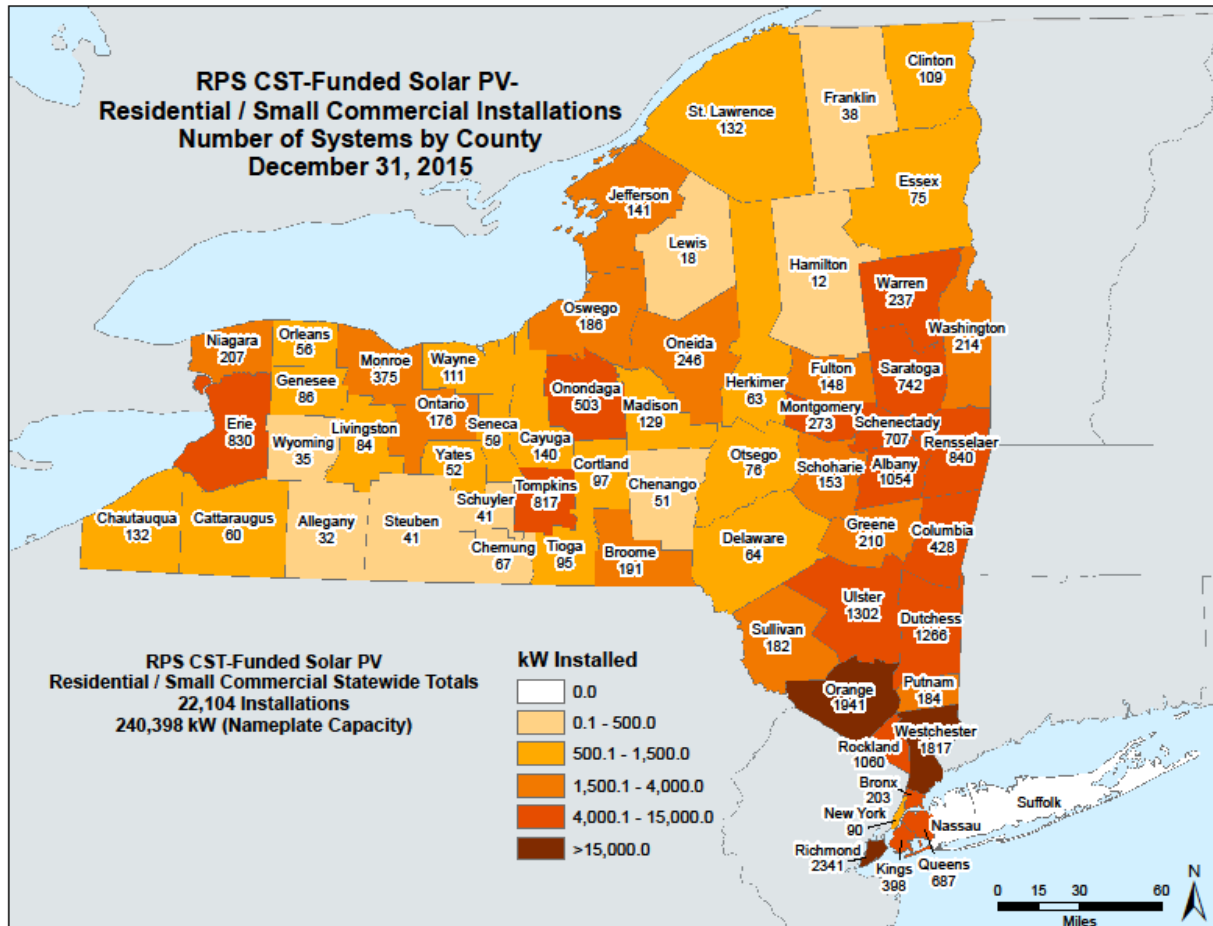


Figure 5. RPS-Funded Competitive Solar Electric and Commercial/Industrial Electric Installations by County

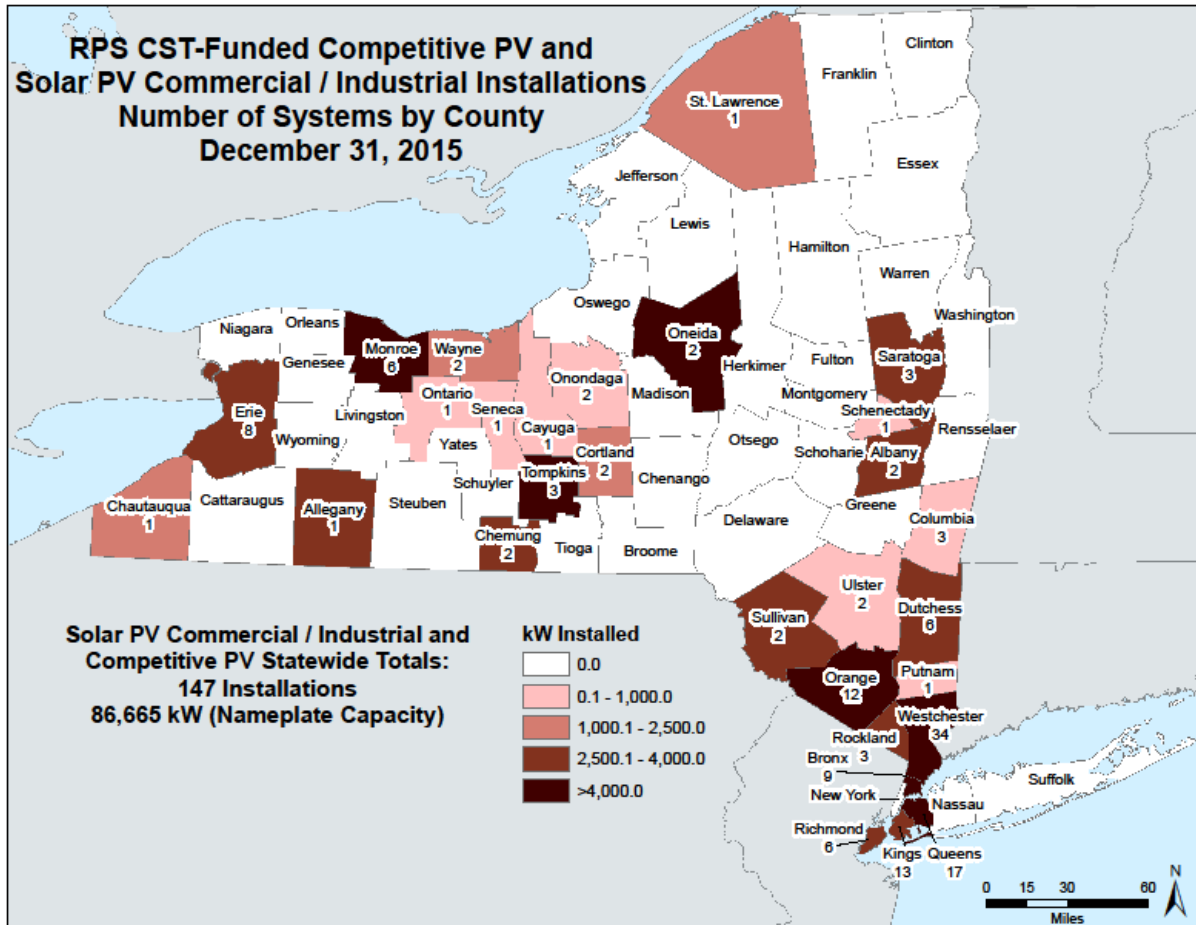
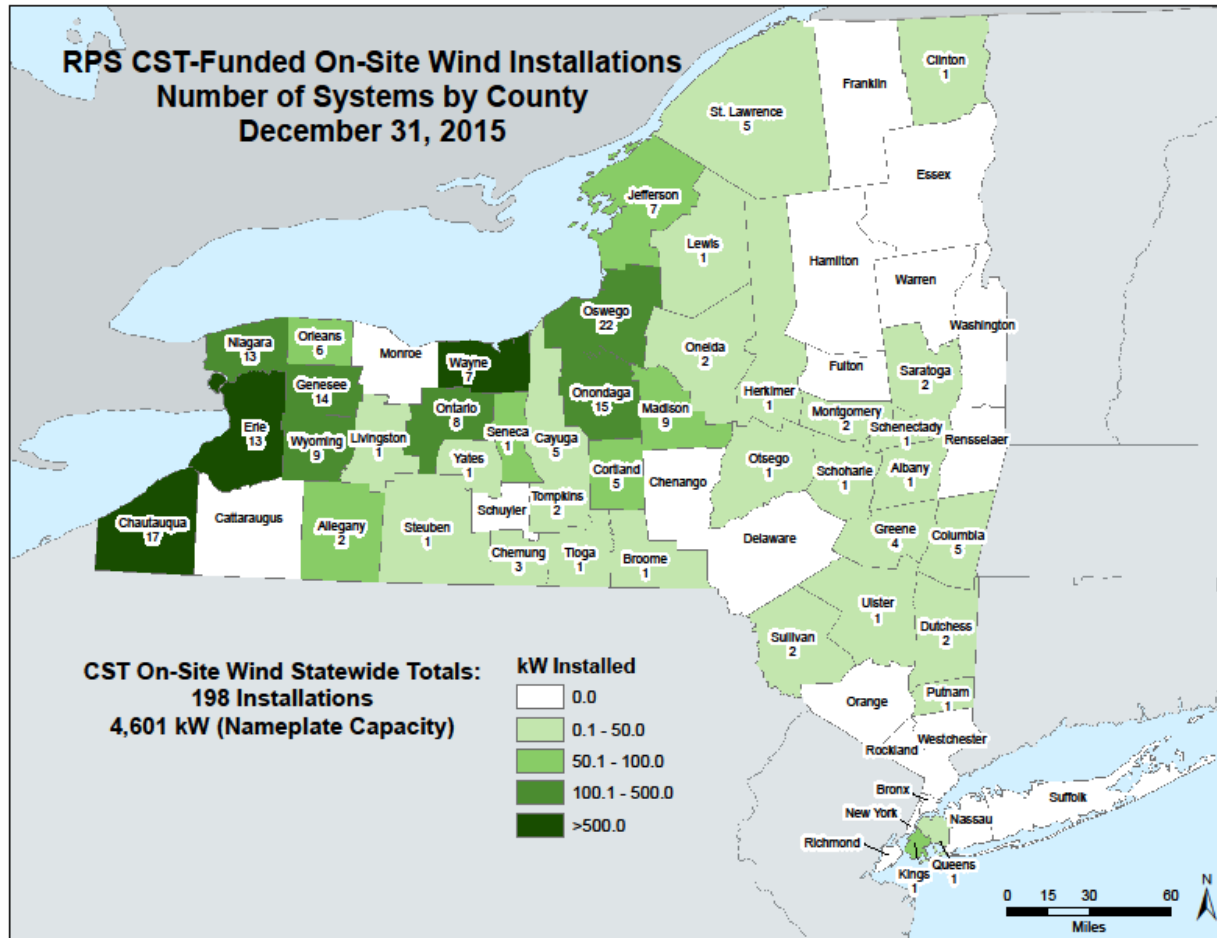


Figure 7. RPS-Funded On-Site Wind Installations by County



3 Program Funding and Budgets

NYSERDA's activities and responsibilities under the RPS are funded through quarterly payments made to NYSERDA by Central Hudson, Con Edison, New York State Electric and Gas, National Grid, Orange and Rockland, and Rochester Gas and Electric. These utilities recoup the payments made to NYSERDA through a System Benefit/RPS Charge on the delivery portion of retail customer utility bills.

A series of Commission Orders and other activities have resulted in budgetary changes within the inception of the RPS program. Appendix A summarizes these intervening orders and activities. Orders associated with a comprehensive program review conducted in 2009 and a series of new orders issued in 2013 are described in this section.

In its April 2, 2010 Order, the Commission specified a total program budget through 2024 for approximately \$2.998 billion.³² This funding was intended for use by NYSERDA for long-term contracts for Main Tier and Maintenance resources, Customer-Sited Tier incentives, NYSERDA administration and program evaluation, Customer-Sited Tier system quality assurance/quality control (QA/QC), and New York State cost recovery fees.

The Commission's April 2010 Order recognized the difficulty in predicting every contingency with respect to establishing a program budget that spans many years. The Order therefore directed NYSERDA to identify the unencumbered funding balance in each Customer-Sited Tier technology category at the end of each calendar year, and in consultation with DPS staff, file a proposal as to whether those unencumbered funding balances should be added to the same technology category budgets, for the present year, or reallocated.

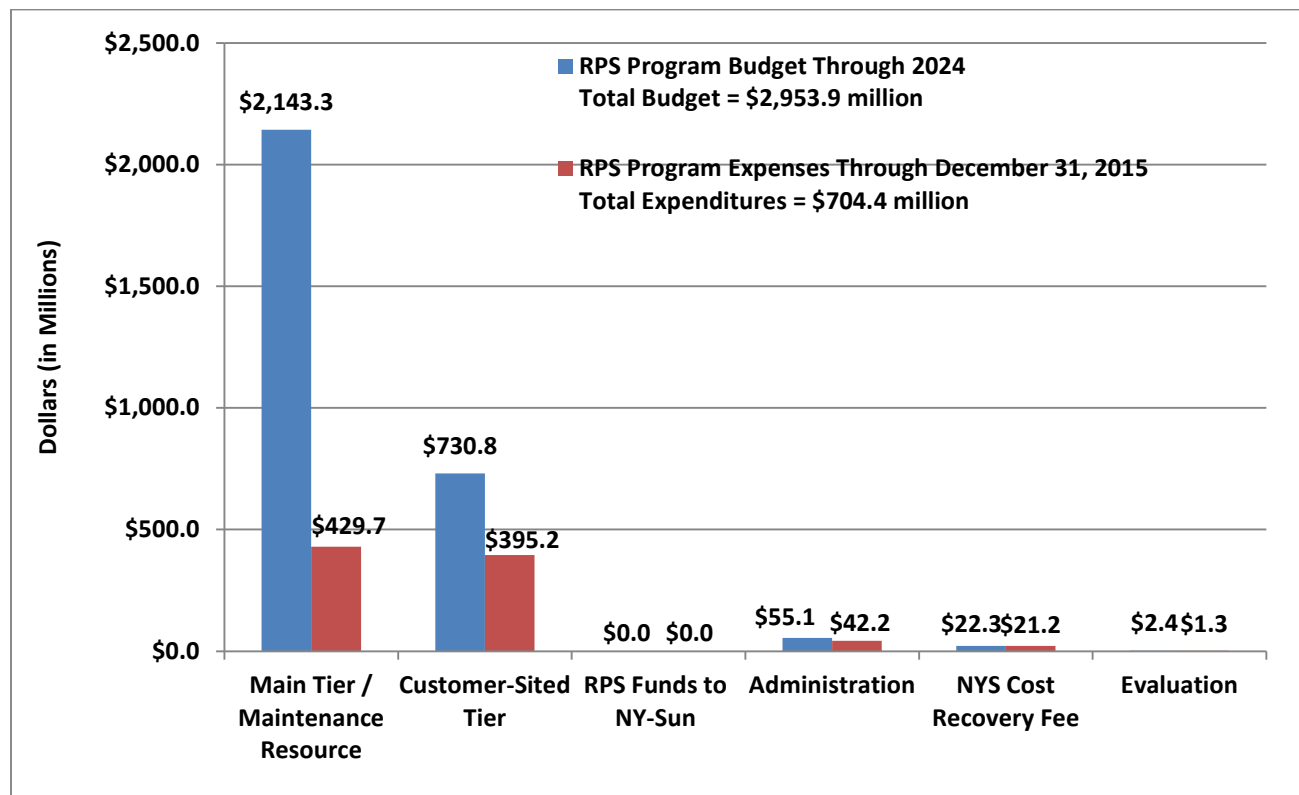
As described in the 2010 Customer-Sited Tier Operating Plan, the budget and associated funding authorized by the Commission for program administration did not specifically account for necessary expenses for QA/QC associated with implementing Customer-Sited Tier programs, inflationary increases, accurate costs assessments under Public Authorities Law Section 2975, nor for marketing and outreach that might be necessary to deliver new or expanded programs. As NYSERDA provided in the Operating Plan, QA/QC expenses are necessary to ensure that the Customer-Sited Tier program supports systems that are safe, reliable, and effective.

In an April 2014 Order, the Commission authorized NYSERDA to reallocate \$960.6 million of unencumbered Main Tier Funds to support the Customer-Sited Tier solar electric through 2023. NYSERDA was also authorized to expend up to \$13 million of the \$864 million of program funds to support participation by low to moderate income customers in the solar electric program.

The Commission authorized NYSERDA to reallocate unencumbered Customer-Sited Tier 2013 program funds to 2014 Program Budgets as follows: \$11.6 million, specifically, to the Anaerobic Digester Gas-to-Electricity Program and \$9.2 million to be placed in a newly created CST General Funding Pool.

The major categories and amounts of funding by each category, based on Commission decisions rendered through the close of 2015 are presented in Figure 9.⁴¹

Figure 9. RPS Program Budget through 2024 and Program Expenses through December 31, 2015



⁴¹ Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, “Order Authorizing Customer-Sited Tier Program through 2015 and Resolving Geographic Balance and Other Issues Pertaining the RPS Program;” issued and effective April 2, 2010.

3.1 Funding Commitments and Expenses

As of December 31, 2015, \$2.060 billion, or roughly 70% of the total approved RPS funding, has been expended, committed, or is pending for achieving NYSERDA's 2015 targets (inclusive of administration and New York State fees). This amount includes \$1.300 billion for program resource acquisition costs in the Main Tier, inclusive of Maintenance resource obligations and \$693 million for the Customer-Sited Tier. Appendix E presents the program's detailed budgets, expenditures, and funding commitments from contracts and/or pending contracts and applications through December 31, 2015. NYSERDA's actual expenses through December 31, 2015, have totaled \$888.9 million, or approximately 62% of the total RPS budget. The large majority of these expenses, \$824.8 million have resulted from payments for Main Tier and Maintenance resource contracts as well as Customer-Sited Tier incentives. Figure 9 illustrates NYSERDA's major expenses through December 31, 2015.

Table 4 shows the Customer-Sited Tier Funding Budget by program through 2015 as of December 31, 2015. Budgets for the Standard Offer and Competitive PV programs are subject to change and will be updated in the Customer-Sited Tier Operating Plan to be submitted to DPS in 2015. Budgets provided in Table 4 are for program costs only. Costs for program administration and evaluation were provided for separately in the April 24, 2012 Order.⁴²

These budgets are through 2015 as established originally in the 2012 Customer-Sited Tier Operating Plan and adjusted to reflect subsequent reallocations made in 2013 and 2014 resulting from Commission orders.

⁴² Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Authorizing the Expansion of the Solar Photovoltaic and Geographic Balance Programs from 2012 through 2015 and the Reallocation of Main-Tier Unencumbered Funds," issued and effective April 24, 2012.

Table 4. RPS-Funded Customer-Sited Tier Funding Budget through 2015 by Program⁴³

Customer-Sited Tier Program	Total (Millions of Dollars)
Standard Offer PV (Residential/Small Commercial)	\$ 388.0
Competitive PV	\$ 213.7
Fuel Cell	\$ 34.6
Anaerobic Digester Biogas	\$ 41.8
On-site Wind	\$ 13.4
Solar Thermal	\$ 18.5
General Pool	\$ 20.8
Total	\$ 730.8



Photo courtesy of Solar Schuyler

⁴³ Unlike the other programs described in the Table, the Competitive PV program incentives and implementation service budget are not restricted to supporting one technology.

Appendix A: Orders and Activities

Orders and Activities	Date	Description
Commission Order Instituting Proceeding with Renewable Portfolio Standard	February 2003	This order was instituted under the guidance of the Office of Hearings and Alternative Dispute Resolution to facilitate the formulation of a policy statement on retail Renewable Portfolio Standards in New York State.
Commission Order Concerning Draft Generic Environmental Impact Statement for RPS	April 2004	The Commission provided a Notice of Completion of Draft Generic Environmental Impact Statement.
Commission Order Adopting and Approving Issuance of Final Generic Environmental Impact Statement for RPS	August 2004	The Commission adopted and approved issuance of the Final Generic Environmental Impact Statement for the proposed action of adoption and implementation of a Renewable Portfolio Standard policy.
Commission Order Regarding Renewable Portfolio Standard	September 2004	The Commission approved the Renewable Portfolio Standard policy. The order identified the Commission's renewable energy policy and provided definitions and targets for carrying out the policy. The Commission also directed that an Implementation Plan be developed and approved to guide the program through 2013.
Commission Order Regarding Petitions for Clarification and Reconsideration	December 2004	The Commission granted a petition for clarification filed by the New York State Energy Research and Development Authority. The petitions for clarification and/or reconsideration filed by the Small Hydro Group and Ridgewood Renewable Power, LLC were denied.
Commission Order Authorizing Fast Track Certification and Procurement	December 2004	The Commission authorized NYSERDA to develop facility self-certification procedures and forms for use in the initial Renewable Portfolio Standard procurement solicitation. NYSERDA was authorized to use a Request For Proposal procurement method containing security guarantees, milestones, contract duration, and a constant fixed price per megawatt hour factor in the initial RPS procurement solicitation according to a schedule and in a manner designed to allow it to award and execute contracts at a reasonable cost no later than the end of January 2005. This action was taken on an emergency basis pursuant to Section 202(6) of the State Administrative Procedure Act.
Retail Renewable Portfolio Standard, Confirming December 2004 Order	December 2004 January 2005	The Commission extended and confirmed the deadline for completion of revisions to billing systems and bill formats.
Commission Order Adopting Emergency Rule as Permanent Rule for RPS	March 2005	The Commission approved the Main Tier Fast-Track Certification and Procurement on an emergency basis, pursuant to SAPA §202(6), finding that such approval of facility certification and procurement solicitation methods would allow the RPS program to take advantage of the extension of the Production Tax Credit.
Commission Order Approving Implementation Plan, Adopting Clarifications, and Modifying Environmental Disclosure Program	April 2005	The Commission approved the Implementation Plan which identified the procedures for determining eligibility, establishing future procurements, and monitoring the program. The order also identified other actions that were needed for the program in the future.

Orders and Activities	Date	Description
Commission Order Approving Request for RPS Program Funding as a Maintenance Resource	August 2005	This order approved Lyonsdale Biomass, LLC for RPS program funding as a maintenanceresource.
Renewable Portfolio Standard and Lyonsdale Biomass, LLC, Order Granting Petition for Clarification	October 2005	The Commission found that the April 2005 order provided a maintenance resource with the opportunity to bid a plant's entire output into Main Tier procurements; the August 2005 Order treated Lyonsdale in a consistent fashion.
Commission Order Approving Request for Inclusion of Methane Digester Systems as Eligible Technologies in the Customer-Sited Tier	November 2005	The Commission added methane digestion systems as an eligible Customer-Sited Tier resource.
Commission Order Authorizing Additional Main Tier Solicitations and Directing Program	January 2006	The Commission approved the continuation of several contractual provisions: the pricing approach would pay fixed payments per MWh, the contract would require winning proposers to post security in the form of cash or a letter of credit, and NYSERDA would offer contract durations of a maximum term of 10 years and a minimum term of three years. The Commission requested that NYSERDA and Staff consider the development and implementation of an attribute accounting system, including its implications for the administration of the current environmental disclosure program, and to report back on their findings.
Commission Order Approving Request for RPS Program Funding as a Maintenance Resource	February 2006	The Commission authorized NYSERDA to enter into a maintenance resource contract with Boralex for the Chateaugay biomass facility.
NYSERDA issues Biomass Power Guide	May 2006	The Biomass Power Guide is revised to reflect Commission authorization to allow the use of non-source separated biomass fuels and incorporate new safeguards for fuel quality.
Commission Order on Customer-Sited Tier Implementation	June 2006	The Commission authorized the creation of a plan for solicitation of Customer-Sited Tier resources.
Commission Order on Delivery Requirements for Imports from Intermittent Generators	June 2006	The Commission replaced the Main Tier RPS program's current monthly matching delivery requirement with an hourly matching delivery requirement.
Commission Order Recognizing Environmental Attributes and Allowing Participation of Projects with Physical Bilateral Contracts	June 2006	The Commission modified the RPS program to recognize the unbundling of attributes from energy, to allow projects with physical bilateral contracts to participate in the program, and to eliminate the requirement that participating generators must sell into the wholesale markets administered by the New York State Independent System Operator. The Commission authorized DPS Staff to work with NYSERDA to develop a certificate-based tracking system, as well as to develop recommendations for modifying the environmental disclosure program in advance of the 2009 review.

Orders and Activities	Date	Description
Commission Order Authorizing Solicitation Methods and Consideration of Bid Evaluation Criteria and Denying Request for Clarification	October 2006	The Commission provided authorization and guidance to NYSERDA and Staff for the issuance of solicitations for Main Tier RPS attributes, and allowed use of evaluation criteria to ensure that economic benefits to New York are given appropriate value. The Commission authorized two proposal scoring categories: the “bid price” category was to be weighted at 70%, while the “economic benefits to New York” category would receive a 30% weight.
NYSERDA Files Renewable Portfolio Standard Customer-Sited Tier Program Operating Plan (2007)	February 2007	NYSERDA, in consultation with the DPS, issued the 2007 CST Operating Plan, which set forth general program specifications, capacity and generation targets, and associated budgets.
Commission Order Concerning Modification of Funding for the Customer-Sited Tier	October 2008	The Commission authorized the reallocation of and increased funding for specific programs of the Customer-Sited Tier in response to changing market needs for specific eligible renewable energy technologies.
Commission Order Concerning Further Modification of Funding for the Customer-Sited Tier	June 2009	The Commission adopted changes to the RPS by reallocating and increasing funding for the solar photovoltaic program of the Customer-Sited Tier.
Commission Order Authorizing an Additional Main Tier Solicitation and Setting Solicitation Guidelines	August 2009	The Commission authorized an additional Main Tier solicitation to enable generation facility developers to leverage funds temporarily available in federal grants under the American Recovery and Reinvestment Act of 2009. The order also specified that the ten-year contracts with fuel-based renewable energy generators shall have an escape clause actionable every two and one-half years so that the generator may drop out of the program if it is unable to secure a continuous fuel supply at a price that supports its contract with NYSERDA.
Commission 2009 Mid-Course Report	September 2009	This report provided a review of the current status of the program, including a review of the NYSERDA Evaluation Report, and presented the Staff’s proposals for the RPS Program going forward.
Commission Order Establishing New RPS Goal and Resolving Main Tier Issues	January 2010	This order adopted a goal of 30% renewable energy by 2015 and set MWh program targets. It also authorized an additional Main Tier solicitation, consistent with the results of a previous solicitation and the megawatt-hour trajectory needed to meet the revised goal. The order also specified 2013 Program Review Requirements.
Commission Order Addressing the Scope and Cost of Administration of the RPS program, and the Collection of Costs from Utility Customers	April 2010	The order modified collections for 2010-2013 to meet the expectations of the revised RPS program following the program review. The Commission authorized a schedule of collections estimated to be sufficient to support current Main Tier contract and maintenance contract costs through 2024, future Main Tier contract costs, current and future Customer-Sited Tier costs including the Geographic Balance component, costs of administration and program evaluation by NYSERDA for the Main Tier and Customer-Sited Tier, and the payment by NYSERDA of the New York State Cost Recovery Fee.

Orders and Activities	Date	Description
Commission Order Clarifying NYSERDA Main Tier RPS Target and Resolving Main Tier Eligibility Issues	April 2010	This order addressed a number of issues regarding the Main Tier arising out of the 2009 review. It dictated which technologies were eligible, reserved the right to revise the vintage date, clarified that projects can only be under contract for a total of 10 years, and denied some suggestions that arose as part of the program review, such as a proposal to include waste-to-energy.
NYSERDA Files Renewable Portfolio Standard Customer-Sited Tier Program Operating Plan (2010)	June 2010	NYSERDA, in consultation with the DPS, issued the 2010 CST Operating Plan, which set forth general program specifications, capacity and generation targets, and associated budgets.
Commission Order Regarding Acceptance of Permanent Tariff Levels for RPS Collections	October 2010	In response to the April 2010 order authorizing the CST through 2015 and resolving other RPS issues, the Commission directed the Utilities to file tariff amendments and/or statements incorporating the revisions and increasing collections of RPS costs described in the April 2010 Order, to become effective on a temporary basis on July 1, 2010. This order allows the tariff amendments to become effective on a permanent basis.
Commission Order Allowing Main Tier "Behind The Meter" Contracts and Wholesale Delivery to Utility/Municipal Utility/Public Authority Entities, Applicable to Future Solicitations Only	November 2010	The Commission modified the Main Tier eligibility rules to allow certain "behind-the-meter" bilateral energy contracts or installations to qualify for RPS incentives, and to allow the energy in previously allowed bilateral contracts to be delivered through a wholesale meter under the control of a utility, public authority or municipal electric company such that it can be measured, and such that consumption within New York State can be tracked and verified by one of those entities or by the NYISO.
Commission Order Authorizing Additional Main Tier Solicitation and Setting Future Guidelines for NYSERDA to conduct Solicitations at least annually	December 2010	The Commission authorized an additional Main Tier solicitation and provided guidance in issuing future Main Tier solicitations including the authorization that NYSERDA could conduct future solicitations, without Commission approval, for RPS Main Tier resources, after consultation with Staff and approval by the OEEE Director prior to each solicitation. Future contract awards were directed to be for a 10-year term. The contracts with fuel-based renewable energy generators were directed to have an escape clause actionable every two and one-half years so that the generator is able to drop out of the program if unable to secure a continuous fuel supply at a price that supports its contract with NYSERDA.
NYSERDA issues Revised Biomass Power Guide	May 2011	The Biomass Power Guide is revised to reflect Commission authorization to allow the use of non-source separated biomass fuels and incorporate new safeguards for fuel quality.
Commission Order Declining to Make Elevator Regenerative Drives an Eligible Technology in the Customer-Sited Tier	August 2011	The Commission declined to consider regenerative elevator drive technology as an eligible technology in the Customer-Sited Tier.
Commission Order Authorizing Reallocation of Unencumbered Customer-Sited Tier Program Funds Through 2010 and Resolving Other Issues	September 2011	The Commission authorized NYSERDA to (a) reallocate unencumbered 2010 Customer-Sited Tier program; (b) allow the monthly cap on incentive payments in the Solar Photovoltaic category to exceed \$2 million; (c) modify the equipment size cap for the on-site wind category; and (d) use accumulated unencumbered interest earnings and unencumbered administration funds to pay any New York State Cost Recovery Fee amount that exceeds the amount previously budgeted for such fee.

Orders and Activities	Date	Description
Commission Order Authorizing Reallocation of Unencumbered 2011 Customer-Sited Tier Program Funds and Resolving Other Issues	April 2012	The Commission authorized NYSERDA to reallocate unencumbered Renewable Portfolio Standard Customer- Sited Tier 2011 program funds to enhance program funding in 2012 for the Solar Photovoltaic and Small Wind program categories; and furthermore, implement revisions to the manner in which caps on funding and equipment size were implemented for Solar Photovoltaic incentives.
Commission Order Approving Request for Modification of Funding as a Maintenance Resource	April 2012	The Commission authorized NYSERDA to modify the Maintenance Resource Contract Agreement between NYSERDA and ReEnergy (as successor to Boralex New York LP) to reflect a decision to offer an incremental RPS production incentive of \$11.00 per MWh produced at its Chateaugay facility and begin making payments subject to the modifications for the electricity produced on or after April 1, 2012.
Commission Order Authorizing the Expansion of the Solar Photovoltaic and Geographic Balance Program From 2012 Through 2015 and the Reallocation of Main-Tier Unencumbered Funds	April 2012	The Commission authorized a four-year expansion of the Solar Photovoltaic and Geographic Balance Programs from 2012 through 2015. The Commission established that the sources of additional funding for this authorized expansion would be determined within the context of the 2013 overall RPS program review. NYSERDA also was instructed to develop a revised Customer-Sited Tier Operating Plan which would define the budgets and programs to be implemented through 2015.
NYSERDA Files Renewable Portfolio Standard Customer-Sited Tier Program Operating Plan (2012-2015)	June 2012	NYSERDA, in consultation with the DPS, issued the 2012-2015 Customer-Site Tier Operating Plan, which set forth general program specifications, capacity and generation targets, and associated budgets.
Commission Order Denying Request for Restructuring of a Contract	August 2012	The Commission denied a request to restructure the price terms of Niagara Generation, LLC's April 17, 2007 Renewable Portfolio Standard Main Tier contract.
Commission Order Denying Request to Make Glued Wood Eligible for Burning as an up to 10% Portion of Biomass Fuel	August 2012	The Commission denied the petition of Niagara Generation, LLC for authorization to receive incentive payments for production derived from the burning of glued woods.
Commission Order Authorizing the Increase of Maximum Project Incentive for the Anaerobic Digester Gas-to-Electricity Program	January 2013	The Commission authorized NYSERDA to increase the maximum incentive available under the Anaerobic Digester Gas-to-Electricity Program in the Customer-Sited Tier from \$1 million up to \$2 million per installation.
Commission Order Authorizing an Increase in the Maximum Project Incentive for the On-Site Wind Program in the Customer-Sited Tier	February 2013	The Commission authorized NYSERDA to modify the on-site wind program in the Customer-Sited Tier to increase in the funding cap applicable to the on-site wind program and instructed NYSERDA to work with DPS Staff to implement a new megawatt block structure for the existing program.
Commission Order Authorizing Reallocation of Unencumbered 2012 Customer-Sited Tier Program Funds	May 2013	The Commission authorized NYSERDA to reallocate unencumbered RPS CST 2012 Program funds to 2013 budgets for the solar electric, anaerobic digester gas to electricity, fuel cell, and on-site wind programs.
Commission Order Modifying Renewable Portfolio Standard Program Eligibility Requirements	May 2013	The Commission authorized NYSERDA to limit its solicitation and procurement of RPS attributes from Main Tier renewable energy projects to those located within New York State, including offshore generating facilities directly interconnected to New York State's electrical grid.

Orders and Activities	Date	Description
Commission Order Authorizing Transfer of Solar Photovoltaic Funding in the Customer- Sited Tier among New York Independent System Operation Load Zone Groups	June 2013	The Commission authorized NYSERDA to modify the Customer-Sited Tier Competitive PV program to help meet the goals of the NY-Sun initiative.
Commission Order Approving Request for Funding as a Maintenance Resource	June 2013	The Commission authorized NYSERDA to enter into a 10-year maintenance resource contract with Azure Mountain Power Company at an incentive rate of \$20.00/MWh delivered, for a term of 10 years.
Commission Order Authorizing Modifications of the Solar Photovoltaic Program in the Customer-Sited Tier	July 2013	The Commission authorized NYSERDA to make additional modifications to the Customer-Sited Tier solar electric programs to help meet the goals of the NY-Sun initiative.
Renewable Portfolio Standard Main Tier 2013 Program Review, Final Report	September 2013	In support of the Main Tier 2013 evaluation, NYSERDA filed reports on September 5, 2013, which included a summary and three separate volumes. The reports included an evaluation of the benefits and costs associated with the portfolio of currently contracted Main Tier resources as of December 31, 2012, and also presented an assessment of the prospects for meeting Main Tier targets using available uncommitted funds.
Customer-Sited Tier Program Market Evaluation, Program Expectations and Funding Considerations, NYSERDA Renewable Portfolio Standard Customer-Sited Tier Impact Evaluation Report	September 2013	For the Customer-Sited Tier 2013 evaluation, NYSERDA filed on September 6, 2013 a market evaluation, program expectations and funding considerations report as well as a report that evaluated impact.
Commission Order Authorizing the Redesign of the Solar Electric Programs and the Reallocation of Main Tier Unencumbered Funds	December 2013	The Commission authorized NYSERDA to reallocate \$108 million of unencumbered Main Tier funds to support the Customer-Sited Tier solar PV programs through 2015. The Commission also expressed support for NYSERDA's proposal to redesign and transition the solar PV programs to a megawatt block structure with declining incentives with the goal of reducing and ultimately eliminating RPS incentives for PV systems. The Commission encouraged NYSERDA to work with the Long Island Power Authority and the New York Power Authority to identify the potential merits of a statewide approach to the solar programs and define how those benefits might be captured in the design and administration of such a revised program.
Order Establishing New York Green Bank and Providing Initial Capitalization (Case 13-M-0412)	December 2013	The Commission granted NYSERDA's proposal to establish and fund the operations of a new clean energy financing entity called NY Green Bank. Through its Petition, NYSERDA requested that the Commission reallocate \$165.6 million in uncommitted NYSERDA Energy Efficiency Portfolio Standard (EEPS) I and System Benefits Charge (SBC) III funds, uncommitted utility EEPS funds, and \$50 million in NYSERDA Main Tier RPS funds for this purpose.

Orders and Activities	Date	Description
Commission Order Granting in Part and Denying in Part a Petition for Rehearing	December 2013	The Commission granted Hydro Quebec’s petition for rehearing of the Commission order “Modifying Renewable Portfolio Standard Program Eligibility Requirements”, in part, for the limited purpose of considering additional information and arguments presented regarding the role of the RPS Main Tier in the market for energy generation attributes. The Commission otherwise denied Hydro Quebec’s petition for rehearing and affirmed the determination of its May 2013 Order.
Commission Order Authorizing Funding and Implementation of the Solar Electric MW Block Programs	April 2014	The Commission authorized NYSERDA to reallocate \$960.6 million of unencumbered Main Tier funds to support the Customer-Sited Tier solar electric programs through 2023 and approved the design criteria for the MW Block approach to administer the solar electric programs. The Commission required NYSERDA, in consultation with DPS, to develop a Customer-Sited Tier Operating Plan as a compliance filing, which sets forth general program specifications, The Commission authorized NYSERDA to expend up to \$13 million of \$864 million of program funds to support participation by low to moderate income (LMI) customers in the solar electric programs, capacity and generation targets, and associated budgets for the MW Block program through 2023.
Commission Order on Proceeding with Motion to develop a New York State Clean Energy Fund and Reforming the Energy Vision.	May 2014	The Commission authorized NYSERDA to develop and submit to the Commission considerations proposal for a comprehensive Clean Energy Fund.
Commission Order Authorizing the Reallocation of Unencumbered 2013 Customer-Sited Tier Program Funds and the creation of a General Funding Pool	July 2014	The Commission authorized NYSERDA to reallocate unencumbered in Renewable Portfolio Standard Customer-Sited Tier 2013 program funds to 2014 budgets as follows: \$11,600,000 specifically to the Anaerobic Digester Gas-to-Electricity Program (ADG Program) and \$9,225,594 to be placed in a newly-created Customer-Sited Tier General Funding Pool.
Commission Order Authorizing Modifications to the Main Tier Solicitation Contract Term	July 2014	The Commission authorized NYSERDA to increase the maximum length of Renewable Portfolio Standard Main Tier contracts to a term not to exceed 20 years with the flexibility to set maximum contract terms of less than 20 years for select types of technologies and facilities. NYSERDA was directed to issue one Main Tier solicitation in 2014 and at least one in 2015, with the ability to issue additional solicitations if it determines that market conditions are appropriate.
Commission Order Authorizing Funding and Implementation of the Solar Electric MW Block Program	August 2014	Order Authorizing Funding and Implementation of the Solar Photovoltaic MW Block Programs (issued April 24, 2014). In addition, the Commission offered clarification to the April 2014 Order as requested by PosiGen pertaining to the allocation of 1.5% of program funds not to exceed \$13 million, to increase LMI customer participation in and to leverage RPS funds already collected to help provide greater access to solar for the LMI market, however, the Order does not authorize NYSERDA to allocate additional money beyond the \$13 million, furthermore, NYSERDA has the flexibility to submit a supplemental petition requesting additional funding in the future, proceeding to be continued.

Orders and Activities	Date	Description
NYSERDA Files RPS CST Operating Plan Addendum (2014-2023) for the Megawatt Block Program	August 2014	NYSERDA, in consultation with DPS, issued an Addendum to the CST Operating Plan for 2014 through 2023, which sets forth general program specifications, capacity and generation targets, and associated budgets for the Megawatt Block Program, and represents a transition of the Solar Photovoltaic Program currently administered by NYSERDA under the Renewable Portfolio Standard Customer Sited Tier.
Order Approving the Request for Funding as a Maintenance Resource	August 2014	The Commission authorized NYSERDA to enter into a maintenance resource contract with Battenkill Hydro Associates at an incentive rate of \$2.80/MWh delivered, for a term of 3 years.
NYSERDA Files Clean Energy Fund Proposal	September 2014	The Clean Energy Fund was established under Case 14-M-0094, Proceeding on Motion of the Commission to Consider a Clean Energy Fund. Pursuant to the Order Commencing Proceeding issued on May 8, 2014 by the Commission, NYSERDA filed the Clean Energy Fund Proposal seeking a 10-year program from 2016 through 2025 that will work in coordination with other State efforts to advance cleaner, more resilient, and more affordable energy infrastructure.
Resolution Accepting Draft Generic Environmental Impact Statement as Complete	October 2014	The Commission provided a Notice of Completion of Draft Generic Environmental Impact Statement which analyzed potential environmental impacts associated with Reforming the Energy Vision and establishing a Clean Energy Fund. After reviewing and considering the draft generic EIS, the Commission concluded that it was acceptable and complete and directed the Secretary to issue it for public comment.
Order Approving the Request for Funding as a Maintenance Resource	November 2014	The Commission authorized NYSERDA to enter into a maintenance resource contract with ReEnergy Lyonsdale at an incentive rate of \$33.49/MWh delivered, for a term of three years.
Order Denying Petition Regarding Voluntary Opt-in Mechanism	January 2015	The Commission denied a petition requesting the Commission to create a Voluntary "SBC/RPS Opt-in" mechanism for all NYPA municipal Customers from the SBC and RPS surcharge, as they are not eligible to participate in programs funded with this surcharges. The redesign of the program is inequitable, by forcing utility customers who cannot opt-out of the surcharges to subsidize the subset of NYPA customers that believe they would benefit from opting into participation in the programs.
Order Denying Petition to Restructure an Existing RPS Contract	May 2015	The Commission denied a petition requesting the restructure of an existing RPS Contract with Sterling Energy Group, Inc., and its subsidiary, Niagara Generation LLC, to establish a new program to provide for supplemental benefits for biomass facilities, similar to the Main Tier Program.
Order Approving the Request for Funding ReEnergy Chateaugay Maintenance Resource Contract	July 2015	The Commission authorized NYSERDA to enter into a four year and seven-month Maintenance Resource Contract Agreement for an incentive payment of \$33.49/MWh up to 128,000 MWh of energy generated annually at its 21 MW biomass-fired facility, dependent on the following conditions: Upon the facility's return to commercial operation, but no later than July 1, 2016, and upon demonstration by ReEnergy that it has executed a long term power purchase agreement (PPA) or some other long term arrangement with an independent third party which will keep the plant in operation beyond the term of its Main Tier Contract.

Orders and Activities	Date	Description
Order Granting Extending Renewable Portfolio Standards (RPS) Customer-Sited Tier (CST)	December 2015	The Commission authorized NYSERDA to continue to implement the Renewable Portfolio Standard (RPS) Customer-Sited Tier (CST) programs by granting a two-month extension, to February 29, 2016, while the commission completes its review of the Clean Energy Fund (CEF) proposal.

Appendix B: Main Tier Solicitation Results through December 31, 2015

B.1 First Main Tier Solicitation

NYSERDA's first competitive Main Tier solicitation (RFP 916) awards were announced in January 2005 with an expected facility online date of January 1, 2006. The solicitation was issued as a sealed bid, pay-as-bid Request for Proposal (RFP). In this solicitation, bidders were awarded contracts based on the price bid for RPS Attributes alone. No other factors were taken into account to determine selection and the ultimate award of a contract. The first Main Tier solicitation resulted in contracts for the development of 254 MW of renewable capacity at five facilities (two wind and three hydroelectric upgrades), from which NYSERDA would provide production incentives for 865,582 MWh per year. At the timing of the award, the total funding commitment associated with this solicitation was approximately \$173.6 million, and the weighted average production incentive awarded was \$22.90 per RPS Attribute (MWh).

B.2 Second Main Tier Solicitation

The second competitive Main Tier solicitation (RFP 1037) awards were announced in February 2007 with an expected facility online date of January 1, 2008. Unlike the first Main Tier solicitation, awards were based on two evaluation components the bid price, weighted at 70%; and the ability of the bidder to demonstrate economic benefits to New York State created by the development, construction and operation of the bid facility, weighted at 30%. The solicitation was designed as a two-step process, consisting of an application step that prequalified bidders and a competitive bid proposal submission step. Only those bidders found prequalified through the Step 1 application process, were permitted to submit bid proposals in Step 2.

The second solicitation resulted in NYSERDA awarding contracts to provide production incentives to 20 new or upgraded facilities, all located in New York State. One facility, Noble Chateaugay Wind Park, was split into two contracts at the request of the contractor for reasons related to physical substation configurations and interconnection, creating two wind parks: Noble Bellmont Wind Park and Noble Chateaugay Wind Park. The Noble Bellmont Wind Park was only partially constructed and its contract was terminated in 2011.

Under the awarded contracts, 671 MW of new renewable capacity were selected, from which NYSERDA could provide production incentives for approximately 1.8 million MWh per year. At the time of the award, the total funding commitment associated with this solicitation was approximately \$266.3 million, and the weighted average price awarded was \$15.52 per RPS Attribute (MWh).

B.3 Third Main Tier Solicitation

The third competitive Main Tier solicitation (RFP 1168) was completed in early 2008 with facilities expected to be operational by January 1, 2009. Awards were announced in January 2008. The solicitation followed the same two-step bid evaluation process used for the previous solicitation.

The third solicitation resulted in the award of contracts for 11 new or upgraded facilities, representing approximately 824,550 MWh per year. At the time of award, the total funding commitment associated with this solicitation was approximately \$118.6 million, and the weighted average price awarded was \$14.75 per RPS Attribute (MWh).

B.4 Fourth Main Tier Solicitation

The fourth competitive Main Tier Solicitation (RFP 1681) awards were announced in December 2009 with the facilities expected to be operational by July 1, 2011 for non-fuel based facilities, and July 1, 2012 for fuel-based facilities. This solicitation was issued in response to an August 2009 PSC Order.

The fourth solicitation resulted in the award of contracts to five new or upgraded facilities. Under those contracts, contractors were obligated to build 142 MW of renewable capacity, from which NYSERDA could provide production incentives for 578,656 MWh per year. At the time of award, the total funding commitment associated with this solicitation was approximately \$96 million, and the weighted average price awarded was \$19.76 per RPS Attribute (MWh).

B.5 Fifth Main Tier Solicitation

The fifth competitive Main Tier Solicitation (RFP 1851) awards were made in March 2010, with facilities expected to be operational by December 31, 2011. This solicitation was issued in response to a January 2010 PSC Order.

The fifth solicitation resulted in the award of contracts to provide production incentives to eight new or upgraded facilities. Under these contracts, contractors were obligated to build 318 MW of renewable capacity, from which NYSERDA could provide production incentives for approximately 1.1 million MWh per year. The total funding commitment associated with this solicitation was approximately \$204 million, and the weighted average price awarded was \$21.17 per RPS Attribute (MWh).

Following the announcement of the awards for RFP 1851, one bidder's award was rescinded and contract awards were made to the next highest ranked bidders that could be funded with the approved solicitation budget. These awards included two hydroelectric facilities and one wind farm. In addition, an agreement awarded as a result of this solicitation for the Marble River Wind Farm was combined with an agreement awarded under a subsequent solicitation to reflect an increase in the size of the facility. The combined capacity under contract for this facility is reflected in Appendix B under the Sixth Main Tier Solicitation but the committed funding remains separated in the respective solicitation balances shown in Appendix D.

B.6 Sixth Main Tier Solicitation

The sixth competitive Main Tier Solicitation (RFP 2226) awards were made in April 2011, with facilities expected to be operational by July 31, 2012. This solicitation was issued by NYSERDA per the December 2010 Order by which PSC authorized NYSERDA to conduct Main Tier competitive solicitations at least annually, and with DPS concurrence, as frequently as deemed necessary and advisable in pursuit of program targets without further or individual authorizations by PSC.

The sixth solicitation resulted in the award of contracts to provide production incentives to 17 new or upgraded facilities. Under those contracts, contractors are obligated to build 315 MW of renewable capacity, from which NYSERDA could provide production incentives for more than 1.1 million MWh per year. At the time of award, the total funding commitment associated with this solicitation was approximately \$191 million, and the weighted average price awarded was \$22.01 per RPS Attribute (MWh).

B.8 Seventh Main Tier Solicitation

The seventh competitive Main Tier Solicitation (RFP 2389) awards were made in December 2011, with facilities expected to operational by December 31, 2012. This solicitation was issued by NYSERDA per the December 2010 Order in which PSC authorized NYSERDA to conduct Main Tier competitive solicitations at least annually, and with the concurrence of the Department of Public Service, as frequently as is deemed necessary and advisable in pursuit of program targets without further or individual authorizations by PSC.

The seventh solicitation resulted in the award of contracts to provide production incentives to seven new or upgraded facilities. Under those contracts, contractors are obligated to build more than 88 MW of renewable capacity, from which NYSERDA could provide production incentives for approximately 460,000 MWh per year. At the time of award, the total funding commitment associated with this solicitation was approximately \$132 million, and the weighted average price awarded was \$28.70 per RPS Attribute (MWh).

B.8 Eighth Main Tier Solicitation

The eighth competitive Main Tier Solicitation (RFP 2554) awards were made in June 2013, with facilities expected to be operational by December 31, 2014. The solicitation was issued on December 20, 2012, and reissued on January 4, 2013. The solicitation was conducted in concurrence with a NYSERDA petition and ensuing Commission Order dated May 22, 2013 Order, wherein NYSERDA was authorized to limit Main Tier bids and Main Tier contracts to bidders proposing to meet their RPS obligations with renewable resource energy generated inside the State or through an offshore generating facility directly interconnected to New York's electrical grid.

The eighth solicitation resulted in 17 contracts representing 50 MW of new renewable energy capacity from which NYSERDA could provide production incentives for approximately 190,000 MWh per year. The total funding commitment associated with RFP 2554 was approximately \$66 million, and the weighted average price for these contracts was \$34.95 per RPS Attribute (MWh).

B.9 Ninth Main Tier Solicitation

The ninth Main Tier Solicitation (RFP 2985) awards were made in October 2014, with facilities expected to operational by July 31, 2017. The solicitation was issued on July 24, 2014. The solicitation was conducted in concurrence with a July 2, 2014 Commission Order, which directed NYSERDA to conduct an immediate 2014 solicitation and at least one in 2015. The Order also authorized NYSERDA to offer Contract Tenors of up to 20 years.

The ninth solicitation resulted in four contracts representing 164 MW of new renewable energy capacity. The total funding commitment associated with RFP 2985 was approximately \$206 million, and the weighted average price for these contracts was \$22.96 per RPS attribute over the 20-year awarded contract term. The contracted facilities include wind power projects at Arkwright Summit Wind Farm in Chautauqua County, and Jericho Rise Wind Farm in Franklin County; hydroelectric projects at the City of Watervliet's Delta Hydroelectric Project, Oneida County, and Village of Wappingers Falls, Hydroelectric Project in Dutchess County.

B.10 Tenth Main Tier Solicitation

The 10th Main Tier Solicitation (RFP 3084) awards were made in September 2015, with facilities expected to operational by July 31, 2018. The solicitation was issued on April 7, 2015. The solicitation was conducted in concurrence with a July 2, 2014 Commission Order, which directed NYSERDA to conduct an immediate 2014 solicitation and at least one in 2015. The Order also authorized NYSERDA to offer Contract Tenors of up to 20 years.

The 10th solicitation resulted in five contracts representing 116 MW of new renewable energy capacity. The total funding commitment associated with RFP 3084 was approximately \$175 million, and the weighted average price for these contracts was \$24.57 per RPS attribute over the 20-year awarded contract term. The contracted facilities include a wind power project at Ball Hill Wind Farm in Chautauqua County; an anaerobic digester at Orbit Energy in Staten Island; a fuel cell at Morgan Stanley Headquarters in New York City; and hydroelectric projects at Lyons Falls Mill Hydroelectric project in Lewis County and Fulton Unit 2 in Oswego County

Appendix C: Main Tier Contracts as of December 31, 2015

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Bid Capacity (MW)	Maximum Annual Contract Quantity	Contract Duration (years)	Project Status
1st Main Tier Solicitation								
Spier Falls	Hydro	NY	Saratoga	0.8	0.8	3,582	10	Operating
Higley Falls ^a	Hydro	NY	St. Lawrence				1	n/a*
Browns Falls ^a	Hydro	NY	St. Lawrence				1	n/a*
Maple Ridge	Wind	NY	Lewis	321.0	231.0	605,820	10	Operating
Bear Creek ^b	Wind	PA	Luzerne	22.0			4	n/a**
Total for RFP 916				343.8	231.8	609,402		
2nd Main Tier Solicitation								
Norfolk	Hydro	NY	St. Lawrence	1.5	1.5	7,504	10	Operating
Oswego Falls	Hydro	NY	Oswego	0.6	0.6	2,957	10	Operating
Browns Falls	Hydro	NY	St. Lawrence	0.4	0.4	1,277	10	Operating
Raymondville	Hydro	NY	St. Lawrence	0.7	0.7	3,620	10	Operating
Colton	Hydro	NY	St. Lawrence	0.7	0.7	4,851	10	Operating
East Norfolk	Hydro	NY	St. Lawrence	0.9	0.9	6,207	10	Operating
Allens Falls	Hydro	NY	St. Lawrence	0.3	0.3	1,675	10	Operating
Eagle	Hydro	NY	Lewis	0.5	0.5	3,181	10	Operating
Higley Falls	Hydro	NY	St. Lawrence	1.9	1.9	11,648	10	Operating
Norwood	Hydro	NY	St. Lawrence	0.5	0.5	4,628	10	Operating
Dutch Hill Wind Farm ^c	Wind	NY	Steuben	37.5	4.3	8,513	10	Operating
Cohocton Wind Farm ^c	Wind	NY	Steuben	87.5	8.3	23,372	10	Operating
Niagara Generating Facility	Biomass	NY	Niagara	26.0	26.0	189,525	10	Operating
Clinton Windpark I	Wind	NY	Clinton	100.5	95.5	180,747	10	Operating
Ellenburg Windpark	Wind	NY	Clinton	81.0	77.0	167,381	10	Operating
Bliss Windpark	Wind	NY	Wyoming	100.5	95.5	191,720	10	Operating
Altona Windpark	Wind	NY	Clinton	102.0	96.9	188,282	10	Operating
Chateaugay Windpark I	Wind	NY	Franklin	106.5	101.2	215,058	10	Operating
Total for RFP 1037				649.5	512.7	1,212,146		
3rd Main Tier Solicitation								
AES Greenidge, LLC ^d	Biomass	NY	Yates	4.0			3	n/a
Piercefield Hydro	Hydro	NY	St. Lawrence	0.1	0.1	385	10	Operating
Sherman Island	Hydro	NY	Saratoga	4.7	4.5	19,292	10	Operating
Effley Hydro	Hydro	NY	Lewis	0.3	0.3	1,399	10	Operating

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Bid Capacity (MW)	Maximum Annual Contract Quantity	Contract Duration (years)	Project Status
High Falls	Hydro	QC	N/A	14.7	14.0	26,410	10	Operating
Wethersfield Windpark	Wind	NY	Wyoming	126.0	119.7	314,572	10	Operating
Dutch Hill Wind Farm ^c	Wind	NY	Steuben		11.3	28,200	10	Operating
Cohocton Wind Farm ^c	Wind	NY	Steuben		26.3	65,700	10	Operating
Total for RFP 1168				149.8	176.2	455,958		
4th Main Tier Solicitation								
Hardscrabble ^c	Wind	NY	Herkimer	74.0	43.7	121,508	10	Operating
School Street Hydro	Hydro	NY	Albany	5.2	4.9	21,885	10	Operating
Stewarts Bridge Hydro (Upgrade)	Hydro	NY	Saratoga	2.9	2.7	11,609	10	Operating
Total for RFP 1681				82.1	51.3	155,002		
5th Main Tier Solicitation								
Hardscrabble ^c	Wind	NY	Herkimer		26.6	74,141	10	Operating
Steel Winds II	Wind	NY	Erie	15.0	14.3	37,430	10	Operating
Albany Energy LLC	Biogas	NY	Albany	0.9	0.9	6,790	10	Operating
Taylorville Hydro	Hydro	NY	Lewis	0.1	0.1	684	10	Operating
Wappingers Falls Hydro	Hydro	NY	Dutchess	0.1	0.1	474	10	Operating
Mechanicville Hydro	Hydro	NY	Saratoga	4.5	4.3	19,000	10	Operating
Stuyvesant Falls Hydro	Hydro	NY	Columbia	6.0	5.7	14,250	10	Operating
High Sheldon Wind Farm	Wind	NY	Wyoming	112.5	106.9	228,200	10	Operating
Total for RFP 1851				139.1	158.8	380,969		
6th Main Tier Solicitation								
Albany 2	Biogas	NY	Albany	3.2	3.0	22,340	10	Operating
Marble River Wind Farm ^e	Wind	NY	Clinton	215.3	204.5	581,510	10	Operating
DANC LFGE	Biogas	NY	Jefferson	4.8	4.0	24,882	10	Operating
Hyland LFGE	Biogas	NY	Allegany	4.8	2.2	15,396	10	Operating
Chautauqua LFGE	Biogas	NY	Chautauqua	8.0	2.1	13,111	10	Operating
Stewarts Bridge Hydro (Expansion)	Hydro	NY	Saratoga	2.6	2.5	10,491	10	Operating
Seneca Energy	Biogas	NY	Seneca	12.8	5.9	46,664	10	Operating
Modern LFGE	Biogas	NY	Niagara	6.4	3.0	20,306	10	Operating
Black Brook Hydro	Hydro	NY	Clinton	0.6	0.6	1,900	10	Operating
Orangeville Wind Farm	Wind	NY	Wyoming	92.8	88.2	279,103	10	Operating
Howard Wind Farm	Wind	NY	Steuben	51.3	46.1	115,184	10	Operating
Ontario LFGE	Biogas	NY	Ontario	6.4	3.0	23,978	10	Operating
Total for RFP 2226				408.9	365.1	1,154,865		
7th Main Tier Solicitation								
Cumberland County (Community Refuse)	Biogas	PA	Cumberland	6.4	6.1	47,402	10	Operating
Mill Street Dam Hydroelectric Generation Facility	Hydro	NY	Cayuga	0.2	0.2	986	10	Operating

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Bid Capacity (MW)	Maximum Annual Contract Quantity	Contract Duration (years)	Project Status
Locust Ridge Wind Farm, LLC	Wind	PA	Schuylkill	26.0	24.7	54,093	10	Operating
Clinton Co. Landfill	Biogas	NY	Clinton	6.4	1.3	7,934	10	Operating
Black River Facility	Biomass	NY	Jefferson	43.3	41.1	324,045	10	Operating
Howard Wind Farm (Expansion)	Wind	NY	Steuben	4.1	3.9	9,849	10	Operating
Total for RFP 2389				86.4	77.3	444,309		
8th Main Tier Solicitation								
Zotos International Wind Production Generating Facility	Wind	NY	Ontario	3.3	3.1	3,847	10	Operating
Marsh Hill Wind Farm	Wind	NY	Steuben	16.2	15.4	52,526	10	Operating
Howard Wind Farm*	Wind	NY	Steuben		2.6	6,359	10	Operating
Black Oak Wind Farm	Wind	NY	Tompkins	12.6	12.0	40,894	10	Under Construction
Cody Road Wind Farm	Wind	NY	Madison	10	9.5	27,463	10	Under Construction
Rio Hydroelectric Bypass Flow Unit	Hydro	NY	Sullivan	0.8	0.8	5,071	10	Operating
Niagara BioEnergy	Biogas	NY	Niagara	0.85	0.8	4,750	10	Under Construction
Buffalo BioEnergy	Biogas	NY	Erie	1.3	1.2	4,750	10	Under Construction
401 Fieldcrest Dr. Elmsford, NY 10523	Fuel Cell	NY	Westchester	0.8	0.8	6,325	10	Operating
Stop and Shop Clean Energy Project - Mt. Vernon	Fuel Cell	NY	Westchester	0.26	0.25	2,112	10	Operating
ATT Clean Energy Project - Rego Park	Fuel Cell	NY	Queens	.20	.19	1,686	10	Operating
Total for RFP 2554				46.3	46.7	155,783		
9th Main Tier Solicitation								
Arkwright Summit	Wind	NY	Chautauqua	77.7	73.8	229,873	20	Under Construction
Jericho Rise	Wind	NY	Franklin	77.7	73.8	206,272	20	Under Construction
Total for RFP 2985				155.4	147.6	436,145		
10th Main Tier Solicitation								
Morgan Stanley Headquarters	Fuel Cell	NY	New York	0.79	0.75	6,324	20	Under Construction
Fulton Unit 2	Hydro	NY	Oswego	0.56	0.53	4,493	20	Under Construction

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Bid Capacity (MW)	Maximum Annual Contract Quantity	Contract Duration (years)	Project Status
Ball Hill Wind Farm	Wind	NY	Chautauqua	100	87.56	245,928	20	Under Construction
Total for RFP 3084				101.4	88.8	256,745		
PROGRAM TOTAL				2,162.6	1,856.5	5,261,324.2		
Maintenance Resources								
ReEnergy Chateaugay Biomass Plant ^g	Biomass	NY	Franklin		21	128,000	4.6	N/A
Boralex Chateaugay Biomass ^g Plant	Biomass	NY	Franklin				5.4	N/A
Lyonsdale Biomass ^f	Biomass	NY	Lewis		22.0	131,238	3	Operating
Lyonsdale Biomass ^f	Biomass	NY	Lewis				7	Operating
Azure Mountain	Hydro	NY	Franklin		0.8	2,500	10	Operating
Total					43.8	261,738		

- a. Higley and Browns Falls had one-year agreements, thus enabling participation in RFP 1037. Only Contract quantities from RFP 1037 will be used when calculating progress toward 2015 targets.
- b. Bear Creek windfarm had a four-year contract that expired on January 31, 2010. Only Contract quantities from active contracts will be used when calculating progress toward 2015.
- c. These facilities were awarded contracts for a percentage of output under multiple RFPs. The total new facility capacity is listed once.
- d. AES Greenidge had a three-year contract that expired on July 31, 2012. Only Contract quantities from active contracts will be used when calculating progress toward 2015.
- e. An agreement awarded as a result of the 5th solicitation for the Marble River Wind Farm was combined with an agreement awarded under the 6th solicitation to reflect an increase in the size of the facility. The committed funding remains separated in the respective solicitation balances shown in Appendix D.
- f. Lyonsdale Biomass was authorized by the PSC to participate as a Maintenance Resource; therefore, it is not included with "new renewables". In an order dated November 19, 2014 the Commission authorized NYSERDA to enter into a second maintenance resource contract for a term of 3 years resulting in a total of 10 Years for both contracts.
- g. In an order dated July 22, 2015 the Commission authorized NYSERDA to enter into a second maintenance resource contract with ReEnergy at the Chateaugay biomass facility for a term of 4.6 years, the contract term is to begin when the facility has returned to service, but no later than July 1, 2016.

Appendix D: Financial Status Report as of December 31, 2015

Program	Total Budget	Expended ^a	Encumbered ^b	Expended ^a + Encumbered ^b	Expended ^a + Encumbered ^b as % of Total Budget	Pre-encumbered ^c Contracts & Applications Pending	Pre-encumbered ^c Solicitation Balance	Expended ^a + Encumbered ^b + Pre-encumbered ^c	Expended ^a + Encumbered ^b + Pre-encumbered ^c as % of Total Budget	Uncommitted
Main Tier^d										
RFP 916	128,300,452	126,058,271	2,242,181	128,300,452	100.0%	\$ -	\$ -	128,300,452	100.0%	\$ -
RFP 1037	161,016,061	104,976,572	56,039,489	161,016,061	100.0%	\$ -	\$ -	161,016,061	100.0%	\$ -
RFP 1168	66,141,013	38,944,543	27,196,470	66,141,013	100.0%	\$ -	\$ -	66,141,013	100.0%	\$ -
RFP 1681	21,983,298	8,979,186	13,004,112	21,983,298	100.0%	\$ -	\$ -	21,983,298	100.0%	\$ -
RFP 1851 ^e	164,554,503	59,381,925	105,172,578	164,554,503	100.0%	\$ -	\$ -	164,554,503	100.0%	\$ -
RFP 2226 ^f	145,649,758	32,904,235	112,745,523	145,649,758	100.0%	\$ -	\$ -	145,649,758	100.0%	\$ -
RFP 2389	123,246,605	26,377,943	96,868,662	123,246,605	100.0%	\$ -	\$ -	123,246,605	100.0%	\$ -
RFP 2554	55,378,632	2,998,365	52,380,267	55,378,632	100.0%	\$ -	\$ -	55,378,632	100.0%	\$ -
RFP 2985	201,068,035	-	201,068,035	201,068,035	100.0%	\$ -	\$ -	201,068,035	100.0%	\$ -
RFP 3084	174,987,742	-	126,702,692	126,702,692	72.4%	48,285,050	\$ -	174,987,742	100.0%	\$ -
Boralex- Maintenance Tier	10,605,020	10,605,020	-	10,605,020	100.0%	\$ -	\$ -	10,605,020	100.0%	\$ -
Azure- Maintenance Tier	500,000	117,840	382,160	500,000	100.0%	\$ -	\$ -	500,000	100.0%	\$ -
Lyonsdale - Maintenance Tier	27,443,711	18,260,150	9,183,561	27,443,711	100.0%	\$ -	\$ -	27,443,711	100.0%	\$ -
Chateaugay - Maintenance Tier	19,718,912	-	-	-	0.0%	19,718,912	\$ -	19,718,912	100.0%	\$ -
Generation Attributes Tracking System	152,371	83,043	69,328	152,371	100.0%	\$ -	\$ -	152,371	100.0%	\$ -
Available Main Tier/Maintenance Resource Funding ^f	842,557,237	-	-	-	0.0%	\$ -	\$ -	-	0.0%	\$ 842,557,237
Subtotal - Main Tier	\$ 2,143,303,350	\$ 429,687,093	\$ 803,055,058	\$ 1,232,742,151	57.5%	\$ 68,003,962	\$ -	\$ 1,300,746,113	60.7%	\$ 842,557,237
Customer-Sited Tier¹										
Open Enrollment PV (with NY-Sun ^g through 2016)	387,963,808	317,008,768	69,617,995	386,626,763	99.7%	1,337,045	\$ -	387,963,808	100.0%	\$ -
Fuel Cells	34,597,205	3,225,000	6,741,316	9,966,316	28.8%	24,630,889	\$ -	34,597,205	100.0%	\$ -
Anaerobic Digesters	41,759,882	18,145,108	14,481,434	32,626,542	78.1%	9,133,340	\$ -	41,759,882	100.0%	\$ -
Small Wind	13,429,397	10,481,414	2,857,183	13,338,597	99.3%	90,800	\$ -	13,429,397	100.0%	\$ -
Solar Thermal	18,534,738	10,341,207	5,399,959	15,741,166	84.9%	2,793,572	\$ -	18,534,738	100.0%	\$ -
Competitive PV (with NY-Sun ^g through 2016)	213,685,649	36,003,329	163,209,668	199,212,997	93.2%	3,760,261	\$ -	202,973,258	95.0%	\$ 10,712,391
General Funding Pool	20,804,321	\$ -	\$ -	-	0.0%	\$ -	\$ -	-	0.0%	\$ 20,804,321
Subtotal - Customer-Sited Tier	\$ 730,775,000	\$ 395,204,826	\$ 262,307,555	\$ 657,512,381	90.0%	\$ 41,745,907	\$ -	\$ 699,258,288	95.7%	\$ 31,516,712
Subtotal - Program Funding	\$ 2,874,078,350	\$ 824,891,919	\$ 1,065,362,613	\$ 1,890,254,532	65.8%	\$ 109,749,869	\$ -	\$ 2,000,004,401	69.6%	\$ 874,073,949
Administration										
Administration - Staff/Overhead	49,877,278	32,775,540	96,318	32,871,858		1,000	-	32,872,858		
Quality Assurance/Quality Control - CST Anaerobic Digesters	-	775,356	734,155	1,509,511		-	-	1,509,511		
Quality Assurance/Quality Control - CST Fuel Cells	-	40,305	-	40,305		-	-	40,305		
Quality Assurance/Quality Control - CST PV & Small Wind	-	4,689,011	437,659	5,126,670	79.3%	-	-	5,126,670	79.3%	\$ 10,106,715
Quality Assurance/Quality Control - CST On-Site Wind	-	-	-	-		-	-	-		
Quality Assurance/Quality Control - CST Solar Thermal	-	143,524	77,695	221,219		-	-	221,219		
Quality Assurance/Quality Control - CST Geo Balancing	-	-	-	-		-	-	-		
Administration-Consultant Support	5,218,895	3,750,381	215,454	3,965,835	76.0%	99,000	-	4,064,835	77.9%	\$ 1,154,060
NYS Cost Recovery Fee ^b	22,274,972	21,221,077	-	21,221,077	95.3%	-	-	21,221,077	95.3%	\$ 1,053,895
Evaluation - Staff/Overhead & Consultant Support	2,432,827	1,334,734	27,012	1,361,746	56.0%	-	750,000	2,111,746	86.8%	\$ 321,081
Subtotal - Administration	\$ 79,803,972	\$ 64,729,928	\$ 1,588,293	\$ 66,318,221	83.1%	\$ 100,000	\$ 750,000	\$ 67,168,221	84.2%	\$ 12,635,751
TOTAL RENEWABLE PORTFOLIO STANDARD	\$ 2,953,882,322	\$ 889,621,847	\$ 1,066,950,906	\$ 1,956,572,753	66.2%	\$ 109,849,869	\$ 750,000	\$ 2,067,172,622	70.0%	\$ 886,709,700

^a Expended funds include contractor invoices processed for payment by NYSERDA.

^b Encumbered funds include remaining funds obligated under a contract, purchase order, or incentive award.

^c Pre-Encumbered funds include planned funding for contracts awarded and under negotiation; and planned funding under active development through open solicitations with upcoming proposal due dates.

^d Main Tier RFP Budgets include Contract Commitments as of December 31, 2015 and include contracted funds yet to be disencumbered as a result of Main Tier facility underperformance in 2015.

^e An agreement awarded as a result of RFP 1851 for the Marble River Wind Farm was combined with an agreement awarded under RFP 2226 to reflect an increase in the size of the facility. The committed funding remains separated in the respective solicitation balances shown.

^f A January 2016 Order authorizing the Clean Energy Fund provided for a \$150 million RPS 2016 Main Tier Solicitation. Since the solicitation was approved in 2016 it is not shown on this appendix.

^g The NY-Sun program is also operated in service territories of the State where ratepayers are not assessed the RPS surcharge. In those geographic areas, NY-Sun is funded via NYSERDA's allocation of Regional Greenhouse Gas Initiative (RGGI) auction proceeds collected. NYSERDA has committed to funding NY-Sun from RGGI proceeds in the amount of \$20 million for NYPA customers and \$60M for customers served by PSEG Long Island residents (LIPA/PSEG customers). The RPS budget and actual results on this RPS Financial Status Report exclude any aforementioned RGGI funded activity. RGGI Program Status Quarterly Reports are available on NYSERDA's web at <http://www.nyserdad.ny.gov/Publications/Program-Planning-Status-and-Evaluation-Reports/RGGI-Reports.aspx>

^h A September 19, 2011 Order authorized Interest and/or Letter of Credit proceeds to fund the NYS Cost Recovery Fee Allocations for 2011 - 2013 in excess of the budgeted amounts for those annual periods. Therefore, the actual costs for 2011 - 2013 and the future projected expenses differ from the amounts approved in the April 2010 Order and are presumed to be funded from program revenues or will require reallocation of other program budget funding.

ⁱ Budgets for each of the Customer Side Tier technologies have been adjusted to reflect commitments/activities through 12/31/15, and remaining balances have been transferred to General Pool. Funds were transferred from General Pool for Solar Thermal to cover 2015 activity

Appendix E: Projected Cash Flow Estimates as of December 31, 2015

	Revenues			Estimated Costs				
	Collections ¹	Interest	Ltr of Credit proceeds	Administration	Evaluation	Customer Tier QA/QC	NYS Fees ²	Current Main Tier RFPs ³
2006	\$24,072,908	\$308,826	\$192,107	(\$2,389,174)	(\$59,348)	\$0	(\$460,820)	(\$8,216,756)
2007	\$43,143,017	\$1,247,056	\$662,256	(\$1,365,207)	(\$138,865)	(\$1,618)	(\$511,003)	(\$14,407,485)
2008	\$62,136,526	\$1,553,439	\$50,000	(\$1,512,760)	(\$557,133)	(\$197,897)	(\$683,502)	(\$16,097,030)
2009	\$82,639,913	\$1,585,877	\$1,026,981	(\$2,157,256)	(\$273,806)	(\$499,070)	(\$1,514,582)	(\$29,539,663)
2010	\$108,591,164	\$1,474,084	\$0	(\$2,543,218)	\$3,739	(\$696,222)	(\$1,583,684)	(\$33,786,251)
2011	\$170,450,215	\$2,409,458	\$351,520	(\$3,891,999)	\$0	(\$427,188)	(\$2,250,656)	(\$36,240,904)
2012	\$202,989,832	\$2,719,927	\$712,833	(\$4,191,375)	(\$11,571)	(\$633,792)	(\$2,626,641)	(\$45,535,412)
2013	\$243,944,012	\$2,702,102	\$0	(\$5,475,871)	(\$288,494)	(\$779,759)	(\$3,590,350)	(\$62,146,598)
2014	\$281,544,226	\$3,402,253	\$102,198	(\$6,285,076)	(\$9,256)	(\$1,158,963)	(\$3,833,362)	(\$79,032,311)
2015	\$321,157,588	\$4,944,073	\$207,131	(\$6,628,945)	\$0	(\$1,124,462)	(\$3,523,398)	(\$75,686,913)
2016	\$0	\$3,060,650		(\$2,487,795)	(\$549,047)	(\$575,111)	(\$4,778,704)	(\$94,796,767)
2017	\$0	\$954,897		(\$1,377,982)	(\$549,047)	(\$354,059)	(\$4,182,760)	(\$88,495,684)
2018	\$281,906,174	\$338,003		(\$799,166)		(\$160,000)	(\$3,395,968)	(\$88,874,773)
2019	\$243,625,532	\$275,660		(\$635,797)		(\$160,000)	(\$2,535,257)	(\$71,684,294)
2020	\$179,972,127	\$206,055		(\$444,547)		(\$150,000)	(\$2,075,922)	(\$70,115,185)
2021	\$137,477,631	\$157,069		(\$444,547)		(\$150,000)	(\$1,631,465)	(\$64,403,544)
2022	\$101,134,823	\$107,097		(\$444,547)		(\$150,000)	(\$1,398,429)	(\$54,239,650)
2023	\$59,056,975	\$63,627		(\$444,547)		(\$150,000)	(\$913,467)	(\$32,245,951)
2024	\$37,941,407	\$44,655		(\$419,547)		(\$125,000)	(\$749,638)	(\$24,849,166)
2025	\$32,530,289	\$40,324		(\$419,547)		(\$125,000)	(\$703,180)	(\$22,737,445)
2026	\$31,546,834	\$38,065		(\$419,547)		(\$125,000)	(\$690,872)	(\$22,177,969)
2027	\$28,903,895	\$35,793		(\$419,547)		(\$125,000)	(\$625,101)	(\$19,912,450)
2028	\$28,408,879	\$35,423		(\$419,547)			(\$612,304)	(\$19,912,450)
2029	\$28,359,667	\$35,238		(\$419,547)			(\$612,304)	(\$19,912,450)
2030	\$28,112,870	\$35,053		(\$129,549)			(\$605,924)	(\$19,912,450)
2031	\$28,072,514	\$34,902		(\$129,549)			(\$605,924)	(\$19,912,450)
2032	\$27,870,127	\$34,751		(\$129,549)			(\$600,692)	(\$19,674,636)
2033	\$27,870,127	\$34,751		(\$129,549)			(\$600,692)	(\$19,674,636)
2034	\$27,870,127	\$34,751		(\$129,549)			(\$600,692)	(\$19,674,636)
2035	\$27,859,335	\$34,710		(\$129,549)			(\$600,692)	(\$19,674,636)
2036	\$24,581,928	\$22,583		(\$129,549)			(\$599,293)	(\$19,611,041)
2037	\$7,240,053	\$6,081		(\$129,549)			(\$181,417)	(\$8,116,683)
2038	\$1,118,878	\$849		(\$129,549)			(\$28,814)	(\$1,180,199)
2039	\$21,276	\$16		(\$25,000)			(\$550)	
	\$3,113,996,151	\$27,978,098	\$3,305,026		(\$57,529,000)		(\$49,908,059)	(\$1,242,478,470)

Estimated Costs							
Future Main Tier/Maintenance Resource Funding ⁴	Maintenance Resources	RPS Funds to NY-Sun	RPS Funds to Green Bank ⁵	Customer Tier ^{6 7}	Total Estimated Costs	Annual Cash Flow	Cash Balance
	\$0			\$0	(\$11,126,098)	\$13,447,743	\$13,447,743
	(\$3,104,220)			(\$6,735)	(\$19,535,133)	\$25,517,196	\$38,964,939
	(\$3,666,751)			(\$10,740,400)	(\$33,455,473)	\$30,284,492	\$69,249,431
	(\$3,329,669)			(\$30,396,323)	(\$67,710,369)	\$17,542,402	\$86,791,833
	(\$3,847,114)			(\$38,050,975)	(\$80,503,725)	\$29,561,523	\$116,353,356
	(\$2,899,242)			(\$29,732,613)	(\$75,442,602)	\$97,768,591	\$214,121,947
	(\$3,031,580)			(\$47,020,963)	(\$103,051,334)	\$103,371,258	\$317,493,205
	(\$2,794,633)		(\$50,000,000)	(\$58,716,108)	(\$183,791,813)	\$62,854,301	\$380,347,506
	(\$2,141,328)			(\$87,320,943)	(\$179,781,239)	\$105,267,438	\$485,614,944
\$0	(\$4,183,233)	(\$15,973,998)		(\$93,219,866)	(\$200,340,815)	\$125,967,977	\$611,582,921
\$0	(\$6,999,160)	(\$185,000,000)		(\$111,805,919)	(\$406,992,502)	(\$403,931,852)	\$207,651,069
(\$7,500,000)	(\$8,731,881)	(\$148,200,000)		(\$83,116,809)	(\$342,508,221)	(\$159,708,041)	\$47,943,028
(\$7,500,000)	(\$4,336,720)	(\$129,900,000)		(\$52,691,540)	(\$287,658,167)	(\$5,413,990)	\$42,529,038
(\$7,500,000)	(\$4,336,720)	(\$137,400,000)		(\$30,922,157)	(\$255,174,226)	(\$11,273,033)	\$31,256,004
(\$7,500,000)	(\$4,336,720)	(\$91,100,000)		(\$11,813,651)	(\$187,536,025)	(\$7,357,843)	\$23,898,161
(\$7,500,000)	(\$478,672)	(\$67,600,000)		(\$1,180,739)	(\$143,388,966)	(\$5,754,267)	\$18,143,894
(\$7,500,000)	(\$50,000)	(\$43,900,000)		(\$1,180,739)	(\$108,863,364)	(\$7,621,443)	\$10,522,451
(\$7,500,000)		(\$20,700,000)		(\$1,180,739)	(\$63,134,704)	(\$4,014,102)	\$6,508,349
(\$7,500,000)		(\$4,226,002)		(\$1,180,739)	(\$39,050,092)	(\$1,064,030)	\$5,444,318
(\$7,500,000)				(\$1,180,739)	(\$32,665,911)	(\$95,297)	\$5,349,021
(\$7,500,000)				(\$1,180,739)	(\$32,094,127)	(\$509,227)	\$4,839,794
(\$7,500,000)				(\$456,667)	(\$29,038,765)	(\$99,077)	\$4,740,717
(\$7,500,000)					(\$28,444,301)	\$0	\$4,740,717
(\$7,500,000)					(\$28,444,301)	(\$49,396)	\$4,691,321
(\$7,500,000)					(\$28,147,923)	\$0	\$4,691,321
(\$7,500,000)					(\$28,147,923)	(\$40,508)	\$4,650,813
(\$7,500,000)					(\$27,904,878)	\$0	\$4,650,813
(\$7,500,000)					(\$27,904,878)	\$0	\$4,650,813
(\$7,500,000)					(\$27,904,878)	\$0	\$4,650,813
(\$7,500,000)					(\$27,904,878)	(\$10,832)	\$4,639,980
(\$7,500,000)					(\$27,839,883)	(\$3,235,372)	\$1,404,608
					(\$8,427,649)	(\$1,181,514)	\$223,094
					(\$1,338,562)	(\$218,835)	\$4,258
					(\$25,550)	(\$4,258)	(\$0)
(\$150,000,000)	(\$58,267,643)	(\$844,000,000)	(\$50,000,000)	(\$693,096,102)	(\$3,145,279,274)	(\$0)	

2006 through 2015 data represent actual revenues and expenditures

- 1 Specified Collections reflects additional collections needed to fund the \$150M 2016 Main Tier solicitation authorized in the January 21, 2016 CEF Order. It also reflects the new Bill-As-You-Go revenue collection process proposed under the CEF Order, assuming previously authorized collections are held by utilities and used to reimburse NYSEERDA for actual expenses, subject to NYSEERDA maintaining an appropriate working capital balance approximating two months expenses.
- 2 A September 19, 2011 Order authorized Interest and/or Letter of Credit proceeds to fund the NYS Cost Recovery Fee Allocations for 2011 -2013 in excess of the budgeted amounts for those annual periods. Therefore, the actual costs for 2011-2013 and the future projected expenses differ from the amounts approved in the April 2010 Order and are presumed to be funded from program revenues or will require reallocation of other program budget funding.
- 3 Total includes \$152,371 for generation attribute tracking system fees.
- 4 Future Main Tier procurement funding assumes 20 year fixed price contracts awarded under a 2016 Main Tier and additional Maintenance Resource Funding Commitments.
- 5 A December 19, 2013 Order granted NYSEERDA's proposal to transfer \$50 million of uncommitted Main Tier RPS funds to the NY Green Bank.
- 6 In January 2014, NYSEERDA made its fourth annual filing to the Commission with regard to recommended allocations of unencumbered CST program funding balances as of end-of-year 2013. The CST estimated costs as shown in this Appendix assume Commission acceptance of the allocations recommended in the petition.
- 7 A December 19, 2013 Order authorized NYSEERDA to reallocate \$108 million of unencumbered Main Tier funds to support the Customer-Sited Tier solar PV programs through 2015, which is reflected in the Customer Tier expenditures. This analysis does not include additional expenditures for the NY-Sun program for 2014-2026 included in NYSEERDA's January 6, 2014 Petition.

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 nyserderda.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@nyserderda.ny.gov
nyserderda.ny.gov



State of New York

Andrew M. Cuomo, Governor

New York State Energy Research and Development Authority

Richard L. Kauffman, Chair | John B. Rhodes, President and CEO

