New York State Energy Research and Development Authority

The New York State Renewable Portfolio Standard Performance Report

Through December 31, 2011

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Executive Summary

This report summarizes activities conducted through December 31, 2011 by the New York State Energy Research and Development Authority (NYSERDA) and the Department of Public Service (DPS) in implementing the New York State Renewable Portfolio Standard (RPS). This report includes background on the RPS, objectives and performance targets, and a summary of outcomes, funding, and expenses. Previous program performance reports and related information can be found at: http://www.nyserda.ny.gov/Page-Sections/Energy-and-Environmental-Markets/Renewable-Portfolio-Standard/Documents.aspx.

New York, through regulations adopted by the Public Service Commission (PSC or Commission), first enacted its RPS in 2004 with the goal of increasing the amount of renewable electricity used by consumers to 25% by 2013. Following a comprehensive mid-course review, and in an Order issued in January 2010, the Commission expanded the RPS target from 25% to 30% and extended the terminal year of the program from 2013 to 2015.

Unlike most states with an RPS, New York uses a central procurement model whereby NYSERDA administers or is otherwise responsible for the majority of the program's goal. Specifically, NYSERDA is responsible for obtaining the Main Tier (larger utility scale resources) and Customer Sited Tier (CST), (smaller, behind the meter resources) targets with the remainder to be made up by the Voluntary Market, purchases made by state agencies under Executive Order 111, and purchases made by the Long Island Power Authority.

In a September 2011 Order,[1] the Commission authorized NYSERDA to re-allocate unencumbered 2010 Customer Sited Tier program funds, exceed the monthly payment cap within the solar photovoltaic category using reallocated 2010 funds, increase the on-site wind size cap to 2-MW per installation and use unencumbered interest earnings and funds to pay any New York State Cost Recovery Fee that exceeds the amount previously budgeted for such fee.

The Customer Sited Tier made significant progress in 2011, with Program Opportunity Notices (PON) issued for the Solar Photovoltaic (PV), Anaerobic Digester Gas (ADG), On-site Wind, Fuel Cell, Solar Thermal and Geographic Balancing (Regional Program) programs. Through December 31, 2011, these CST programs have supported the installation of over 3,000 on-site generation systems which represent over 36 MW of installed capacity.

Through December 31, 2011, NYSERDA has conducted seven competitive solicitations in pursuit of the Main Tier renewable energy procurement target. From the seven solicitations, NYSERDA currently has contracts with electricity generators for 56 large-scale projects. These projects will add approximately 1,841 MW of new renewable capacity to the state's energy mix. Through December 31, 2011 NYSERDA's progress at achieving the Main Tier and Customer Sited Tier targets are 48% and 39%, respectively.

Progress in the program through December 31, 2011 has yielded, and is expected to yield, significant economic benefits to New York State 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 taxes or payment-in-lieu of taxes to local governments and school districts, biomass fuel purchases, and lease and/or royalty payments to landowners who host wind turbines. Using data from the 2009 mid-course program evaluation conducted by independent program contractors,[2] NYSERDA estimates that the direct economic benefits associated with all projects selected in the first seven Main Tier solicitations will approach $2.4 billion over the next twenty years. When the effects induced on the broader economy are considered, the total economic benefits are estimated at more than $4.9 billion.

[1] *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.

[2] New York Main Tier RPS: Impact and Process Evaluation, KEMA, Inc., March 2009.

Program Highlights

- Implementation of the RPS has been highly cost effective. Progress toward the NYSERDA Main Tier and Customer Sited Tier 2015 combined target of 10.4 million MWh is approximately 47% while funding committed toward this progress is 39% of the total approved RPS budget.
- Total new renewable capacity supported by the Main Tier and Customer Sited Tier could reach nearly 1,968 MW by the end of 2013, of which 1,898 MW will be located in New York.
- Under the Main Tier component of the program, 1,456 megawatts (MW) of new renewable capacity from 46 projects is in operation; an additional 384 MW, from 10 projects, are currently under development and/or construction.
- The Customer Sited Tier progress as of December 31, 2011, measured in terms of capacity associated with contract commitments and pending contracts, is over 104 MW and is on a trajectory to achieve the 2015 CST target.

Background

The 2002 State Energy Plan warned of the possible consequences of New York's heavy dependence on fossil fuels.[3] The Energy Plan noted that the State's fossil fuel resources (gas, coal, 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 consumers from the then-current 19.3% (baseline resources) to at least 25% by the end of 2013.[4]

School Street Hydroelectric Plant, Rensselaer County, Photo Courtesy of Eddie Bauer

As part of the September 24, 2004 Order, the Commission designated NYSERDA as the central procurement administrator for the RPS Program. In doing so, the Commission noted an expectation that voluntary renewable purchases by retail customers (the "Voluntary Market") would contribute at least 1% toward the 25% goal, thus leaving baseline resources, State Agencies' purchases under Executive Order 111 (EO 111), and NYSERDA procurements to realize the remaining 24%. 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.

In most other states with RPS programs, the renewable energy percentage target is implemented by requiring the load serving entities to supply their customers with a certain percentage of electricity from renewable sources. New York's RPS uses a central procurement model, with NYSERDA as the central procurement administrator. NYSERDA does not procure renewable electricity directly. Rather, NYSERDA 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 Attributes associated with each megawatt-hour (MWh) of renewable electricity generated, and guarantees delivery of the associated electricity to the New York State ratepayers.[5] For all RPS Main Tier Facilities, the electricity associated with the RPS Attributes must be:

[3] State Energy Plan, 1–1. (June 2002).

[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] "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.

1. delivered into a market administered by the New York Independent System Operator (NYISO) for end-use in New York State; or

2. 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 such entity or by the NYISO; or

3. delivered through a dedicated generation meter, which shall be approved by and subject to independent verification by NYSERDA, to a customer in New York State (excluding customers in the service territory of the Long Island Power Authority) whose electricity was obtained through the NYISO/utility system as of January 20, 2011.

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.

During 2009, the Commission undertook a planned mid-course review of the RPS program and its goals. In anticipation of this mid-course review, in early 2009, NYSERDA prepared and submitted an Evaluation Report.[6] Two technical conferences were held by the Commission to explore the issues raised by the Department of Public Service staff in response to the Evaluation Report. Subsequently, in early 2010, the Public Service Commission expanded the RPS goal to increase the proportion of renewable electricity consumed by New York customers from 25% to 30% and extended the terminal year of the program from 2013 to 2015,[7] thus formalizing a goal advanced in the 2009 State Energy Plan.[8] These changes to the program targets reflect the State's continued commitment to support the development of various renewable energy technologies, and will help achieve New York's clean energy goals.

High Sheldon Wind Project, Wyoming County

In concluding its mid-course review of the RPS, the Commission issued two Orders in April 2010.[9] Therein the Commission:

a) established new CST program targets for the previously approved CST technologies (photovoltaic (PV), fuel cell, anaerobic gas-to-electric digester technologies (ADG), and on-site wind installations) to help support the overall RPS program target of 30% by 2015;

b) authorized a new CST program aimed at encouraging additional Customer Sited installations in the downstate region (NYISO Zones G, H, I and J);

c) authorized a new CST program focused solely on the deployment of solar thermal energy systems;

d) authorized funding through the full compliance period, inclusive of new CST programs and program administration that it determined to be sufficient to achieve overall program goals by 2015;

e) directed NYSERDA to consult with the DPS on the development of a Customer Sited Tier Operating Plan (Plan) for solicitation of customer-sited renewable resources, and provided the parameters and principles that were to be incorporated therein; and

[6] NYSERDA, *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* (February 19, 2009).

[7] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Establishing New RPS Goal and Resolving Main Tier Issues;" issued and effective January 8, 2010.

[8] 2009 State Energy Plan. Available at: http://www.nysenergyplan.com/2009stateenergyplan.html

[9] *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 Program;" "Order Resolving Main Tier Issues;" issued and effective April 2, 2010.

Chautauqua Landfill Gas Facility, Chautauqua County

f) established the scope and cost of the administration of the RPS program, reaffirmed NYSERDA's role as central procurement authority, and provided for augmented and extended collection of funds from electric delivery customers to fully achieve New York's 2015 targets.

Later in 2010 the Commission issued three additional Orders addressing biomass, behind-the-meter generation, and Main Tier program rules and future solicitations. In an Order issued in November 2010, the Commission authorized the use of clean wood separated from construction and demolition debris at approved material reclamation facilities to be eligible as "biomass."[10] In a separate Order issued in November the Commission modified the RPS eligibility rules to qualify "behind-the-meter," customer-sited facilities including facilities where the electric energy is delivered through a wholesale meter under the control of a utility, public authority or municipal electric company to compete for Main Tier RPS incentives subject to the accurate measurement/metering and verification by the facilities, in lieu of the NYISO.[11]

In a December 2010 Order the Commission upheld its earlier authorization to weigh economic benefits at 30% in the competitive selection process, relaxed former incremental economic benefits requirements to allow all claims of in-state spending after January 1, 2003, and 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 the Commission.[12]

In a September 2011 Order,[13] the Commission authorized NYSERDA to (a) re-allocate unencumbered 2010 Customer Sited Tier program funds so that such unused funds remained available for additional projects for 2011 in the same technology category from which they originated, except for $900,000 in unencumbered solar thermal funds that were re-allocated to fund a Solar Thermal awareness and outreach campaign during 2011 through 2013; (b) exceed the $2 million cumulative monthly cap on incentive payments in the Solar Photovoltaic category in a manner that only funds reallocated from 2010 may be used in excess of the cap; (c) modify the equipment size cap for the on-site wind category from 600 kW per installation to 2-MW per installation; 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. Quality assurance and quality control expenses continue to be paid using program administration account funds.

Tiered Approach to Implementing the RPS

The Commission established two tiers of resource types under the RPS. The first, or 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 NYISO. Noting the importance of accelerating the development of emerging technologies, because of their environmental benefits and ability to be sited in urban, heavily-loaded areas, the Commission also established a second tier, the Customer Sited Tier (CST). The CST consists of smaller, "behind-the-meter"

[10] Case 09-E-0843/03-E-0188; *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Approving Petition with Modifications," issued and effective November 22, 2010.

[11] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Allowing Main Tier "Behind The Meter" Contracts and Wholesale Delivery to Utility/Municipal Utility/Public Authority Entities, Applicable to Future Solicitations Only," issued and effective November 24, 2010.

[12] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Authorizing Additional Main Tier Solicitations and Setting Future Solicitation Guidelines," issued and effective December 3, 2010.

[13] *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.

resources, such as photovoltaic systems, fuels cells, customer-sited wind facilities, anaerobic digester gas, and similar technologies that for the most part produce electricity for use on site.[14]

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 RPS. While the Main Tier and Geographic Balance (Regional) program operate through the issuance of periodic competitive solicitations, all other CST 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.

Eligible resources and technologies for both the Main Tier and CST are as specified by the Commission.[15] The RPS also includes a process for the evaluation of new resources and technologies for eligibility in the program as it progresses.

Renewable Energy Targets

The Commission's January 8, 2010 Order set forth annual renewable energy targets that represent an incremental glide path toward achievement of the 2015 goal of having 30% of the power consumed in New York come from renewable sources. The Commission further detailed the State renewable energy targets, and supporting calculation methodology, necessary to meet the RPS target in its April 2, 2010 Order.[16] 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, Executive Order 111, Voluntary Market activity (explained later in this report), and Long Island Power Authority contributions.

Lyonsdale Biomass Facility, Lewis County

In its April 2, 2010 Order, the Commission established static NYSERDA Main Tier and Customer Sited Tier program targets for supporting the production of approximately 10.4 million megawatt-hours (MWh) of renewable energy annually by 2015.[17] This consists of approximately 9.8 million MWh from the Main Tier and 0.6 million MWh from the Customer Sited Tier.

Maintenance Resource Participation

In creating the 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 Order established an additional Maintenance Resource program.[18] 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

[14] As noted earlier, as a result of a recent Commission decision, customer-sited generation can now choose to compete for long-term contracts via the Main Tier program component.

[15] *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.

[16] *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, Appendix, Table 17.

[17] *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.

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

Photos courtesy of Hardscrabble Wind Project, Herkimer County

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. The Commission may or may not grant Maintenance Resource status. If this status is granted, the Commission determines the form and magnitude of support to be offered.

NYSERDA has contracts with two Maintenance Resources, the Lyonsdale Biomass plant located in Lyons Falls, New York, and the Boralex Biomass plant, located in Chateaugay, New York. In combination, the Lyonsdale and Boralex contracts will support the retention of approximately 39 MW of in-state biomass capacity and involve approximately 266,000 MWh of annual energy production. The total funding committed to these multi-year contracts is approximately $33.3 million. These maintenance resource quantities do not count toward Main Tier incremental energy targets, but serve to maintain the 19.3% baseline. During the reporting period from January 1, 2011 to December 31, 2011, no additional facilities were granted Maintenance Resource status.

In the April 2010 Order, the Commission reaffirmed that baseline resources demonstrating financial hardship could, through a formal request to the Commission, be considered for Maintenance Resource Treatment.[19]

Voluntary Market

Several program design features have been 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. In addition, NYSERDA provides flexibility for contractors to suspend deliveries to NYSERDA in order to make sales to the New York voluntary green market and, as of December 31, 2011, three facilities have exercised this option.[20] According to DPS, in 2009, 391,298 MWh were purchased by 33 Energy Service Companies and six Investor Owned Utilities and delivered to retail customers in response to their interest in clean energy.

Executive Order 111

Executive Order 111 requires New York State agencies to procure 20% of their electricity from renewable sources

[19] *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.

[20] Contractors are not obligated to serve the NY voluntary market with any output not under contract with NYSERDA, while contractors who suspend delivery to NYSERDA are required to make sales into the NY voluntary market.

by 2010. The affected state agencies have reported to NYSERDA that, during State Fiscal Year 2009/2010 (April 1 through March 31), 12.23% of the electricity used in state buildings, or approximately 319,918 MWh, was produced from renewable sources.[21]

Progress and Results

Main Tier and Customer Sited Tier Progress

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.[22] Progress through December 31, 2011, in both the Main Tier and the Customer Sited Tier, is approximately 4.92 million MWh by 2015. As presented in Table 1, this represents progress of about 47% 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 245,293 MWh by 2015, representing 39% of the total Customer Sited Tier portion of the NYSERDA RPS target. Energy production associated with Main Tier facilities under contract or pending contract is expected to be 4.67 million MWh in 2015 or 48% of the Main Tier target.[23]

While approximately 4.92 million MWh are currently under contract or have pending contracts for 2015, actual production will likely vary from time to time. Renewable resources, such as wind and hydroelectric, 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. While unfortunate, project development delays and underperformance of operating projects impact annual reporting of program progress and results.[24] As such, data being reported at any given time may reflect unexpected variations in performance toward reaching the 2015 targets.

Table 1. NYSERDA 2015 RPS Procurements and Energy Targets (in MWh) and Progress as of December 31, 2011

	Target	Progress*	Progress as % of Target
Customer Sited Tier	623,390	245,293	39%
Main Tier	9,774,464	4,671,290	48%
Total	**10,397,854**	**4,916,583**	**47%**

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

Underproduction and project delays and setbacks have not been overlooked in Main Tier program and contract design. To ensure that the Main Tier target is met and other projects are afforded timely opportunities for funding, NYSERDA contractually requires that each project deliver at least a minimum percentage of the quantity of energy associated with its bid during each year. If a project fails to meet this percentage for a specified number of consecutive years, the annual quantity of RPS Attributes that NYSERDA is obligated to purchase from that project may be reduced for the remaining years of the contract.[25] The funding associated with this reduction in the RPS Attribute commitment is then disencumbered and can be applied toward making up the lost production in subsequent solicitations.

For example, three contracts with Noble Clinton, Ellenburg and Bliss Windparks did not meet their obligation to deliver the required 80% minimum of contracted energy output for three consecutive years (June 2008–June 2011). As a result, the facilities' contracted bid quantity was reduced for the remaining seven years on each contract. This adjustment represented a loss of approximately 259,000 MWh per year toward program targets. The funds associated with that quantity were disencumbered from the contracts and will be made available for subsequent solicitations.

If a project overproduces, no contract modification is made; NYSERDA is not obligated to purchase more RPS Attributes than were bid. Considering that the majority

[21] Statewide Annual Energy Report for State Fiscal Year 2009/10 Executive Order No. 111 "Green and Clean" State Buildings and Vehicles. (Executive Order progress may include generation from Customer Sited Tier resources.)

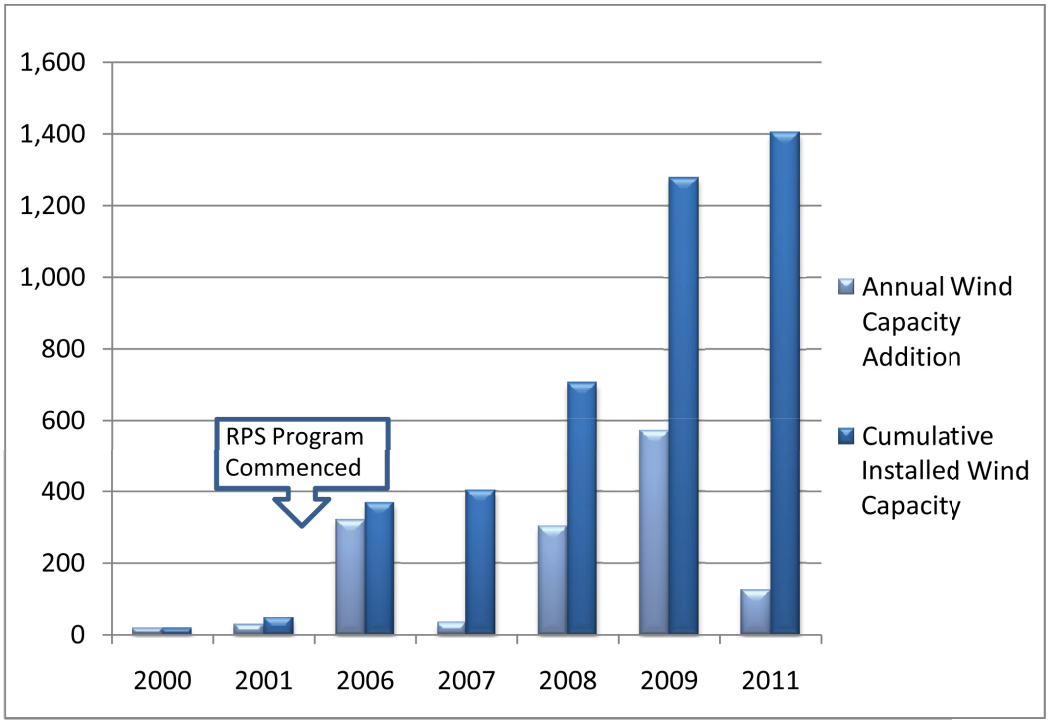
[22] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Authorizing Customer Sited Tier Program through 2015 and Resolving Geographic Balance and Other Issues Pertaining the RPS Program;" issued and effective April 2, 2010.

[23] NYSERDA counts toward the MWh program targets only the portion of a project's output or potential output that is under contract. Contract quantities are as of December 31, 2011 including any prior adjustments to contract quantities from those facilities that have underperformed.

[24] Underperformance is not unique to New York. In 2010, leading industry analysts reported actual production below original production expectations nationwide, citing year-to-year natural variability of winds, varied atmospheric conditions, curtailment, and component failures. "Underperformance Issues Deserve Fresh Examination." *North American Windpower.* Volume 7, Number 10. November 2010.

[25] Percentages and number of years vary by RFP and facility type (wind, hydro, etc.).

Figure 1. New York State Wind Power Capacity Additions, MW



of RPS resources are intermittent, it is likely that additional contract adjustments will be implemented in future years. These contract adjustments may be implemented prior to 2015 for those projects that have only recently entered commercial operation or are under construction.

Wind Power Capacity Additions to New York State

Over 125 MW of wind power capacity associated with the Main Tier RPS program entered commercial operation during 2011. The cumulative installed wind capacity in New York through the end of 2011 has grown to over 1,400 MW, which is over 28 times the capacity that existed prior to the New York RPS. This places New York in 12th place in the United States in installed wind power capacity.[26] Figure 1 shows the Wind Power Capacity Additions to New York State by year.

Main Tier

NYSERDA has conducted seven competitive Main Tier solicitations in pursuit of the Main Tier target as set forth in Table 1. Through these seven solicitations, NYSERDA has entered into contracts or has pending contracts to procure RPS Attributes from 56 large-scale electricity generation projects, facility upgrades or facility repowering. Contracts with three generators ended prior to the end of 2011.[27] Three projects are located out of state; (one project is located in Quebec, two projects are located in Pennsylvania), and the remaining projects are in New York. When all of the projects reach commercial operation, approximately 1,841 MW of new renewable capacity[28] will be added, of which 1,794 MW will be located in New York. Wind power is the predominant generating technology in the Main Tier, representing 1,654 MW of new renewable capacity under contract, of which 1,326 MW was in operation at the end of 2011. The balance of new capacity is comprised of hydroelectric upgrades, landfill gas to electricity, and biomass (direct and co-fired) facilities. As of December 31, 2011, 46 projects representing approximately 1,456 MW are operating, with the remaining 10 expected to be in operation by September 30, 2013. Further details on the status of Main Tier projects can be found in Table 2.

The Main Tier facilities with active RPS contracts are owned by or affiliated with 31 different entities, as shown in Table 3.

[26] American Wind Energy Association, U.S. Wind Industry Fourth Quarter 2011 Market Report, http://www.awea.org/learnabout/industry_stats/upload/4Q-2011-AWEA-Public-Market-Report_1–31.pdf.

[27] RFP 916 permitted contract delivery terms of less than 10 years.

[28] "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.

Table 2. Project Development Status for Active Main Tier Projects

	MW Operating	MW In Development/ Construction	Total MW	# Operating	# In Development/ Construction	Total #
Wind	1,326.3	327.9	1,654.2	13	4	17
Hydroelectric	42.4	8.9	51.3	22	3	25
Biomass	31.0	43.3	74.3	2	1	3
Biogas	56.9	4.8	61.7	9	2	11
Totals	**1,456.6**	**384.9**	**1,841.5**	**46**	**10**	**56**

A map identifying the location of each Main Tier and Maintenance Resource facility either under contract or having a pending contract with NYSERDA can be found in Figure 2. Additional details about each Main Tier and Maintenance Resource facility currently participating in the RPS can be found in Appendix A.

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).

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: (1) the bid price, weighted at 70%; and (2) 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%.[29] The solicitation was designed as a two-step process, consisting of: (1) an application step that pre-qualified bidders; and (2) a competitive bid proposal submission step. Only those bidders found pre-qualified 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. One facility, Noble Chateaugay Windpark, was split into two contracts at the request of the contractor for reasons related to physical substation configurations and interconnection, creating two windparks: Noble Bellmont Windpark and Noble Chateaugay Windpark. The Noble Bellmont Windpark 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 1,800,000 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).

Third Main Tier Solicitation

The third competitive Main Tier solicitation (RFP 1168) was completed in the first quarter of 2008 with an expected facility online date of January 1, 2009. Awards were announced in January 2008. The solicitation followed the same two-step bid evaluation process employed for the previous solicitation.

The third solicitation resulted in the award of contracts for 11 new or upgraded facilities, representing approximately

[29] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Authorizing Solicitation Methods and Consideration of Bid Evaluation Criteria;" issued and effective October 19, 2006.

Table 3. Active Main Tier Facilities

Facility	Contractor	County
BIOGAS		
Albany Energy LLC	Fortistar Methane Group LLC	Albany
DANC LFGE	Innovative/DANC, LLC	Jefferson
Hyland LFGE	Hyland Facility Associates	Allegany
Chautauqua LFGE	County of Chautauqua	Chautauqua
Seneca Energy	Seneca Energy II, LLC	Seneca
Modern LFGE	Modern Innovative Energy, LLC	Niagara
Ontario LFGE	Seneca Energy II, LLC	Seneca
Oneida-Herkimer Renewable Energy Facility	WM Renewable Energy LLC	Oneida
Clinton Co. Landfill	New England Waste Services of NY, Inc.	Clinton
Cumberland County (Community Refuse)	PPL EnergyPlus, LLC	Cumberland, PA
BIOMASS		
Niagara Generating Facility	Niagara Generation, LLC	Niagara
AES Greenidge, LLC	AES Greenidge, LLC	Yates
Black River Facility	Reenergy	Jefferson
HYDRO		
Spier Falls	Erie Boulevard Hydropower LP	Saratoga
Norfolk	Erie Boulevard Hydropower LP	St. Lawrence
Oswego Falls	Erie Boulevard Hydropower LP	Oswego
Browns Falls	Erie Boulevard Hydropower LP	St. Lawrence
Raymondville	Erie Boulevard Hydropower LP	St. Lawrence
Colton	Erie Boulevard Hydropower LP	St. Lawrence
East Norfolk	Erie Boulevard Hydropower LP	St. Lawrence
Allens Falls	Erie Boulevard Hydropower LP	St. Lawrence
Eagle	Erie Boulevard Hydropower LP	Lewis
Higley Falls	Erie Boulevard Hydropower LP	St. Lawrence
Norwood	Erie Boulevard Hydropower LP	St. Lawrence
Piercefield Hydro	Erie Boulevard Hydropower LP	St. Lawrence
Sherman Island	Erie Boulevard Hydropower LP	Saratoga
Effley Hydro	Erie Boulevard Hydropower LP	Lewis
High Falls	Brookfield Energy Marketing, LP	Canada (Quebec)
School Street Hydro Project	Erie Boulevard Hydropower, LP	Albany
Stewarts Bridge Hydro Project	Erie Boulevard Hydropower, LP	Saratoga
Taylorville Hydro Project	Brookfield Renewable Power	Lewis
Wappingers Falls Hydroelectric	Wappingers Falls Hydroelectric LLC	Dutchess
Mechanicville Hydroelectric Project	Albany Engineering Corporation	Saratoga
Stuyvesant Falls Hydroelectric Project	Albany Engineering Corporation	Columbia

Table 3. Active Main Tier Facilities—(continued)

Facility	Contractor	County
HYDRO—*(continued)*		
Wave Hydro	Wave Hydro LLC	Onondaga
Black Brook Hydro	Oakvale Construction Co., Ltd.	Clinton
Mill Street Dam Hydroelectric Generation Facility	City of Auburn	Cayuga
WIND		
Maple Ridge	Flat Rock Windpower, LLC	Lewis
Dutch Hill Wind Farm	Canandaigua Power Partners II, LLC	Steuben
Cohocton Wind Farm	Canandaigua Power Partners, LLC	Steuben
Clinton Windpark I	Noble Environmental Power LLC	Clinton
Ellenburg Windpark	Noble Environmental Power LLC	Clinton
Bliss Windpark	Noble Environmental Power LLC	Wyoming
Altona Windpark	Noble Environmental Power LLC	Clinton
Chateaugay Windpark I	Noble Environmental Power LLC	Franklin
Wethersfield Windpark	Noble Environmental Power LLC	Wyoming
Hardscrabble	Iberdrola Renewables, Inc	Herkimer
Marble River Wind Farm	Horizon Wind Energy	Clinton
Steel Winds II	First Wind	Erie
High Sheldon Wind Farm	Sheldon Energy LLC	Wyoming
Howard Wind Farm	Howard Wind LLC	Steuben
Stony Creek Wind Farm	Stony Creek Energy LLC	Wyoming
Locust Ridge Wind Farm	PPL EnergyPlus, LLC	Schuylkill, PA

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).

Fourth Main Tier Solicitation

The fourth competitive Main Tier Solicitation (RFP 1681) awards were announced in December 2009 with an expected facility online date of 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 Public Service Commission Order.[30]

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 approximately 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).

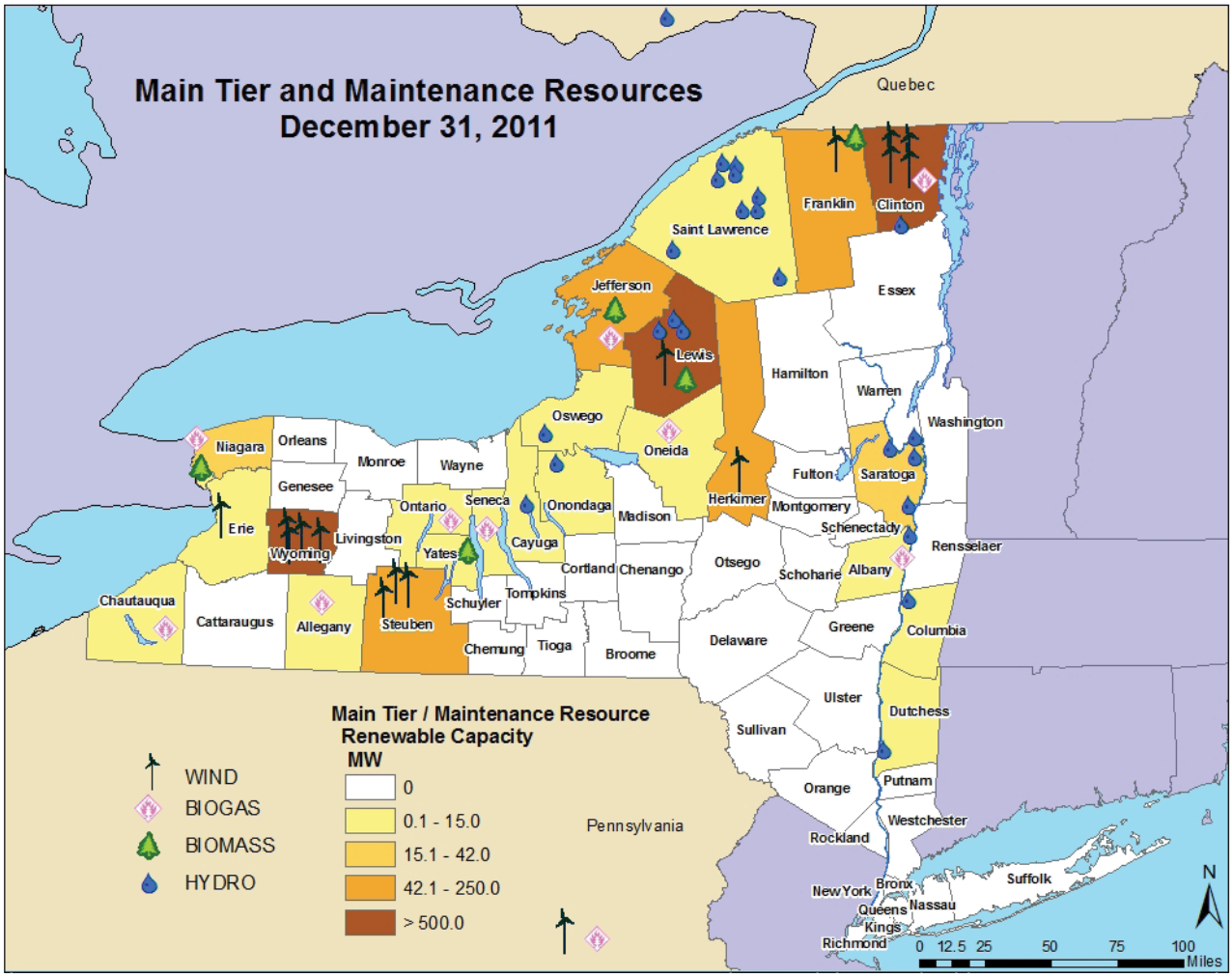
Fifth Main Tier Solicitation

The fifth competitive Main Tier Solicitation (RFP 1851) awards were made in March 2010, with an expected facility online date of December 31, 2011. This solicitation was issued in response to a January 2010 Public Service Commission Order.[31]

[30] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Authorizing Additional Main Tier Solicitation and Setting Solicitation Guidelines;" issued and effective August 21, 2009.

[31] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Establishing New RPS Goal and Resolving Main Tier Issues;" issued and effective January 8, 2010.

Figure 2: Main Tier and Maintenance Resources—NYS Map



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 1,100,000 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. This included two hydroelectric facilities and one wind farm. Also, 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 A under the Sixth Main Tier Solicitation but the committed funding remains separated in the respective solicitation balances shown in Appendix B.

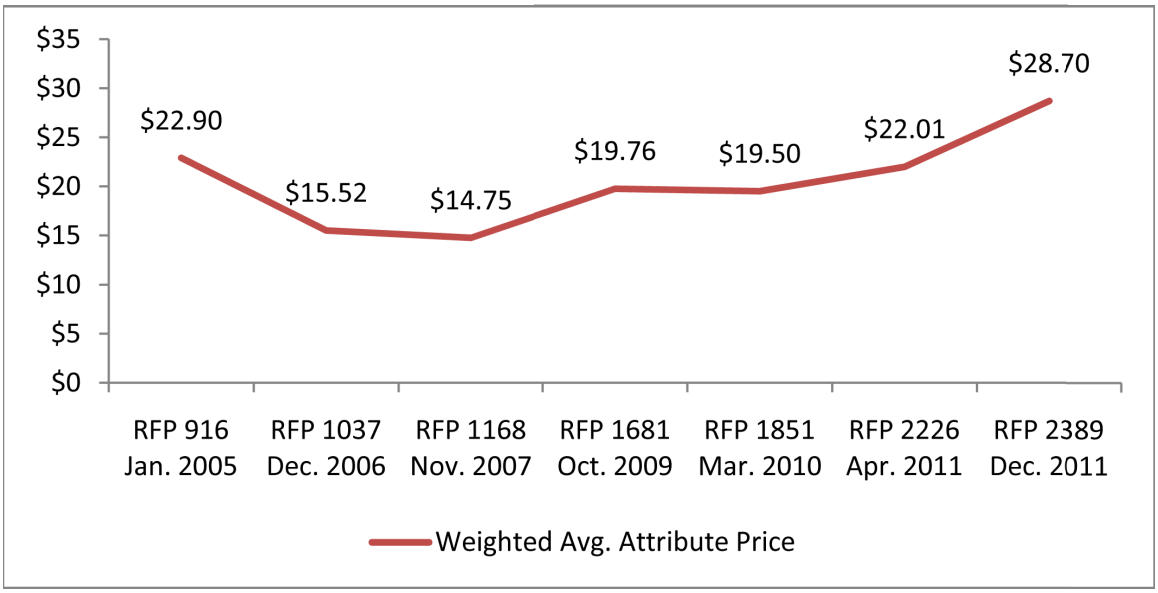
Sixth Main Tier Solicitation

The sixth competitive Main Tier Solicitation (RFP 2226) awards were made in April 2011, with an expected facility online date of July 31, 2012. This solicitation was issued by NYSERDA per the December 2010 Order by which the Commission 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 the Commission.[32]

The sixth solicitation resulted in the award of contracts to provide production incentives to 17 new or upgraded

[32] *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard,* "Order Authorizing Additional Main Tier Solicitations and Setting Future Solicitation Guidelines," issued and effective December 3, 2010.

Figure 3. Main Tier Solicitations –Weighted Average Award Price by RFP



facilities. Under those contracts, contractors are obligated to build 315 MW of renewable capacity, from which NYSERDA could provide production incentives for over 1,100,000 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).

Seventh Main Tier Solicitation

The seventh competitive Main Tier Solicitation (RFP 2389) awards were made in December 2011, with an expected facility online date of December 31, 2012. This solicitation was issued by NYSERDA per the December 2010 Order by which the Commission 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 the Commission.

The seventh solicitation resulted in the award of contracts to provide production incentives to seven new or upgraded facilities.[33] Under those contracts, contractors are obligated to build over 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).

Changes Subsequent to Solicitation Awards

As discussed above, changes may arise after the announcement of solicitation awards. 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 A, B and C of this report includes any adjustments that have been instituted through December 31, 2011.

Weighted Average Award Price Trends

The aggregate MWh weighted average award price from the seven Main Tier solicitations is $19.25. The seventh solicitation yielded the highest weighted average award price ($28.70) while the third solicitation resulted in the lowest ($14.75). As is illustrated in Figure 3, average contract award prices for the second (RFP 1037) through the sixth (RFP 2226) Main Tier solicitation were lower than the first Main Tier solicitation (RFP 916). Prices for the seventh (RFP 2389) trended higher. While no factor is solely responsible for the recent increase in the price of RPS Attributes, the recent drop in the price of natural gas and the current market outlook for forward natural gas prices has the effect of reducing forward expectations for power prices in the competitive wholesale power market and is likely a dominant factor in the recent increase in the price of RPS Attributes.[34]

[33] As of December 31, 2011, seven of the contracts were pending execution and are expected to be fully executed in the first quarter of 2012.

[34] The pending expiration of the federal Production Tax Credit (PTC) introduces an element of uncertainty into the marketplace, which could affect future RPS Attribute prices.

Photo courtesy of EverPower Wind Holdings, Inc., Steuben County

Customer Sited Tier

In its April 2, 2010 Order,[35] the Commission established new CST program targets for the previously approved CST technologies (PV; fuel cell, ADG, and on-site wind installations), authorized a new CST program aimed at encouraging additional customer-sited installations in the downstate region (NYISO Zones G, H, I and J) referred to as the Geographic Balance or Regional Program, and authorized solar thermal energy systems as a new eligible CST technology. The Commission also established guidance on program implementation, capacity and energy targets, authorized increased incentive funding, and directed NYSERDA to develop a new CST Operating Plan (2010 CST Plan). NYSERDA, in consultation with the DPS, issued the 2010 CST Plan, which sets forth general program specifications, capacity and generation targets, and associated budgets. The 2010 CST Plan was issued on June 29, 2010, and can be accessed at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={CD4D2813–2334–431A-B7F1–77DA10455C18}.

Combined with previously authorized funding, the April Order results in a total program budget for the CST program of $532.375 million (see Table 4).

Table 4. Customer Sited Tier Funding Budget by Program through 2015 (millions of dollars) (under the 2010 CST Operating Plan)[36]

CST Program	Total
Solar Photovoltaics	$224.624
Geographic Balancing[37]	$150.000
Fuel Cells	$23.712
Anaerobic Digestion Systems	$89.318
On-Site Wind	$19.996
Solar Thermal	$24.725
Total	$532.375

Budgets provided in Table 4 are for program costs only. Costs for program administration and evaluation were provided for separately in the April 2, 2010 Order.[38]

The estimate of installed capacity and energy production associated with projects under contract by the end of 2015 associated with total CST program funding authorized under the 2010 CST Operating Plans is expected to approximate 285 MW and 623,390 MWh, as outlined in Table 5.[39] The achievement of the targets set forth in Table 5 will be measured on the basis of energy production associated with funding that is "encumbered/contracted" or "pending contracting" as of the end of program year 2015. As noted by the Order, the "figures illustrate expectations" and are not intended as hard targets.[40] Actual rates of achievement are expected to vary somewhat from these figures.

Progress toward program targets, measured in terms of capacity and energy associated with contract commitments and pending contracts as of December 31, 2011 are presented in Tables 6 and 7.

General descriptions and 2011 updates for the CST programs are presented below.

[35] *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.

[36] In January 2012, NYSERDA made its second annual filing to the Commission in regard to recommended allocations of unencumbered CST program funding balances as of end-of-year 2011. These recommended allocations, if approved would result in changes to the program-specific funding and program targets presented in Tables 4 and 5 respectively. NYSERDA's January 30, 2012 Petition to the Commission can be found here: http://documents.dps.ny.gov/public/Common/SearchResults.aspx?MC=0&CBR=03-E-0188&CI=0.

[37] Unlike the other programs described in the Table, the Geographic Balance program incentives and implementation service budget are not restricted to supporting one technology.

[38] *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.

[39] Id.

[40] Id.

Table 5. Customer Sited Tier Expected Results by Program by 2015 (under the 2010 CST Operating Plan)

CST Program	Capacity in MW Encumbered by 12/31/15	Annual Generation in MWh Encumbered by 12/31/15
Solar Photovoltaics	101.8	119,155
Geographic Balancing	82.9	130,447
Fuel Cells	9.9	69,065
Anaerobic Digester Biogas	33.3	233,675
On-Site Wind	11.1	19,125
Solar Thermal	45.5	51,923
Program Total	**284.5**	**623,390**

Solar PV Program was issued in March 2008 to replace the similar System Benefits Charge (SBC) funded PV incentive program. During 2011, NYSERDA continued to streamline the CST Solar PV application and contracting process, which has resulted in significant reductions in the review and approval process time. In 2011, the CST Solar PV Program committed approximately $32.9 million in incentives. This figure represents a 100% commitment of the $24 million 2011 incentive budget, as well as 100% of the approximately $8.9 million in carry over incentive funding from 2010. The projected output of systems approved in 2010–2011 represents 117% of the 2010–2011 MWh target. Demand in the CST Solar PV program is expected to remain strong throughout 2012.

The Solar PV incentive program is offered through an open enrollment solicitation designed to offer the lowest incentive possible to continue to grow the market for Solar PV. Incentive levels are open to adjustment to address consumer demand and market factors in a way that will avoid program "starts and stops" and to enable renewable energy business to continue to grow in New York State. The program has integrated a required electric energy efficiency audit as a component of the program. The current program, PON 2112, opened on July 1, 2010 and remains available through December 31, 2015.

Geographic Balance (Regional) Program was designed to encourage additional customer-sited installations of larger-scale, renewable electric generation in the downstate region (NYISO Zones G, H, I and J). The program is designed to facilitate larger installations of eligible projects (above 50 kW), including solar PV, fuel cells and anaerobic digester-derived renewable biogas projects that accept delivery of biogas from a pipeline delivering the fuel from a separate location to the generating electricity. These larger installations are coordinated with distribution companies within the target zones, and other stakeholders. The program seeks to identify and address institutional and technical barriers to installation, minimize potential market confusion, and assess electric grid and location-based value of installations. The primary delivery mechanism for the program will be one or more annual competitive solicitations; PON 2156 was issued in March 2011 and included two due dates, through which over $34 million was awarded in incentives. The program has shown strong demand and has demonstrated that the competitive bidding model can reduce the incentive levels needed, thereby maximizing the program's impact.

Table 6. Customer Sited Tier Actual and Expected Installed Capacity effective December 31, 2011 (MW)

CST Program	Actual Installed Capacity	Capacity Under Contract but Not Yet Installed	Capacity from Accepted Applications with Contracts Pending	Total Pending and Installed Capacity
Solar Photovoltaics	32.06	16.97	2.75	51.78
Geographic Balancing/ Regional	—	7.95	18.67	26.62
Fuel Cells	0.37	0.44	2.02	2.83
Anaerobic Digesters	3.52	3.32	10.16	17.00
On-Site Wind	0.82	0.60	1.37	2.79
Solar Thermal	0.21	0.10	3.06	3.37
Program Total	**36.98**	**29.38**	**38.03**	**104.39**

Table 7. Customer Sited Tier Actual and Expected Energy Production effective December 31, 2011 (MWh)

CST Program	Actual Energy Production from Installed Capacity	Expected Production from Capacity Under Contract but Not Yet Installed	Expected Production from Accepted Applications with Contracts Pending	Total Expected Production Progress
Solar Photovoltaics	37,637	19,921	3,233	60,791
Geographic Balancing/ Regional	—	10,446	24,530	34,796
Fuel Cells	1,696	3,333	16,122	21,151
Anaerobic Digesters	24,287	23,267	71,836	119,390
On-Site Wind	922	1,199	3,030	5,152
Solar Thermal	236	118	3,480	3,834
Program Total	**64,778**	**58,284**	**122,231**	**245,293**

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 (experimental fuel cells are supported through the System Benefits Charge). Program payments are differentiated by the scale and type of application of fuel cell system. NYSERDA experienced different degrees of program uptake for large fuel cell systems versus small fuel cell systems in 2011. Large Fuel Cell Systems showed robust activity in 2011 with six applications requesting $1 million each, whereas small fuel cells showed minimal activity in 2011.

There are only a few original equipment manufacturers (OEMs) of large fuel cell modules, and their business practices dictate the uptake of large fuel cells in the marketplace. The six large fuel cell projects established in 2011 were the result of a single OEM, UTC Power, effectively marketing their product in New York and directing customers to the NYSERDA program.

In consultation with DPS staff, NYSERDA has agreed to limit small fuel cell eligibility to continuous-duty installations only, and has redesigned the incentives for small fuel cells to reflect this new requirement. NYSERDA staff has been working with manufacturers of small fuel cells to identify and certify systems under the new eligibility requirements. In years past, small fuel cell systems that were intended to operate in stand-by mode only were allowed to participate in the program; this resulted in a higher degree of activity in the marketplace, as indicated by the 22 applications for small fuel cells received and approved in 2009. PON 2157 was issued in March 2011 and will be open through 2015.

Anaerobic Digester Gas-to-Electricity Program was first released in August 2007. The program was re-issued in December 2011 as PON 2276 and will be open through 2015 with a similar structure, providing capacity and performance incentives for ADG systems installed at farms treating manure and other agricultural waste products, wastewater treatment plants (WWTPs), and businesses that treat organic wastes.

NYSERDA offered funding for the ADG program via PON 2138, which opened in late November 2010 and closed December 31, 2010. During this brief time, 19 applications, representing 10,794 kW of new generating capacity, and requesting slightly more than $18 million of incentives, were received. This level of activity significantly exceeded the 2010 budget of $13.275 million. While awaiting a decision by the commission on reallocation of unencumbered 2010 CST program funding (see Program Funding and Budgets), NYSERDA closed PON 2138 and engaged stakeholders and DPS staff to explore implications for revising the program's payment structure and other details. A significant portion of the 2011 ADG budget remained unencumbered at the end of the year.

On-Site Wind Program was released in April 2007. In 2009, the On-Site Wind Program, through PON 1098, received and approved 37 applications for a total program cost of $1,092,000. By December 2009 all program funds had been committed and the program was closed. From April 2010 through June 2010, PON 1098 was reissued using $300,000 in bridge funding; during this period, seven applications were received and six were approved. Following stakeholder input, a revised solicitation was issued at the beginning of October 2010 with a closing date of June

Photo courtesy of SolarWrights Inc., Fulton County

30, 2011 (the major revision was to change the incentive structure from one based on nameplate rating of the wind turbine to one based on computer-model-predicted-output). The total number of applications received in 2010 under PONs 1098 and 2097 represent 297 kW of new capacity.

NYSERDA extended PON 2097 to remain open through December 31, 2011.[41] In 2011, 63 applications were received (1,933 kW) and 55 were approved (768 kW) under the program. In September 2011 an Order[42] from the PSC raised the maximum capacity of on-site wind turbines from 600 kW to 2-MW.

Throughout 2011, 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, future PON 2439 will include a split pool of funding (a dedicated "set-aside" pool and a "general" pool).

Solar Thermal Program, launched in December 2010, is a new application-based program with incentives for solar hot water systems that displace electrically heated domestic hot water. The program is available for all sectors. This program integrates an electric energy efficiency audit as a component of the program. Only electrical energy savings associated with solar water heating will contribute to program targets.

Funding for the Solar Thermal program is available under PON 2149, and remains available through December 31, 2015. Due to the end of year launch date, the entire 2010 incentive budget, less $900,000 for a Solar Thermal Outreach and Education campaign, was carried over into 2011. Since the Program launch, NYSERDA has received 99 Installer Applications, and 711 project applications totaling $2,221,400. While this represents a good start for a new program, a significant portion of the 2011 Solar Thermal budget remained unencumbered at the end of the year.

Funding made available for the Solar Thermal Outreach and Education campaign, which is scheduled to run through 2013, is designed to raise consumer awareness and spur demand for Solar Thermal systems.

Figure 4 (RPS Funded Solar PV Installations by County), Figure 5 (RPS Funded Solar Thermal Installations by County), and Figure 6 (RPS Funded CST Installations-Exclusive of Solar PV and Solar Thermal), display a graphical summary of the progress in the Customer Sited Tier through December 31, 2011. As Figure 4 illustrates, the majority of the Solar PV projects (1,287, or 44% of the total) are located in and south of Columbia County with the highest concentration of projects (238) being located in Ulster County.

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, 2011 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.

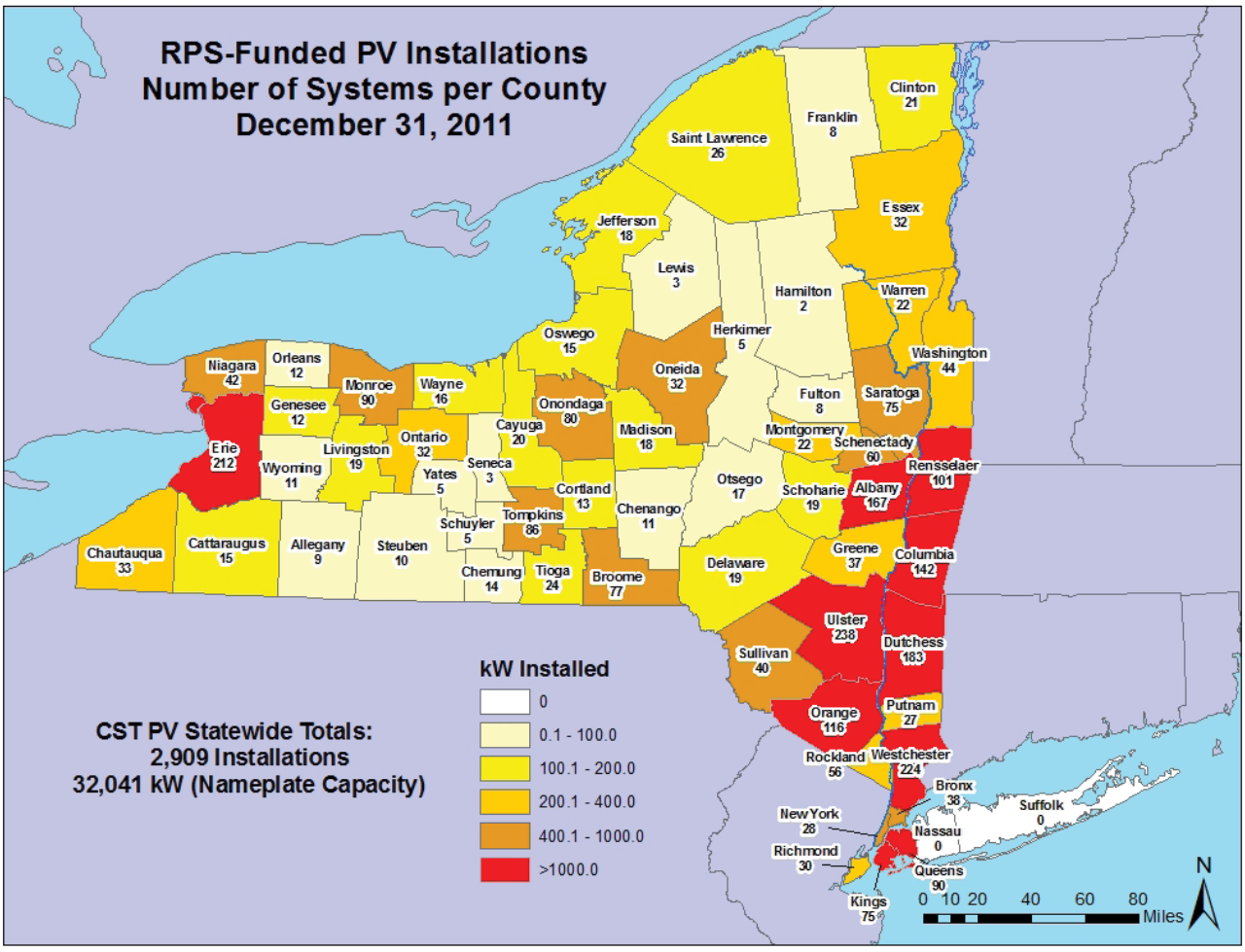
An analysis conducted as part of a comprehensive RPS program mid-course evaluation in 2009[43] concluded that

[41] The program will be re-opened in the first quarter of 2012 as PON 2439 and will be open through 2015.

[42] *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.

[43] New York Main Tier, Impact and Process Evaluation, KEMA, Inc. This figure is aggregated from bid information provided by the facilities during the bid evaluation and award selection process. Contract terms require that facilities demonstrate actual investment of no less than 85% of the bid-based amount, or they will be penalized through a lowering of their contract prices.

Figure 4. RPS-Funded Solar PV Installations by County



approximately $6 billion in direct economic benefits are expected to accrue to New York from the Main Tier alone if the entire 30% target is met. These expected direct economic benefit figures do not include any estimate of additional economic activity or multiplier effects that typically accompany direct economic activity, which the RPS program evaluation found could double the direct economic benefits. Using data from this analysis, NYSERDA estimates that the direct economic benefits associated with all projects selected in the first seven Main Tier solicitations will approach $2.4 billion over the next twenty years. When the effects induced on the broader economy are considered, the total economic benefits are estimated at more than $4.9 billion.[44]

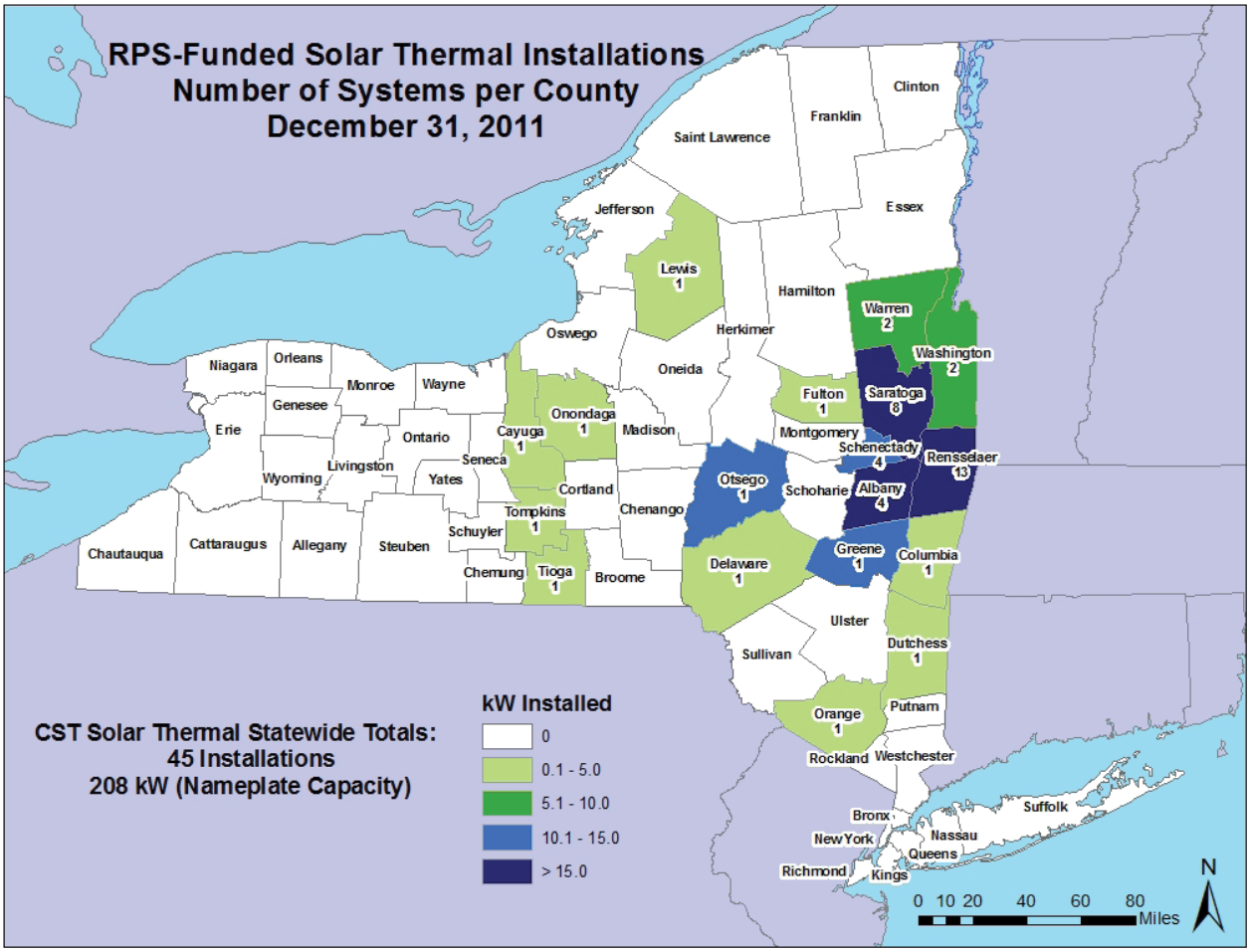
The new renewable generation capacity from facilities awarded contracts under the seven Main Tier competitive solicitations and future solicitations will provide environmental benefits to the State of New York. The environmental benefits of having electricity generated by the RPS facilities from 2006 through 2011, as opposed to the State's "system-mix," amounts to approximately 3,086 tons of nitrogen oxides, 6,782 tons of sulfur dioxides, and 3.1 million tons of carbon dioxide in reduced emissions over this time period.

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, NYS Electric and Gas, National Grid, Orange and Rockland, and Rochester Gas and Electric. These utilities recoup the payments made to NYSERDA through a System Benefits/RPS Charge on the delivery portion of retail customer utility bills.

[44] New York Main Tier, Impact and Process Evaluation, KEMA, Inc.

Figure 5. RPS-Funded Solar Thermal Installations by County



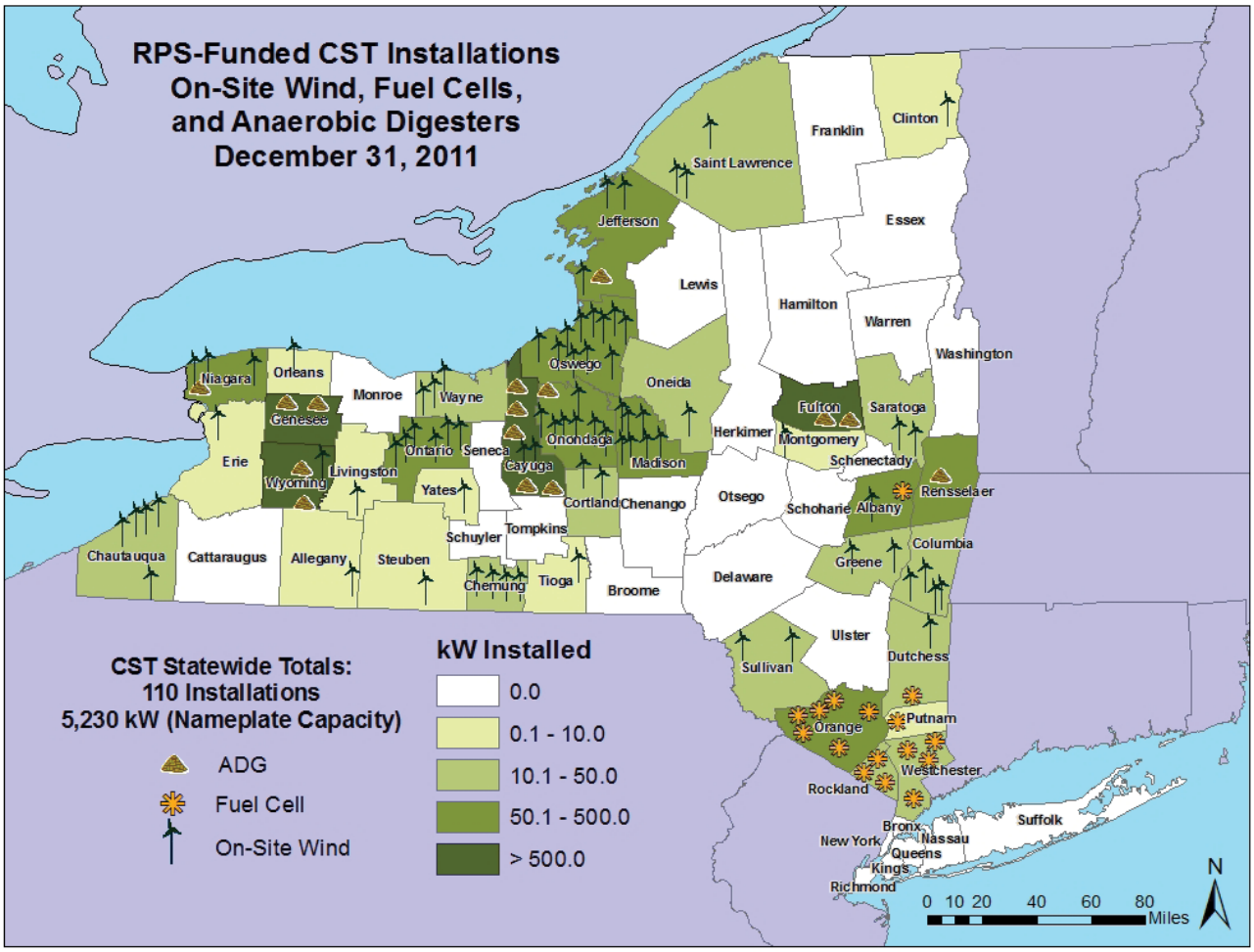
In its April 2, 2010 Order, the Commission specified a total program budget through 2024 in an amount totaling approximately $2.998 billion.[45] This funding is to be used by NYSERDA for long-term contracts for Main Tier and Maintenance resources, Customer Sited Tier incentives, NYSERDA administration and program evaluation, Customer Sited Tier system Quality Assurance/Quality Control (QA/QC), and NYS cost recovery fees.

The Commission's April 2, 2010 Order provides a description of program administration that lists developing and issuing Program Opportunity Notices for each technology, developing and issuing a solicitation for the Geographic Balance (Regional) component; reviewing and analyzing each application; performing project reviews to ensure proper commissioning and operation prior to issuing payments; performing measurement and verification; and performing monitoring of system performance through real-time internet-based systems.[46] While this list of activities describes a considerable portion of the activities that are necessary to program administration, NYSERDA understands that the list was not intended as a limitation, as many additional tasks are routinely performed as a necessary part of program administration.

The Commission's April 2010 Order recognized the difficulty in predicting every contingency with respect to establishing a program budget that spans many years.[47] The Order therefore directed NYSERDA to submit a revision to the CST Operating Plan, and provided that, at the conclusion of each calendar year; NYSERDA would calculate the unencumbered funding balance in each CST technology category. Based on those calculations, and in consultation with Department of Public Service Staff, NYSERDA would file a proposal as to whether those

[45] *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.
[46] Id.
[47] Id.

Figure 6. RPS-Funded On-Site Wind, Fuel Cell, and Anaerobic Digester Installations



unencumbered funding balances should be added to the same technology category budgets, for the present year, or reallocated.

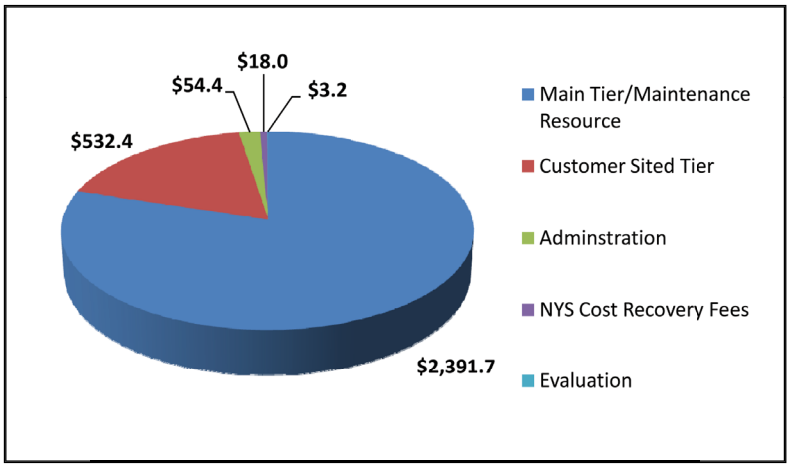
As was described in the 2010 CST Plan, the budget and associated funding authorized by the Commission for program administration did not specifically account for necessary expenses for quality assurance and control associated with implementing CST programs (QA/QC), inflationary increases, accurate costs 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 Plan, QA/QC expenses are necessary to ensure that the CST program supports systems that are safe, reliable, and effective.

In accordance with the 2010 CST Plan, and as a part of a January 2011 filing made in accordance with the Commission's April Order, NYSERDA submitted for Commission approval, a Petition requesting adjustments to program budgets to address the above-noted matters.[48] In a September 2011 Order,[49] the Commission authorized NYSERDA to re-allocate unencumbered 2010 Renewable Portfolio Standard Customer Sited Tier program funds so that such unused funds remained available for additional projects for 2011 in the same technology category from which they originated, except for $900,000 in unencumbered solar thermal funds that were re-allocated to fund a solar thermal awareness and outreach campaign during 2011 through 2013, and use accumulated unencumbered interest earnings and unencumbered administration funds to pay any New York State Cost Recovery Fee that exceeds the amount previously budgeted for such fee. Per the Commission Order, quality assurance and quality control expenses would continue to be paid using program administration account funds.

[48] NYSERDA's January 31, 2011 Petition to the Commission can be found here: http://documents.dps.ny.gov/public/Common/SearchResults.aspx?MC=0&CBR=03-E-0188&CI=0.

[49] *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.

Figure 7. RPS Program Budget through 2024 (in millions)[50]



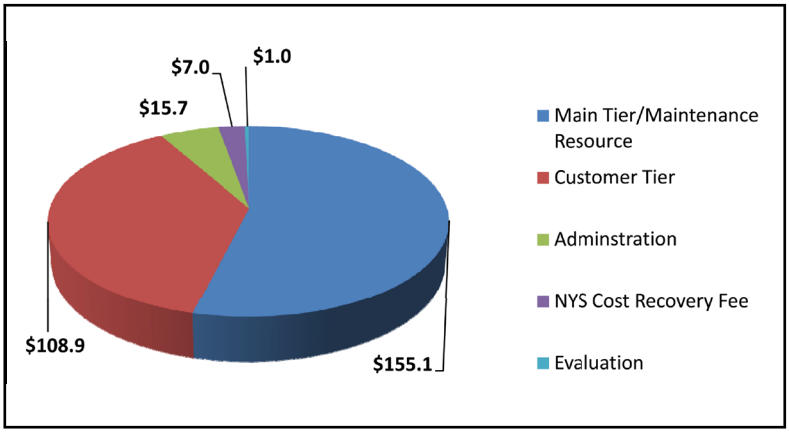
The major categories and amounts of funding by each category, based on Commission decisions rendered through the close of 2011 are presented in Figure 7.

Funding Commitments and Expenses

As of December 31, 2011, approximately $1,165.6 million, or roughly 39% of the total approved RPS funding, has been expended or committed to achieving NYSERDA's 2015 targets (inclusive of administration and NYS fees). This includes $925.8 million for program resource acquisition costs in the Main Tier, inclusive of Maintenance resource obligations, and $212.4 million for the Customer Sited Tier. Appendix B, Renewable Portfolio Standard Financial Status Report, presents the program's detailed budgets, expenditures, and funding commitments from contracts and/or pending contracts and applications through December 31, 2011.

NYSERDA's actual expenses through December 31, 2011 have totaled $287.8 million, or approximately 9.6% of the total RPS budget. The large majority of these expenses, $264.1 million have resulted from payments for Main Tier and Maintenance resource contracts as well as Customer Sited Tier incentives. Figure 8 illustrates NYSERDA's major expenses through December 31, 2011. Actual program collections and costs as well as projected future revenues and program costs can be found in Appendix C, Cash Flow Estimates.

Figure 8. RPS Program Expenses through December 31, 2011 (in millions)



[50] In January 2012, NYSERDA made its second annual filing to the Commission with regard to recommended allocations of unencumbered CST program funding balances as of end-of-year 2011. NYSERDA's January 30, 2012 Petition to the Commission can be found here: http://documents.dps.ny.gov/public/Common/SearchResults.aspx?MC=0&CBR=03-E-0188&CI=0.

APPENDIX A – RENEWABLE PORTFOLIO STANDARD

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Bid Capacity (MW)	Maximum Annual Contract Quantity (MWh)	Contract Duration (years)	Project Status
1st Main Tier Solicitation								
Spier Falls	Hydro	NY	Saratoga	0.8	0.8	3,582.3	10	Operating
Higley Falls*	Hydro	NY	St. Lawrence				1	N/A*
Browns Falls*	Hydro	NY	St. Lawrence				1	N/A*
Maple Ridge	Wind	NY	Lewis	321.0	231.0	605,820.0	10	Operating
Bear Creek**	Wind	PA	Luzerne	22.0			4	N/A*
Totals for RFP 916				343.8	231.8	609,402.3		
2nd Main Tier Solicitation								
Norfolk	Hydro	NY	St. Lawrence	1.5	1.5	10,154.1	10	Operating
Oswego Falls	Hydro	NY	Oswego	0.6	0.6	2,957.0	10	Operating
Browns Falls	Hydro	NY	St. Lawrence	0.4	0.4	1,277.1	10	Operating
Raymondville	Hydro	NY	St. Lawrence	0.7	0.7	5,043.5	10	Operating
Colton	Hydro	NY	St. Lawrence	0.7	0.7	4,851.0	10	Operating
East Norfolk	Hydro	NY	St. Lawrence	0.9	0.9	6,207.3	10	Operating
Allens Falls	Hydro	NY	St. Lawrence	0.3	0.3	1,675.3	10	Operating
Eagle	Hydro	NY	Lewis	0.5	0.5	3,181.2	10	Operating
Higley Falls	Hydro	NY	St. Lawrence	1.9	1.9	11,647.9	10	Operating
Norwood	Hydro	NY	St. Lawrence	0.5	0.5	4,627.7	10	Operating
Dutch Hill Wind Farm***	Wind	NY	Steuben	37.5	4.3	12,818.3	10	Operating
Cohocton Wind Farm***	Wind	NY	Steuben	87.5	8.3	23,371.7	10	Operating
Niagara Generating Facility	Biomass	NY	Niagara	26.0	26.0	189,525.0	10	Operating
Clinton Windpark I	Wind	NY	Clinton	100.5	95.5	189,354.0	10	Operating
Ellenburg Windpark	Wind	NY	Clinton	81.0	77.0	175,351.0	10	Operating
Bliss Windpark	Wind	NY	Wyoming	100.5	95.5	200,849.0	10	Operating
Altona Windpark	Wind	NY	Clinton	102.0	96.9	270,781.5	10	Operating
Chateaugay Windpark I	Wind	NY	Franklin	106.5	101.2	321,724.7	10	Operating
Totals for RFP 1037				649.5	512.7	1,435,397.3		
3rd Main Tier Solicitation								
AES Greenidge, LLC****	Biomass	NY	Yates	4.0	3.8	28,500.0	3	Operating
Piercefield Hydro	Hydro	NY	St. Lawrence	0.1	0.1	385.0	10	Operating
Sherman Island	Hydro	NY	Saratoga	4.7	4.5	19,292.0	10	Operating
Effley Hydro	Hydro	NY	Lewis	0.3	0.3	1,399.0	10	Operating
High Falls	Hydro	QC	N/A	14.7	14.0	26,410.0	10	Operating
Wethersfield Windpark	Wind	NY	Wyoming	126.0	119.7	314,572.0	10	Operating
Dutch Hill Wind Farm***	Wind	NY	Steuben		11.3	28,200.0	10	Operating
Cohocton Wind Farm***	Wind	NY	Steuben		26.3	65,700.0	10	Operating
Totals for RFP 1168				149.8	180.0	484,458.0		
4th Main Tier Solicitation								
Hardscrabble***	Wind	NY	Herkimer	74.0	43.7	121,508.0	10	Operating
School Street Hydro	Hydro	NY	Albany	5.2	4.9	21,885.0	10	Operating
Stewarts Bridge Hydro (Upgrade)	Hydro	NY	Saratoga	2.9	2.7	11,609.0	10	Operating
Totals for RFP 1681				82.0	51.3	155,002.0		
5th Main Tier Solicitation								
Hardscrabble***	Wind	NY	Herkimer		26.6	74,141.0	10	Operating
Steel Winds II	Wind	NY	Erie	15.0	14.3	37,430.0	10	Under Construction
Albany Energy LLC	Biomass	NY	Albany	0.9	0.9	6,790.0	10	Operating

MAIN TIER CONTRACTS AS OF DECEMBER 31, 2011

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Bid Capacity (MW)	Maximum Annual Contract Quantity (MWh)	Contract Duration (years)	Project Status
5th Main Tier Solicitation—*(continued)*								
Taylorville Hydro	Hydro	NY	Lewis	0.1	0.1	684.0	10	Operating
Wappingers Falls Hydro	Hydro	NY	Dutchess	0.1	0.1	474.0	10	Operating
Mechanicville Hydro	Hydro	NY	Saratoga	4.5	4.3	19,000.0	10	Operating
Stuyvesant Falls Hydro	Hydro	NY	Columbia	6.0	5.7	14,250.0	10	Under Construction
High Sheldon Wind Farm	Wind	NY	Wyoming	112.5	106.9	228,200.0	10	Operating
Totals for RFP 1851				139.1	158.8	380,969.0		
6th Main Tier Solicitation								
Albany 2	Biogas	NY	Albany	3.2	3.0	22,340.0	10	Under Construction
Marble River Wind Farm*****	Wind	NY	Clinton	216.0	205.2	583,536.0	10	Under Construction
DANC LFGE	Biogas	NY	Jefferson	4.8	4.0	32,141.0	10	Operating
Hyland LFGE	Biogas	NY	Allegany	4.8	2.2	18,182.0	10	Operating
Chautauqua LFGE	Biogas	NY	Chautauqua	8.0	2.1	16,836.0	10	Operating
Stewarts Bridge Hydro (Expansion)	Hydro	NY	Saratoga	2.6	2.5	10,491.0	10	Under Construction
Seneca Energy	Biogas	NY	Seneca	12.8	5.9	46,664.0	10	Operating
Modern LFGE	Biogas	NY	Niagara	6.4	3.0	23,979.0	10	Operating
Wave Hydro	Hydro	NY	Onondaga	0.4	0.4	900.0	10	Operating
Black Brook Hydro	Hydro	NY	Clinton	0.6	0.6	1,900.0	10	Operating
Stony Creek Wind Farm	Wind	NY	Wyoming	92.8	88.2	279,103.0	10	Under Construction
Howard Wind Farm	Wind	NY	Steuben	51.3	46.1	115,184.0	10	Operating
Ontario LFGE	Biogas	NY	Seneca	6.4	3.0	23,978.0	10	Operating
Totals for RFP 2226				410.1	366.2	1,175,234.0		
7th Main Tier Solicitation								
Cumberland County (Community Refuse)	Biogas	PA	Cumberland	6.4	6.1	47,402.0	10	Operating
Mill Street Dam Hydroelectric Generation Facility	Hydro	NY	Cayuga	0.3	0.2	1,535.0	10	Under Construction
Oneida-Herkimer Renewable Energy Facility	Biogas	NY	Oneida	1.6	1.5	12,649.0	10	Under Construction
Locust Ridge Wind Farm, LLC	Wind	PA	Schuylkill	26.0	24.7	54,093.0	10	Operating
Clinton Co. Landfill	Biogas	NY	Clinton	6.4	1.3	9,755.0	10	Operating
Black River Facility	Biomass	NY	Jefferson	43.3	41.1	324,045.0	10	Under Construction
Howard Wind Farm (Expansion)	Wind	NY	Steuben	4.1	3.9	9,849.0	10	Under Construction
Totals for RFP 2389				88.0	78.8	459,328.0		
Program Totals				**1,862.4**	**1,579.6**	**4,699,790.6**		
Maintenance Resources								
Boralex Chateaugay Biomass Plant	Biomass	NY	Franklin		20.0	128,000.0	10	Operating
Lyonsdale Biomass******	Biomass	NY	Lewis		19.0	137,847.0	7	Operating
Totals					**39.0**	**265,847.0**		

* 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.

** 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.

*** These facilities were awarded contracts for a percentage of output under multiple RFPs. The total new facility capacity is listed once.

**** MWh's from this facility will not count toward progress in the terminal year of the program (2015) as this facility's contract expires at the end of 2012.

***** 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 B.

****** Lyonsdale Biomass was authorized by the PSC to participate as a Maintenance Resource; therefore it is not included with "new renewables"

APPENDIX B – RENEWABLE PORTFOLIO STANDARD

Program	Total Budget	Expended	Encumbered	Expended + Encumbered	Expended + Encumbered as % of Total Budget
Main Tier					
RFP 916	$133,642,453	$75,006,158	$58,636,295	$133,642,453	100.0%
RFP 1037	$199,135,700	$43,887,935	$155,247,765	$199,135,700	100.0%
RFP 1168	$70,036,839	$15,751,557	$54,285,282	$70,036,839	100.0%
RFP 1681	$21,983,298	$1,403,104	$20,580,194	$21,983,298	100.0%
RFP 1851*	$164,991,485	$1,150,024	$163,841,461	$164,991,485	100.0%
RFP 2226*	$152,663,140	$1,038,435	$151,624,705	$152,663,140	100.0%
RFP 2389**	$150,000,000	$0	$0	$0	0.0%
Maintenance Tier Resources (Boralex and Lyonsdale)	$33,275,456	$16,846,996	$16,428,460	$33,275,456	100.0%
Generation Attributes Tracking System	$50,876	$50,876	$0	$50,876	100.0%
Available Main Tier Funding through 2024	$1,465,924,103	$0	$0	$0	0.0%
Subtotal	$2,391,703,350	$155,135,085	$620,644,162	$775,779,247	32.4%
Customer-Sited Tier					
PV	$224,623,584	$100,351,411	$24,115,007	$124,466,418	55.4%
Fuel Cells	$23,711,920	$335,000	$2,697,210	$3,032,210	12.8%
Anaerobic Digesters	$89,317,650	$5,096,866	$10,290,818	$15,387,684	17.2%
On-Site Wind	$19,996,846	$2,868,893	$2,092,439	$4,961,332	24.8%
Solar Thermal	$24,725,000	$274,876	$149,108	$423,984	1.7%
Geographic Balance	$150,000,000	$0	$11,168,100	$11,168,100	7.4%
Subtotal	$532,375,000	$108,927,046	$50,512,682	$159,439,728	29.9%
Subtotal—Program Funding	$2,924,078,350	$264,062,131	$671,156,844	$935,218,975	32.0%
Administration					
Administration—staff/overhead & consultant support	$51,129,000	$11,937,573	$19,305	$11,956,878	30.3%
QA/QC***—Cust. Sited-Anaerobic Digesters	$0	$346,824	$1,236,976	$1,583,800	
QA/QC—Cust. Sited-Fuel Cells	$0	$40,305	$0	$40,305	
QA/QC—Cust. Sited-PV & Small Wind	$0	$1,425,157	$439,010	$1,864,167	
QA/QC—Cust. Sited-On-Site Wind	$0	$0	$0	$0	
QA/QC—Cust. Sited-Solar Thermal	$0	$9,709	$45,697	$55,406	
QA/QC—Cust. Sited-Geo Balancing	$0	$0	$0	$0	
Administration-Consultant Support	$3,250,000	$1,922,041	$891,105	$2,813,146	86.6%
NYS Cost Recovery Fee****	$18,041,981	$7,004,247	$0	$7,004,247	38.8%
Evaluation—Staff/Overhead & Consultant Support	$3,150,000	$1,025,413	$3,675	$1,029,088	32.7%
Subtotal	$75,570,981	$23,711,269	$2,635,768	$26,347,037	34.9%
Total Renewable Portfolio Standard	$2,999,649,331	$287,773,400	$673,792,612	$961,566,012	32.1%

* 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 above.

** Total Budget includes $18,188,001, which was not awarded under RFP 2389.

*** Quality Assurance/Quality Control

**** 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. The Actual Cost Recovery Fee for 2011 was $2,250,656, the budget was $992,000. The difference is reflected as an increase in the budget as compared to the budget reflected in the the April 2010 Order.

Pre-encumbered Contracts & Applications Pending	Pre-encumbered Due Date Solicitation Balance	Expended + Encumbered + Pre-encumbered	Expended + Encumbered + Pre-encumbered as % of Total Budget
$0	$0	$133,642,453	100.0%
$0	$0	$199,135,700	100.0%
$0	$0	$70,036,839	100.0%
$0	$0	$21,983,298	100.0%
$0	$0	$164,991,485	100.0%
$0	$0	$152,663,140	100.0%
$131,811,999	$18,188,001	$150,000,000	100.0%
$0	$0	$33,275,456	100.0%
$0	$0	$50,876	100.0%
$0	$0	$0	0.0%
$131,811,999	$18,188,001	$925,779,247	38.7%
$4,156,920	$0	$128,623,338	57.3%
$5,100,000	$0	$8,132,210	34.3%
$16,471,585	$0	$31,859,269	35.7%
$1,184,440	$0	$6,145,772	30.7%
$1,796,871	$900,000	$3,120,855	12.6%
$23,389,099	$0	$34,557,199	23.0%
$52,098,915	$900,000	$212,438,643	39.9%
$183,910,914	$19,088,001	$1,138,217,890	38.9%
$0	$0	$11,956,878	32.0%
$0	$0	$1,583,800	
$0	$0	$40,305	
$621,361	$0	$2,485,528	
$0	$0	$0	
$253,441	$0	$308,847	
$0	$0	$0	
$117,608	$0	$2,930,754	90.2%
$0	$0	$7,004,247	38.8%
$0	$0	$1,029,088	32.7%
$992,410	$0	$27,339,447	36.2%
$184,903,324	$19,088,001	$1,165,557,337	38.9%

Expended: Contractor invoices processed for payment by NYSERDA.

Encumbered: Remaining funding obligated under a contract, purchase order, or incentive award.

Pre-Encumbered: Planned funding for contracts awarded and under negotiation; and planned funding under active development through open solicitations with upcoming proposal due dates.

APPENDIX C – RENEWABLE PORTFOLIO STANDARD

	Revenues			Estimated Costs			
	Specified Collections	Interest	Ltr of Credit proceeds	Admini-stration	Evaluation	Customer Tier QA/QC	NYS Fees
2006	$24,072,908	$308,826	$192,107	($2,389,174)	($59,348)	$0	($460,820)
2007	$43,143,017	$1,247,056	$662,256	($1,365,207)	($138,865)	($1,618)	($511,003)
2008	$62,136,526	$1,553,439	$50,000	($1,512,760)	($557,133)	($197,897)	($683,502)
2009	$82,639,913	$1,585,877	$1,026,981	($2,157,256)	($273,806)	($499,070)	($1,514,582)
2010	$108,591,164	$1,474,084	$0	($2,543,218)	$3,739	($696,222)	($1,583,684)
2011	$170,450,215	$2,409,458	$351,520	($3,891,999)	$0	($427,188)	($2,250,656)
2012	$202,989,832	$2,170,296		($5,072,000)	($762,294)	($3,587,073)	($3,447,376)
2013	$243,944,012	$2,333,576		($5,064,000)	($762,294)	($3,269,716)	($4,142,901)
2014	$281,544,226	$2,482,152		($5,036,000)	($200,000)	($3,304,216)	($3,447,457)
2015	$321,157,588	$2,524,099		($5,044,000)	($200,000)	($3,231,217)	
2016	$228,263,205	$982,779		($5,089,169)	($200,000)		
2017	$227,102,205	$843,302					
2018	$202,053,759	$680,439					
2019	$193,930,273	$589,574					
2020	$193,730,273	$582,210					
2021	$159,543,392	$438,599					
2022	$125,007,151	$301,799					
2023	$80,977,385	$179,381					
2024	$42,201,172	$143,988					
2025		$94,713					
2026		$190,374					
	$2,993,478,216	**$23,116,023**	**$2,282,864**		**($57,529,000)**		**($18,041,981)**

2006 through 2011 data represent actual revenues and expenditures

CASH FLOW ESTIMATES AS OF DECEMBER 31, 2011

Estimated Costs						
Current Main Tier RFPs	**Future Main Tier RFPs***	**Maintenance Tier**	**Customer Tier**	**Total Estimated Costs**	**Annual Cash Flow**	**Cash Balance**
($8,216,756)		$0	$0	($11,126,098)	$13,447,743	$13,447,743
($14,407,485)		($3,104,220)	($6,735)	($19,535,133)	$25,517,196	$38,964,939
($16,097,030)		($3,666,751)	($10,740,400)	($33,455,473)	$30,284,492	$69,249,431
($29,539,663)		($3,329,669)	($30,396,323)	($67,710,369)	$17,542,402	$86,791,833
($33,786,251)		($3,847,114)	($38,050,975)	($80,503,725)	$29,561,523	$116,353,356
($36,240,904)		($2,899,242)	($29,732,613)	($75,442,602)	$97,768,591	$214,121,947
($68,568,519)	($25,000,000)	($5,746,097)	($84,991,082)	($197,174,440)	$7,985,688	$222,107,635
($86,119,895)	($49,729,558)	($4,124,798)	($68,230,891)	($221,444,053)	$24,833,535	$246,941,170
($90,492,741)	($99,188,673)	($4,124,800)	($73,202,355)	($278,996,243)	$5,030,135	$251,971,305
($90,492,741)	($136,283,010)	($1,920,000)	($83,109,430)	($320,280,398)	$3,401,289	$255,372,594
($76,579,358)	($148,647,789)	($512,765)	($56,050,863)	($287,079,943)	($57,833,959)	$197,538,635
($76,529,363)	($148,647,789)		($30,803,333)	($255,980,485)	($28,034,978)	$169,503,657
($68,461,757)	($148,647,789)		($18,360,000)	($235,469,546)	($32,735,348)	$136,768,309
($55,435,901)	($148,647,789)		($8,700,000)	($212,783,690)	($18,263,842)	$118,504,467
($47,144,992)	($148,647,789)			($195,792,781)	($1,480,298)	$117,024,170
($40,199,967)	($148,647,789)			($188,847,756)	($28,865,764)	$88,158,405
($29,157,948)	($123,647,789)			($152,805,736)	($27,496,786)	$60,661,619
($6,844,518)	($98,918,231)			($105,762,749)	($24,605,983)	$36,055,636
	($49,459,115)			($49,459,115)	($7,113,955)	$28,941,681
	($9,998,996)			($9,998,996)	($9,904,282)	$19,037,399
				$0	$190,374	$19,227,773
($874,315,790)	**($1,484,112,103)**	**($33,275,456)**	**($532,375,000)**	**($2,999,649,331)**	**$19,227,773**	

Note: In January 2012, NYSERDA made its second annual filing to the Commission with regard to recommended allocations of unencumbered CST program funding balances as of end-of-year 2011. The CST estimated costs as shown in this Appendix assume Commission acceptance of the allocations recommended in the petition. The costs above, however, do not reflect any adjustments requested in NYSERDA's February 2012 petition for an expanded PV program.

Note: Estimated, but currently unfunded, balances of Administration and NYS Fees are not presented in the above table.

* Includes $18,188,001, which was not awarded under RFP 2389.

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

To learn more about NYSERDA programs and funding opportunities visit nyserda.ny.gov.

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The New York State Renewable Portfolio Standard Performance Report

Through December 31, 2011

State of New York
Andrew M. Cuomo, Governor

New York State Energy Research and Development Authority
Francis J. Murray, Jr., President and CEO

RD-CERMD-rps-r-2012-v1
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