NEW YORK STATE RENEWABLE PORTFOLIO STANDARD PERFORMANCE REPORT




PROGRAM PERIOD DECEMBER 31, 2010

ENERGY EFFICIENCY &
RENEWABLE PROGRAMS

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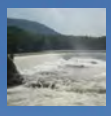

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EXECUTIVE SUMMARY

This report summarizes activities conducted through December 31, 2010 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 RPS Program outcomes, funding, and expenses. Previous program performance reports and related information can be found at: http://www.nyserda.org/rps/documents.asp.

Following a comprehensive mid-course review, the Public Service Commission ("PSC" or "Commission") has issued a series of orders reenergizing and expanding the RPS program and goals. In an order issued in January 2010, the Commission expanded the RPS goal to increase the proportion of renewable electricity to be consumed by New Yorkers from 25 percent to 30 percent and extended the terminal year of the program from 2013 to 2015; established new Customer-sited Tier ("CST") program goals; authorized a new CST program aimed at encouraging geographic balance; added Solar Thermal energy systems as an eligible technology under the CST; authorized funding to achieve overall program goals by 2015; directed the development of a Customer-sited Tier Operating Plan ("2010 CST Plan"); established the scope and cost of the administration of the RPS program; reaffirmed the role of NYSERDA as the administrator of the program; and authorized NYSERDA to conduct two additional Main Tier competitive solicitations.

Orders issued by the Commission in November and December of 2010 made additional significant programmatic modifications to the Main Tier portion of the RPS. These orders expanded the biomass eligible resources category to include the use of clean wood separated from construction and demolition debris at approved material reclamation facilities; modified the RPS eligibility rules to allow "behind-the-meter," 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; reaffirmed the weighting of economic benefits at 30% in the competitive selection process, while relaxing former incremental economic benefits requirements to allow all claims of in state spending after January 1, 2003; and authorized NYSERDA to conduct future Main Tier competitive solicitations at least annually, in consultation with DPS Staff.

The newly expanded Customer-sited Tier made significant progress in 2010, with Program Opportunity Notices ("PON") issued for Solar Photovoltaic ("PV"), Anaerobic Digester Gas ("ADG"), On-site Wind and Solar Thermal funding.[1]

Progress in the program through December 31, 2010 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 tax or payment-in-lieu of tax benefits to local governments and school districts, and biomass fuel purchases, as well as from lease and/or royalty payments to landowners. For example, long-term jobs include such positions as asset and project management jobs, operations and maintenance jobs, and administrative staff. Payments in lieu of taxes inject money into towns, counties and school districts, without requiring additional services. Similarly, host community payments invest more dollars directly to a community where a new renewable project is sited. Project development and construction also creates localized demand for short-term laborers, who in turn fill New York State hotels, motels and restaurants. These direct economic benefits have a significant impact on New York's economy. NYSERDA estimates that New York could realize up to $2.1 billion in direct economic benefits over the expected 20 year life of the facilities with active contracts under the first five main tier solicitations.[2] When the effects induced on the broader economy are considered, the total economic benefits have been estimated to more than double.[3]

[1] PON 2156, the CST Regional (Geographic Balancing) program and PON 2157, the CST Fuel Cell program were issued in March of 2011

[2] Based upon an independent program evaluation report prepared by KEMA in 2009, 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 price. New York Main Tier, Impact and Process Evaluation, KEMA, Inc. available at: http://www.nyserda.org/Energy_Information/KEMA_RPSEvaluation%20MAR%2030_Final.pdf.

[3] This report was prepared for NYSERDA by its contractor, KEMA—New York Main Tier RPS: Impact and Process Evaluation, and published in March 2009.

PROGRAM HIGHLIGHTS

- Implementation of the RPS has been highly cost effective. Progress toward the NYSERDA Main Tier and Customer Sited Tier 2015 target is approximately 39% while funding committed toward this progress is 29% of the total approved RPS budget.
- Under the Main Tier portion of the RPS, 1,286 megawatts ("MW") of new renewable capacity from 31 facilities under contract are operating; the remaining 282 MW, from eight facilities, are currently under development and/or construction.
- New renewable capacity installed since the onset of the RPS Program could reach nearly 1,620 MW by the end of 2012 under both the Main Tier and Customer-sited Tier, of which 1,583 MW will be located in New York.

BACKGROUND

The 2002 State Energy Plan warned of the possible consequences of New York's heavy dependence on fossil fuels.[4] The Energy Plan noted that New York State's fossil fuel resources (gas, coal, oil) are largely imported from abroad or out-of-state, have significant long-term negative environmental impacts, and face ultimate depletion. 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.[5]

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 ("IOUs") to collect funds from rate-payers 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

Photo courtesy of Maple Ridge Wind Farm

RPS uses a central procurement model, with NYSERDA as the central procurement administrator. Under the Main Tier for example, 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

[4] State Energy Plan, 1-1. (June 2002).

[5] Case 03-E-0188; Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Regarding Retail Renewable Portfolio Standard;" issued and effective September 20, 2004.

associated with each megawatt-hour ("MWh") of renewable electricity generated, and guarantees delivery of the associated electricity to the New York State ratepayers.[6] For all RPS Main Tier Facilities, the electricity associated with the RPS Attributes must be:

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 RPS Program ensures that increasing amounts of renewable electricity will be injected into the New York State 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.[7] 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 percent to 30 percent and extended the terminal year of the program from 2013 to 2015,[8] thus formalizing a goal advanced in the 2009 State Energy Plan.[9] These changes to the RPS program targets reflect New York State's continued commitment to support the development of various renewable energy technologies, and will help achieve New York's '45 by 15' clean energy goals.

In concluding its mid-course review of the RPS Program, the Commission issued two orders in April 2010 regarding the RPS program.[10] Therein the Commission:

a) established new CST program goals for the previously approved CST technologies (PV, fuel cell, 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 for the overall RPS program, inclusive of new CST programs and program administration that it determined to be sufficient to achieve overall program goals by 2015;

Photo courtesy of Brookfield Renewable Power

[6] "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.

[7] 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).

[8] 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.

[9] 2009 State Energy Plan. 2009. Available at: http://www.nysenergyplan.com/stateenergyplan.html.

[10] 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.

e) directed NYSERDA to consult with the DPS on the development of a Customer-sited Tier Operating Plan ("2010 CST Plan") for solicitation of customer-sited renewable resources, and provided the parameters and principles that were to be incorporated therein; and

f) established the scope and cost of the administration of the RPS program, reaffirmed NYSERDA's role as central procurement authority, and provided for the augmented and extended collection of costs from electric delivery customers to fully achieve NYSERDA'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, the Commission authorized the use of clean wood separated from construction and demolition debris at approved material reclamation facilities to be eligible as "biomass" under the RPS program.[11] In a separate order issued in November, the Commission modified the RPS eligibility rules to qualify "behind-the-meter" customer-sited facilities. The order includes 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 accurate measurement/metering and verification by the facilities, in lieu of the NYISO.[12] Finally the Commission sought public comment on the question of accounting for economic benefits associated with operating facilities and authorizing a forward schedule of competitive solicitations.

In a December order the Commission upheld its earlier authorization to weight 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 goals without further or individual authorizations by the Commission.[13] Subsequent to the December order NYSERDA issued a tentative schedule for biannual Main Tier procurements available on the NYSERDA website at: http://www.nyserda.org/rps/PastSolicitations.asp#solicitation.

TIERED APPROACH TO IMPLEMENTING THE RPS

The Commission established two tiers of resource types under the RPS Program. The larger, 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, heavy-loaded areas, the Commission also established a second, Customer-Sited Tier. The Customer-Sited Tier consists of smaller, "behind-the-meter" resources, such as photovoltaic systems, fuel cells, customer-sited wind

Photo courtesy of Noble Environmental Power

[11] 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.

[12] 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.

[13] 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.

facilities, and similar technologies that produce electricity for use on site.[14]

Only renewable energy systems installed on or after January 1, 2003 are eligible to participate in the RPS, and Customer-Sited Tier resources, and must be located in New York State. While the Main Tier operates through the issuance of periodic competitive solicitations, eligible Customer-sited Tier resources are supported through a combination of incentives for the "buy-down" of capital costs and/or energy production.

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

Photo courtesy of Noble Environmental Power

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 energy. The Commission further detailed the New York State renewable energy targets and the supporting calculation methodology, necessary to meet the RPS goal in its April 2, 2010 Order.[16] These calculations assume a reduction of our electricity consumption, through energy-efficiency efforts, of 15 percent over a business-as-usual growth forecast for the year 2015, and also assume renewable electricity purchases made through a variety of initiatives including Executive Order 111, Voluntary Market activity (explained later in this report), and Long Island Power Authority contributions.

As outlined in the April 2, 2010 Order, NYSERDA's overall target amounts to approximately 10.4 million megawatt-hours annually by 2015 through contributions from both the Customer-Sited Tier and the Main Tier.[17] This consists of approximately 9.8 million MWh from the Main Tier and .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 adoption of the RPS 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 the Commission. Upon such a request, the Commission evaluates 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.

[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] Id.

[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.

Based on Commission determinations, NYSERDA has entered 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 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 $33.9 million. These maintenance resource quantities do not count toward Main Tier incremental energy targets. During the reporting period, 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]

STEPS TAKEN TO SUPPORT THE 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, in the second through fifth Main Tier solicitations, NYSERDA capped Main Tier bids at 95% of a facility's attributes, thus guaranteeing that a minimum of 5% of those facilities' renewable production is available for voluntary sales. Also, a handful of Main Tier project contractors 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, in the second through fifth Main Tier solicitations, NYSERDA structured its contracts to provide flexibility for contractors to suspend deliveries to NYSERDA in order to make sales to the New York voluntary green market and, as of April 30, 2010, three facilities have exercised this option.[20] DPS staff records indicate that in 2009, 498,659 MWh were purchased by 30 Energy Service Companies and six IOUs and delivered to retail customers in response to their interest in clean energy.

Photo courtesy of Maple Ridge Wind Farm

EXECUTIVE ORDER 111

Executive Order 111 requires New York State agencies to procure 20% of their electricity from renewable sources by 2010. The affected state agencies have reported to NYSERDA that, during State Fiscal Year 2008/09 (April 1 through March 31), 10.1% of the electricity used in state buildings, or approximately 264,572 MWh, was produced from renewable sources, exclusive of any Voluntary Market purchase or Customer-sited Tier production, already reported in this filing.

PROGRESS AND RESULTS

The NYSERDA RPS 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.[21] Based on progress through

[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.

[21] 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.

Table 1. NYSERDA 2015 RPS Procurements and Energy Targets (in MWh) and Progress as of December 31, 2010

	Target	Progress*	Progress as % of Target
Customer Sited Tier	623,390	76,945	12%
Main Tier	9,774,464	3,930,000	40%
Total	**10,397,854**	**4,006,945**	**39%**

* Progress represents only installed capacity and capacity under contract with NYSERDA. Progress does not include any accepted-but-not-contracted applications for Customer-sited Tier technologies.

December 31, 2010 in both the Main Tier and the Customer-sited Tier, NYSERDA expects to procure approximately four million MWh by 2015. As presented in Table 1, this represents progress of about 39% towards the NYSERDA portion of the RPS target.

Current Customer-sited Tier contracts are anticipated to support the installation of systems capable of producing 76,945 MWh by 2015, representing 12.3% of the total Customer-sited Tier portion of the NYSERDA RPS target. As Main Tier facilities that entered operation prior to December 31, 2010 ramp up to a full year's production, and as those facilities selected in the most recent Main Tier solicitation in March 2010 enter operation during 2011 and 2012, NYSERDA's actual purchases, based on quantities under contract, are expected to be 3.9 million MWh in 2015. This puts New York at 40% of the 2015 Main Tier target.[22]

While approximately four million MWh are under contract 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 bidders to estimate their annual and long-term electricity production. 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.[23] As such, data being reported at any given time can reflect unintended variations in performance toward reaching the 2015 targets.

Unpredictable production and project delays and setbacks have not been overlooked in program and contract design, so as to ensure that the ultimate goal of 30% by 2015 is attainable despite project development failures and under-performance of operating projects. For example, under the Main Tier portion of the RPS, to ensure that program goals are met and other projects are afforded opportunities for funding, NYSERDA contractually requires each project to 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. For example, the Maple Ridge Wind Farm did not meet its obligation to deliver the required 85% of its contracted bid quantity for three consecutive years (2006, 2007, and 2008). As a consequence, this facility's contracted bid quantity was reduced for the seven remaining years on the contract.[24] This adjustment represented at that time a loss of approximately 176,000 MWh per year toward program targets. Nevertheless, the funds associated with that quantity were disencumbered from the project and made available through subsequent solicitations.

Table 2. Project Development Status for Active Main Tier Contracts

	MW Operating	MW In Development/ Construction	Total MW	# Operating	# In Development/ Construction	Total #
Wind	1,175	281	1,456	10	4	14
Hydroelectric	36.7	10.6	47.3	18	3	21
Biomass	30	12.7	42.7	3	1	4
Totals	1241.7	304.3	1,546	31	8	39

[22] 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, 2010, including any adjustments to contract quantities from those facilities that have underperformed.

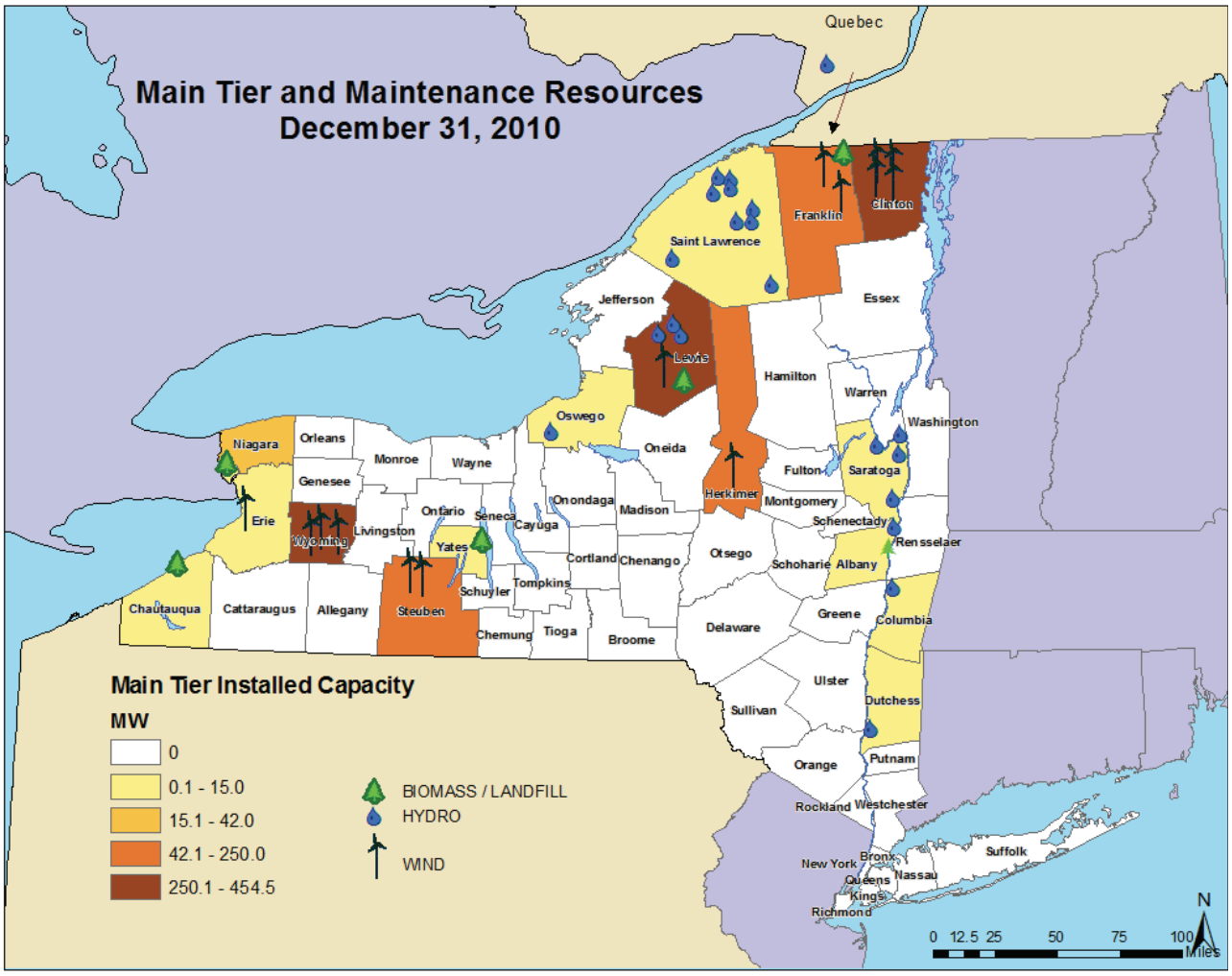
[23] Underperformance is not unique to New York. In 2010, leading industry analysts reported actual production below original production expectations nationwide, citing year-to-year natural variability of winds, varied atmospheric conditions, curtailment, and component failures. "Underperformance Issues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

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

Table 3. Main Tier Facilities

Facility	Contractor	County
BIOMASS		
Niagara Generating Facility	USRG Niagara Biomass, LLC	Niagara
AES Greenidge Station	AES Greenidge, LLC	Yates
NRG Dunkirk	NRG Energy, Inc.	Chatauqua
Albany Energy, LLC	Fortistar Methane Group, LLC	Albany
HYDRO		
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, Inc.	N/A Canada (Quebec)
School Street Hydro Project	Erie Boulevard Hydropower, L.P.	Albany
Stewarts Bridge Hydro Project	Erie Boulevard Hydropower, L.P.	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
Spier Falls	Erie Boulevard Hydropower LP	Saratoga
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
Bellmont	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

Figure 1: Main Tier and Maintenance Resources - NYS map



MAIN TIER

NYSERDA has conducted five competitive Main Tier solicitations in pursuit of the renewable energy procurement targets as set forth in Table 1. From these five solicitations at total of 39 projects have active contracts, as listed in Table 2. Thirty eight are located in New York; one is located in Quebec. These 39 facilities are under contract to provide a combined 3,958,348 MWh[25] of renewable energy per year, from approximately 1,568 MW of new renewable capacity.[26] These include two fossil fuel plants that will co-fire biomass as a fuel source, one new 100 percent biomass-fueled facility, one landfill biogas operation, twenty one hydroelectric station upgrades, and fourteen wind farms. Of these 39 new renewable electric generating facilities, 31 are now operating, and eight are under construction or development.

The Main Tier facilities with active RPS contracts are owned by or affiliated with 14 different entities, as shown in Table 3.

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 1. Additional details about each Main Tier and Maintenance Tier facility 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

[25] This quantity represents annual MWh for 2011. One contract with AES Greenidge will expire at the end of 2012, and thus will reduce the total number of MWh towards program progress in the terminal year of the program (2015) to 3,930,000.

[26] "New renewable capacity" generally refers to nameplate capacity at 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.

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.[27] 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.

As of December 31, 2010 the total funding commitment for RFP 916 is $131,900,839 and the total production incentives provide for a maximum of 609,402 MWh of clean, renewable power per year. This reduction in funding commitment and associated MWh resulted from project under-performance, and contract completion for three facilities.

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 percent.[28] 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,

Photo courtesy of Borolex, Inc.

the proposed Jordanville Wind Farm, failed to meet contract milestones, and the contract was terminated. Another 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 (total combined quantities under contract to NYSERDA remain the same). A third facility, the proposed Windfarm Prattsburgh, was cancelled in late 2008, with the contractor citing the then-challenging economic environment.

Under the remaining 19 contracts, 671 MW of new renewable capacity is under contract, from which NYSERDA could provide production incentives for approximately 1,800,000 MWh per year. At the timing 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.

As of December 31, 2010 the total funding commitment for RFP 1037 is $260,868,101, and the total production incentives provide for a maximum of 1,784,479 MWh of clean, renewable power per year. This reduction in funding commitment and associated MWh resulted from project under-performance by five facilities, and contract suspension to sell into the Voluntary Market by three facilities. All funds for underproduction and the MWh suspended were disencumbered.

[27] There were initially seven bidders that won contracts in this solicitation, but two facilities, the Criterion Wind Farm and the Jersey Atlantic Wind Farm, failed to meet contractual obligations, and their contracts were terminated.

[28] This solicitation structure was authorized by the Commission's October 19, 2006. 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.

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 and were based on price, weighted at 70%, and economic benefits to New York State, weighted at 30%. The solicitation followed the same two-step bid evaluation process employed for the previous solicitation.

The third solicitation resulted in the execution of contracts for 11 new or upgraded facilities, representing approximately 824,550 MWh per year.[29] 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. Three facilities, Noble Allegany Windpark, Noble Chateaugay Windpark II, and Windfarm Prattsburgh, (which had contracted for 10% of its output under RFP 1037 and an additional 30% under RFP 1168), were cancelled citing the challenging economic environment that existed in 2008.

As of December 31, 2010 the total funding commitment for RFP 1168 is $73,270,739 and the total production incentives provide for a maximum of 484,458 MWh of clean, renewable power per year.

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] As was the case for previous solicitations, awards were based on price, weighted at 70%, and economic benefits to New York State, weighted at 30%. The solicitation followed the same two-step bid evaluation process employed for the previous solicitations.

The fourth solicitation resulted in the award of contracts to five new or upgraded facilities. Under those contracts, contractors are 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.

As of December 31, 2010 the total funding commitment for RFP 1681 is $21,983,298, and the total production incentives provide for a maximum of 155,002 MWh of clean, renewable power per year. This reduction in funding commitment, and associated MWh, resulted from the failure of two awardees to enter into a standard form contract.

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] As was the case for previous solicitations, awards were based on price, weighted at 70%; and economic benefits to New York State, weighted at 30%. The solicitation followed the same two-step bid evaluation process employed for the previous solicitations.

The fifth solicitation resulted in the award of contracts to provide production incentives to eight new or upgraded facilities. Under these contracts, contractors are 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.

Subsequent to 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

[29] One facility failed to enter into a contract after being notified of an award.

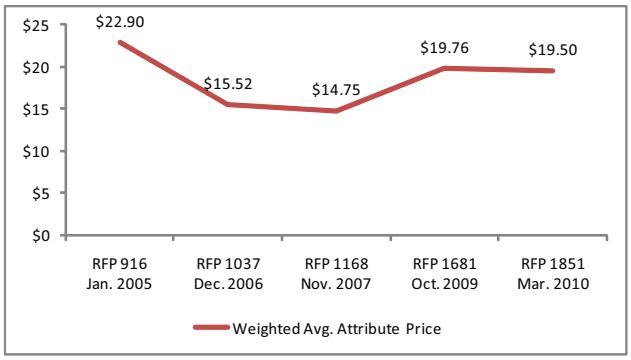
[30] Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Authorizing Additional Main Tier Solicitation and Setting Solicitation Guidelines;" issued and effective August 21, 2009.

[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.

budget. This included two hydroelectric facilities and one wind farm. As a result, the adjusted total funding is now $180,368,284 and the total production incentives provide for a maximum of 925,007 MWh of clean, renewable power per year. The funding associated with the reduction in MWh contracted is now available for future solicitations. The adjusted weighted average price for RFP 1851 was $19.50 per MWh.

The aggregate MWh weighted average award price from the five Main Tier solicitations is $17.90. The first solicitation yielded the highest weighted average award price ($22.95) while the third solicitation resulted in the lowest ($14.75). As is illustrated in Figure 2, average contract award prices under the second (RFP 1037) and third (RFP 1168) Main Tier solicitations were more than 30% lower than under the first Main Tier solicitation (RFP 916). Prices in solicitations 4 (RFP 1681) and 5 (RFP1851) have trended somewhat higher than the previous two solicitations but were also below the initial solicitation weighted average price. This increase in attribute price may be attributable to recent financial conditions precipitated by the financial crisis.

Figure 2. Main Tier Solicitations—Weighted Average Award Price by RFP



CUSTOMER-SITED TIER

In an April 2, 2010 Order,[32] the Commission established new CST program goals 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, 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 of $429 million, and directed NYSERDA to develop a new CST Operating Plan ("2010 CST Plan"). NYSERDA, in consultation with the DPS, established the 2010 CST Plan, which sets forth general program specifications, capacity and generation targets, and associated budgets. The 2010 CST Plan was adopted on June 29, 2010, and can be found at: http://www.nyserda.org/RPS/NYSERDA_Operating_Plan.pdf.

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

Budgets provided in Table 4 are for program costs only. Costs for program administration and evaluation are provided for separately in the April 2, 2010 Order.[34]

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 2007 and 2010 CST Operating Plans, is expected to approximate 285 MW and 623,390 MWh, as outlined in Table 5.[35] The achievement of the targets set forth in Table 5 will be measured on the basis of energy

NYSERDA photo

[32] 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.

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

[34] 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.

[35] Id.

Table 4. Customer-sited Tier Funding Budget by Program (through 2015) (millions of dollars)

CST Program	Total
Solar Photovoltaics	$224.624
Geographic Balancing[33]	$150.000
Fuel Cells	$23.712
Anaerobic Digestion Systems	$89.318
On-Site Wind	$19.996
Solar Thermal	$24.725
Total	$532.375

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.[36] Actual rates of achievement are expected to vary somewhat from these figures.

Progress toward program goals, measured in terms of capacity and energy associated with contract commitments and contracts that are pending effective December 31, 2010 is presented in Tables 6 and 7.

General descriptions of the CST programs included in the 2010 CST Operating Plan are presented below.

Solar PV Program was issued in March 2008 to replace the similar System Benefits Charge ("SBC") funded PV incentive program. During 2010, NYSERDA revamped the PV application and contracting process, which has resulted in significant reductions in the review and approval process time. Despite a downturn in applications, and a slow economy with unemployment figures approaching ten percent, the program was able to commit 81% of the $24 million 2010 budget, with a projected MWh output of 81% of the 2010 goal. NYSERDA anticipates that recent improvements in the economy should enable the program to maintain a high level of activity in 2011.

The PV incentive program is offered through an open enrollment solicitation designed to offer the lowest incentive possible to continue to grow the market for 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 an 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.

Table 5. Customer-sited Tier Expected Results by Program by 2015

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

Note: Geographic Balancing and Solar Thermal programs are recently authorized; program activities will commence in 2011.

Geographic Balance 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 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.

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.

In 2010 NYSERDA re-issued PON 1150 based on the Bridge Funding available in the amount $1.8 million; the program was reopened from April 2010 to the end of June 2010 during which time one additional small fuel cell application, representing 10 kW was received and

[36] Id.

Table 6. Actual and Expected Installed Capacity effective December 31, 2010 (MW)

CST Program	Capacity Under Contract but not yet Installed	Actual Installed Capacity	Total Pending and Installed Capacity
Solar Photovoltaics	12.23	18.68	30.91
Geographic Balancing	—	—	—
Fuel Cells	.39	.02	.41
Anaerobic Digester Biogas	1.55	3.92	3.92
On-Site Wind	.37	.44	.81
Solar Thermal	—	—	—
Program Total	14.54	23.05	36.05

Note: Geographic Balance and Solar Thermal programs are recently authorized and program activities will commence in 2011.

approved. The Fuel Cell Program was not re-opened in the remainder of 2010, as the program was being redesigned to better meet stakeholder and market needs.

NYSERDA expects different degrees of program uptake for large fuel cell systems versus small fuel cell systems in 2011. Large Fuel Cell Systems are expected to show robust activity in 2011 whereas small fuel cells are expected to show 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. Recent changes in these business practices will support a vibrant marketplace for large fuel cells in New York State (since mid-October 2010, NYSERDA has received applications for eligibility certification from three large fuel cell manufacturers representing four different fuel cell models; three of these applications have been determined to be complete). In years past, there were only two OEMs of large fuel cells that were enrolled in the program, and they chose not to actively market their then-CST-eligible models. Recently, one of these OEMs has created a new model that is now CST-eligible and they are eager to actively market it. Also recently, a third OEM has submitted paperwork to enroll in the 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 standby 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.

Anaerobic Digester Gas-to-Electricity Program was first released in August 2007. The program will be continued 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, and businesses that treat organic wastes.

NYSERDA offered funding for the ADG program via PON 2138, which opened in late November 2010 and

Biogas Generator – NYSERDA photo

Table 7. Actual and Expected Energy Production effective December 31, 2010 (MWh)

CST Program	Expected Production from Capacity Under Contract but not yet Installed	Actual Energy Production from Installed Capacity	Total Expected Production Progress
Solar Photovoltaics	14,357	21,924	36,281
Geographic Balancing	—	—	—
Fuel Cells	1,699	1	1,700
Anaerobic Digester Biogas	10,848	27,090	37,938
On-Site Wind	517	508	1,025
Solar Thermal	—	—	—
Program Total	27,421	49,523	76,944

Note: Geographic Balance and Solar Thermal programs are recently authorized, and program activities will commence in 2011.

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 exceeds the 2010 budget of $13.275 million. Throughout the early and mid parts of 2010 while the PON was closed, NYSERDA engaged stakeholders and the NYSDPS to explore implications for revising the way the PON makes claim to RPS Attributes, associated payment structure, and other details. Vibrancy of market displayed via applications received in 2010 indicates the program should maintain a high level of activity in 2011. NYSERDA anticipates additional funding will be available through PON 2276 by May 2011.

On-Site Wind Program was released in April 2007. The program approach going forward will initially focus on regular and predictable competitive solicitations. Nevertheless, should such approach inhibit growth in participation, an open-enrollment program component may also be used. System design and installation will be subject to verification and inspection respectively.

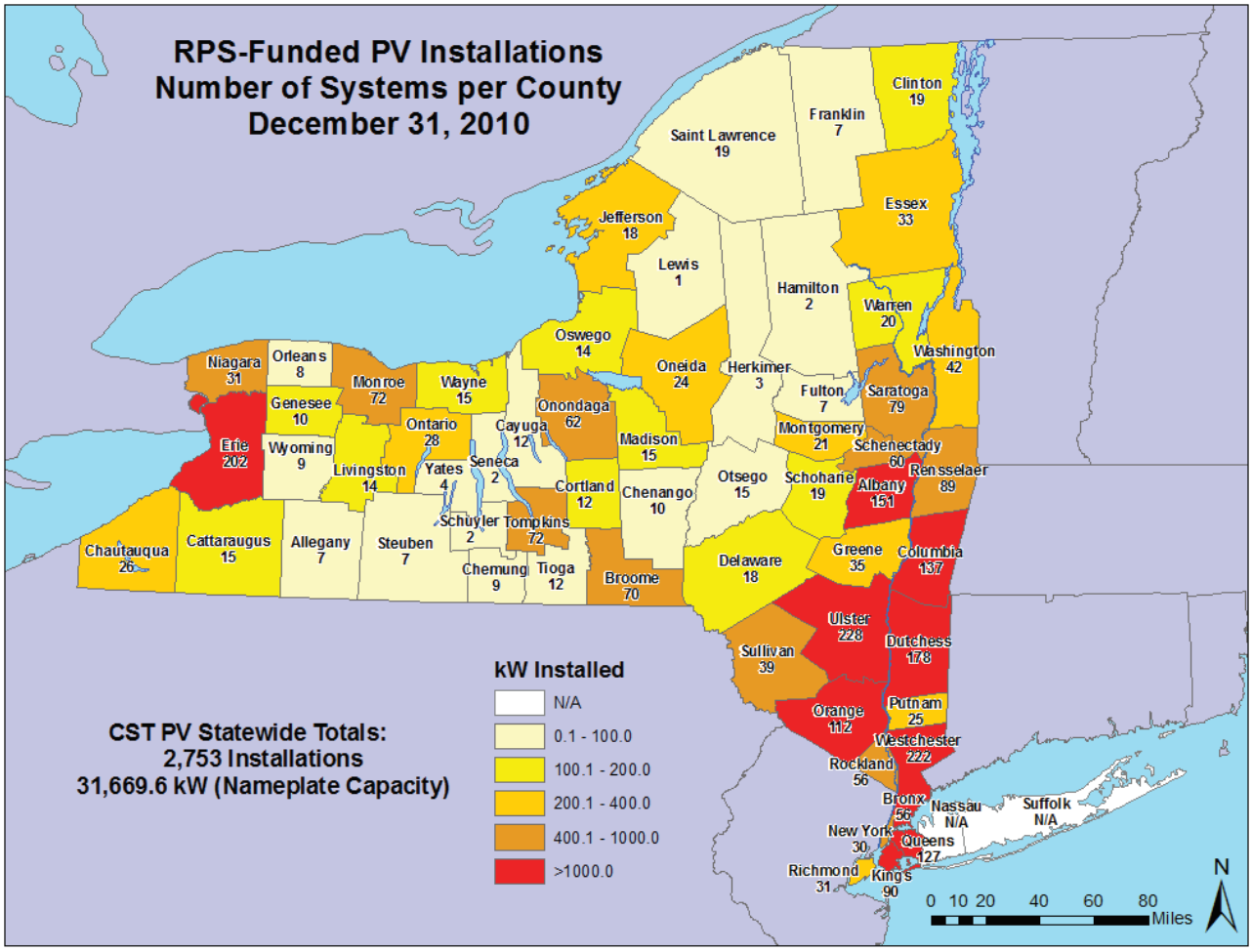
In 2009, the On-site Wind Program, through PON 1098, received and approved 37 applications for a total program cost of $1,092,000 (by December 2009 all program funds had been committed and the program closed). From April 2010 through June 2010, PON 1098 was reissued using $300,000 bridge funding; during this period, seven applications were received and six approved. Following stakeholder input, a revised solicitation was issued at the beginning of October 2010 with a closing date of June 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). As of the end of 2010, 16 applications had been received and 10 approved under the updated program. The total number of applications received in 2010 under PONs 1098 (7) and 2097 (16) represent 297 kW of new capacity.

NYSERDA is currently planning to extend PON 2097 to remain open through December 31, 2011. PON 2097 is an open-enrollment solicitation. Throughout 2011, NYSERDA will engage with stakeholders to explore creating a pair of solicitations for 2012 and beyond; one that will be an open-enrollment format aimed at systems below a size threshold, and the other a competitive format aimed at systems above that size threshold.

Solar Thermal Program is a new application-based program with incentives for solar hot water systems for all sectors. This program integrates an electric energy efficiency audit as a component of the program. Solar Thermal hot water systems receive incentives as an alternative to electric water heating only. Only electrical energy savings associated with solar water heating will contribute to program goals.

Funding for the Solar Thermal program is available through PON 2149, which opened in December of 2010 and remains available through December 31, 2015. Since December 2010, NYSERDA has received 21 Installer Applications, and the entire 2010 incentives budget remains unencumbered. Since PON 2149 is NYSERDA's first open enrollment Solar Thermal offering; we do not have historic data to predict the level of demand for the Program in 2011.

Figure 3: RPS-Funded PV Installations by County



Additionally NYSERDA has proposed that $900,000 of the unencumbered 2010 budget for Solar Thermal be used to fund Solar Thermal Awareness and Outreach efforts. NYSERDA firmly believes that the marketing of solar thermal technologies is necessary to grow the market. Consumer awareness and outreach initiatives are to begin in 2011 and continue through 2013.

Figure 3 (RPS Funded Solar PV Installations by County) and Figure 4 (RPS Funded CST Installations-Exclusive of PV) below display a graphical summary of the progress in the Customer Sited Tier through December 31, 2010. As Figure 3 illustrates, the majority of the solar PV projects (11331, or 48% of the total) are located in and south of Columbia County with the highest concentration of projects (228) being located in Ulster County.

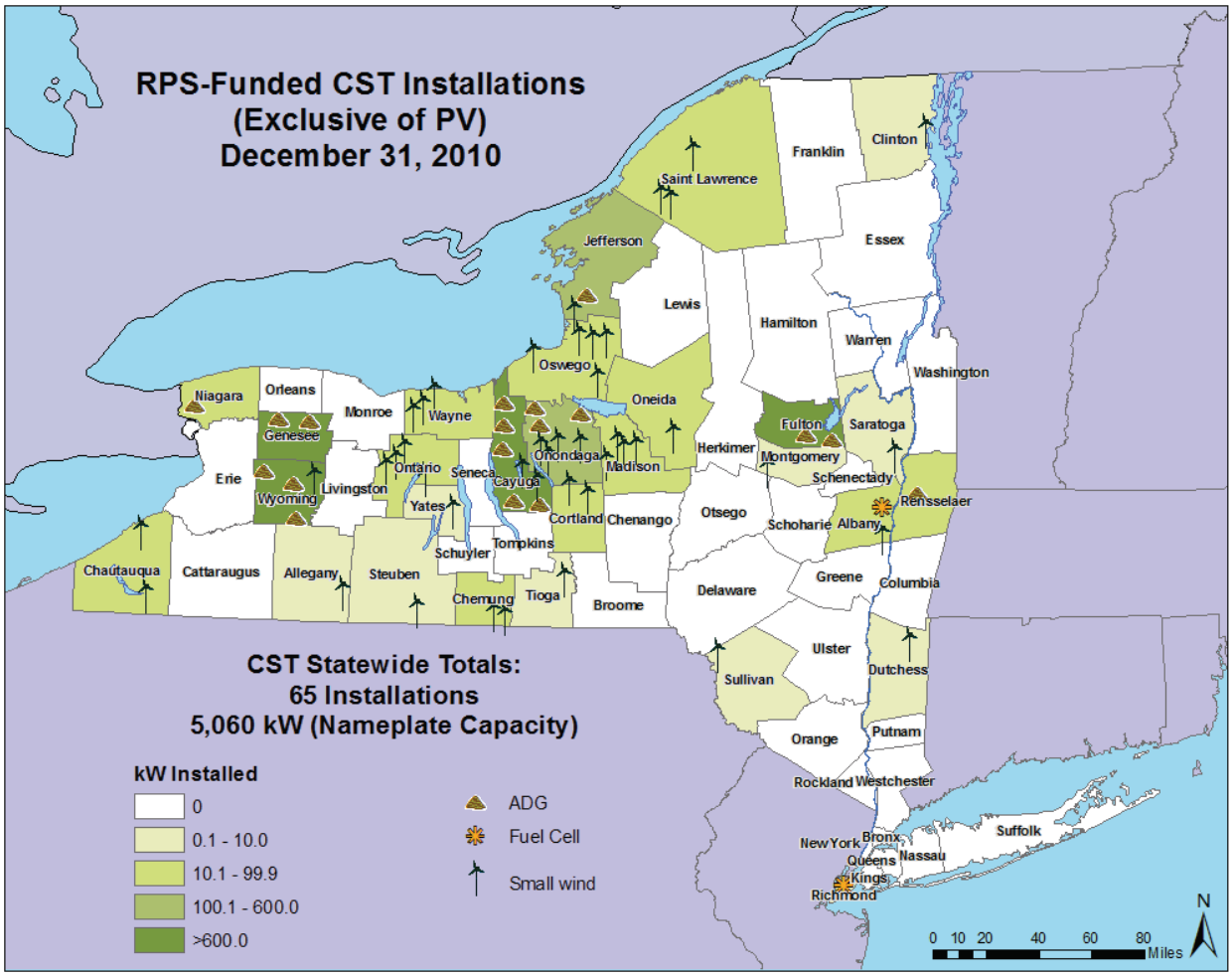
ECONOMIC AND ENVIRONMENTAL IMPACTS

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, 2010 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 and the in state purchases of goods and

[37] Based upon an independent program evaluation report prepared by KEMA in 2009, 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 price. New York Main Tier, Impact and Process Evaluation, KEMA, Inc. available at: http://www.nyserda.org/Energy_Information/KEMA_RPSEvaluation%20MAR%2030_Final.pdf.

[38] This report was prepared for NYSERDA by its contractor, KEMA—New York Main Tier RPS: Impact and Process Evaluation, and published in March 2009.

Figure 4: RPS-Funded Installations (Exclusive of PV)



services. For example, long-term jobs include such positions as asset and project management jobs, operations and maintenance jobs, and administrative staff. Payments in lieu of taxes inject money into towns, counties and school districts, without requiring additional services. Similarly, host community payments invest more dollars directly to a community where a new renewable project is sited. Project development and construction also creates localized demand for short-term laborers, who in turn fill New York State hotels, motels and restaurants. These direct economic benefits have a significant impact on New York's economy. NYSERDA estimates that New York could realize up to $2.1 billion in direct economic benefits over the expected 20 year life of the facilities with active contracts under the first five main tier solicitations.[37] When the effects induced on the broader economy are considered, the total economic benefits have been estimated to more than double.[38]

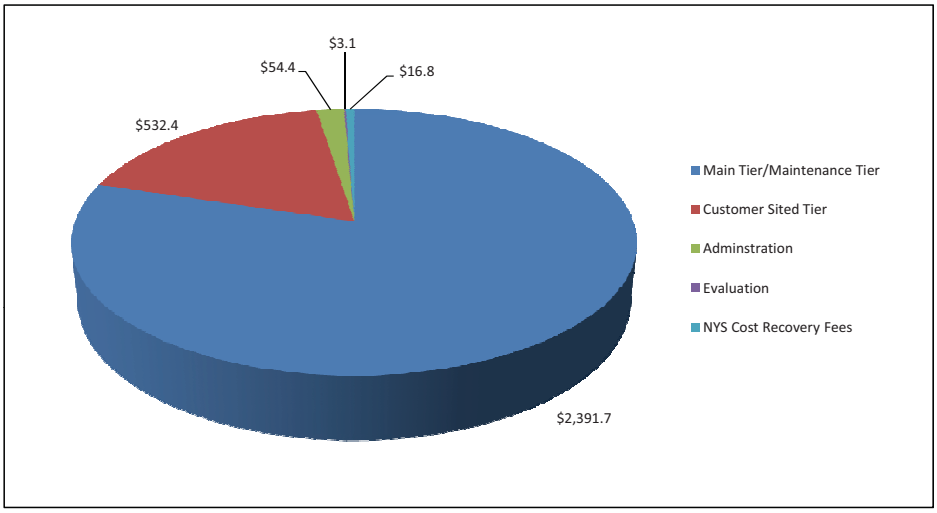
The new renewable generation capacity from the five Main Tier competitive solicitations is also expected to provide environmental benefits to the State of New York. The environmental benefits of having electricity generated by the RPS facilities, as opposed to the State's "system-mix," amounts to approximately 2,009 tons of nitrogen oxides, 2,987 tons of sulfur dioxides, and two million tons of carbon dioxide per year in reduced emissions.

PROGRAM FUNDING AND BUDGETS

NYSERDA's activities and responsibilities under the RPS are funded through quarterly payments made to NYSERDA

[39] 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.

Figure 5. RPS Program Budget through 2024 (in millions)



by the major IOUs in the state; Central Hudson, Con Edison, NYS Electric and Gas, National Grid, Orange and Rockland, and Rochester Gas and Electric. These IOUs recoup the payments made to NYSERDA through a System Benefits/RPS Charge on retail customers' monthly utility bills.

In its April 2, 2010 Order, the Commission specified a total program budget through 2024 in an amount totaling approximately $2.998 billion.[39] 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 major categories and amounts of funding by each category are presented in Figure 5.

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 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.[40] 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 part of program administration.

The Commission's April Order recognized the difficulty in predicting every contingency with respect to establishing a program budget that spans many years.[41] The Order therefore directed NYSERDA to submit a revision to the 2010 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 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. Therefore, as a part of the January 2011 filing made in accordance with the Commission's April order, NYSERDA submitted on January 31, 2011 for Commission approval, a petition to adjust program budgets to address the above-noted matters.[42]

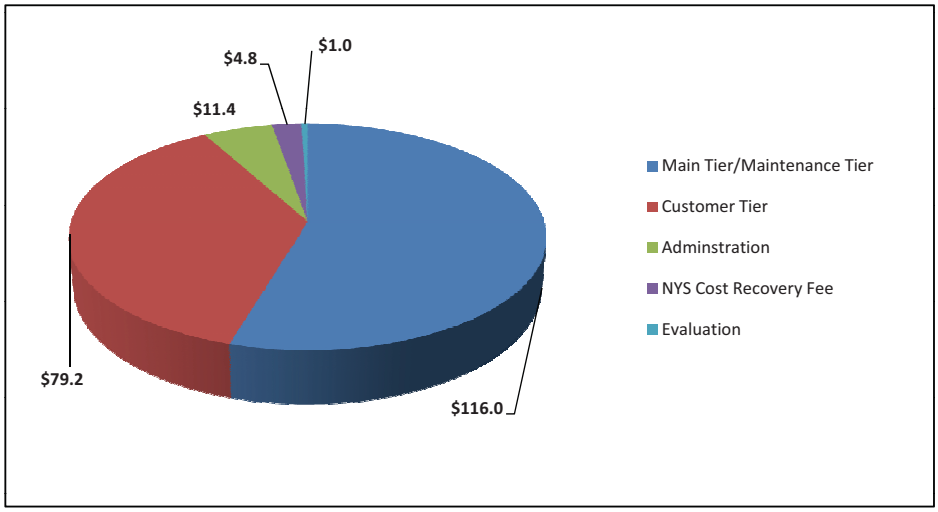
[40] Id.
[41] Id.

FUNDING COMMITMENTS AND EXPENSES

As of December 31, 2010, approximately $882.1 million, or roughly 29% 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 $702.3 for program resource acquisition costs in the Main Tier, inclusive of Maintenance resource obligations, and $158.7 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.

NYSERDA's actual expenses through December 31, 2010 have totaled $212.3 million, or approximately 7% of the total RPS budget. The large majority of these expenses, $195.2 million have resulted from payments for Main Tier and Maintenance resource contracts as well as Customer Sited Tier incentives. Figure 6 illustrates NYSERDA's major expenses through December 31, 2010. Actual program revenues and costs as well as projected future revenues and program costs can be found in Appendix C, Current RPS Program Projected Cash Flow Estimates.

Figure 6. RPS Program Expenses through December 31, 2010 (in Millions)



[42] NYSERDA's January 31, 2011 petition to the Commission can be found here: http://documents.dps.state.ny.us/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=03-E-0188

APPENDIX A – RENEWABLE PORTFOLIO STANDARD

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Bid Capacity (MW)	Annual Contract Quantity (MWh)	Contract Duration (years)	Project Status
1st Main Tier Solicitation (RFP 916)								
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	N/A	22.0			4	Operating
Totals for RFP 916				343.8	231.8	609,402.3		
2nd Main Tier Solicitation (RFP 1037)								
Norfolk	Hydro	NY	St. Lawrence	1.5	1.5	10,154.1	10	Operating
Oswego Falls	Hydro	NY	Oswego	0.6	0.6	4,049.1	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	303,598.9	10	Operating
Ellenburg Windpark	Wind	NY	Clinton	81.0	77.0	252,106.8	10	Operating
Bliss Windpark	Wind	NY	Wyoming	100.5	95.5	294,399.6	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
Bellmont	Wind	NY	Franklin	21.0	20.0	63,438.1	10	Under Construction
Totals for RFP 1037				670.5	532.7	1,784,478.8		
3rd Main Tier Solicitation (RFP 1168)								
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		

MAIN TIER CONTRACTS AS OF DECEMBER 31, 2010

Facility	Resource Type	Location	County	New Renewable Capacity (MW)	Contract Capacity (MW)	Annual Contract Quantity (MWh)	Contract Duration (years)	Status
4th Main Tier Solicitation (RFP 1681)								
Hardscrabble***	Wind	NY	Herkimer	74.0	43.7	121,508.0	10	Under Construction
School Street Hydro	Hydro	NY	Albany	5.2	4.9	21,885.0	10	Operating
Stewarts Bridge Hydro	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 (RFP 1851)								
Hardscrabble***	Wind	NY	Herkimer		26.6	74,141.0	10	Under Construction
Marble River Wind Farm	Wind	NY	Clinton	171.0	162.0	465,198.0	10	Under Construction
NRG Dunkirk	Biomass	NY	Chatauqua	11.8	11.3	78,840.0	10	Under Construction
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
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	Under Construction
Mechanicville Hydro	Hydro	NY	Saratoga	4.5	4.3	19,000.0	10	Under Construction
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				322.0	332.1	925,007.0		
Program Totals				**1,568.1**	**1,327.9**	**3,958,348.1**		
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					**39.00**	**265,847**		

* 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.

*** Dutch Hill, Cohocton, and Hardscrabble wind farms were awarded contracts for a percentage of output under multiple RFPs. The total new facility capacity is listed once.

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

***** Lyonsdale Biomass and Boralex Chateaugay Biomass were authorized by the PSC to participate as Maintenance Resources; therfore it is not included with "new renewables."

APPENDIX B – RENEWABLE PORTFOLIO STANDARD

Program	Total Budget	Expended	Encumbered	Expended + Encumbered	Expended + Encumbered as % of RPS Budget
Main Tier					
RFP 916	$131,900,839	$63,216,327	$68,684,512	$131,900,839	100%
RFP 1037	$260,868,101	$29,011,289	$231,856,812	$260,868,101	100%
RFP 1168	$73,270,739	$9,768,693	$63,502,046	$73,270,739	100%
RFP 1681	$21,983,298	$-	$21,983,298	$21,983,298	96.6%
RFP 1851	$180,368,284	$-	$174,264,534	$174,264,534	100%
Maintenance Tier Resources (Boralex and Lyonsdale)	$33,898,656	$13,947,754	$19,950,902	$33,898,656	100%
Generation Attributes Tracking System	$50,876	$50,876	$-	$50,876	100%
Available Main Tier funding through 2024	$1,689,362,557	$-	$-	$-	0.0%
Subtotal	$2,391,703,350	$115,994,939	$580,242,104	$696,237,043	29.1%
Customer-Sited Tier					
PV	$224,623,584	$75,104,138	$20,544,312	$95,648,450	42.6%
Fuel Cells	$23,711,920	$122,500	$1,909,710	$2,032,210	8.6%
Anaerobic Digesters	$89,317,650	$2,514,971	$10,982,450	$13,497,421	15.1%
Small Wind	$19,996,846	$1,452,824	$874,120	$2,326,944	11.6%
Solar Thermal	$24,725,000	$-	$-	$-	0.0%
Geographic Balance	$150,000,000	$-	$-	$-	0.0%
Discretionary	$-	$-		$-	
Subtotal	$532,375,000	$79,194,433	$34,310,592	$113,505,025	21.3%
Subtotal - Program Funding	$2,924,078,350	$195,189,372	$614,552,696	$809,742,068	27.7%
Administration					
Administration - staff/overhead & consultant support	$54,379,000	$9,967,615	$588,748	$10,556,363	25.1%
QA/QC* - Cust. Sited-Anaerobic Digesters	$-	$274,943	$808,857	$1,083,800	
QA/QC - Cust. Sited-Fuel Cells	$-	$40,305	$-	$40,305	
QA/QC - Cust. Sited-PV & Small Wind	$-	$1,079,531	$821,350	$1,900,881	
QA/QC - Cust. Sited-On-Site Wind	$-	$-	$-	$-	
QA/QC - Cust. Sited-Solar Thermal	$-	$28	$73,846	$73,874	
QA/QC - Cust. Sited-Geo Balancing	$-	$-	$-	$-	
NYS Cost Recovery Fee	$16,783,325	$4,753,591	$-	$4,753,591	28.3%
Evaluation - staff/overhead & consultant support	$3,150,000	$1,025,413	$3,675	$1,029,088	32.7%
Total Renewable Portfolio Standard	$2,998,390,675	$212,330,798	$616,849,172	$829,179,970	27.7%

Pre-encumbered Contracts & applications pending	Pre-encumbered Due date solicitation balance	Expended + Encumbered + Pre-encumbered	Expended + Encumbered + Pre-encumbered as % of RPS Budget
$-	$-	$131,900,839	100%
$-	$-	$260,868,101	100%
$-	$-	$73,270,739	100%
	$-	$21,983,298	100%
$6,103,750	$-	$180,368,284	100%
		$33,898,656	100%
$-	$-	$50,876	100%
$-	$-	$-	0.0%
$6,103,750	$-	$702,340,793	29.4%
$2,432,057	$-	$98,080,507	43.7%
$1,150,000	$-	$3,182,210	13.4%
$11,578,300	$-	$25,075,721	28.1%
$72,127	$-	$2,399,071	12.0%
$-	$-	$-	0.0%
$-	$30,000,000	$30,000,000	20.0%
	$-	$-	
$15,232,484	$30,000,000	$158,737,509	29.8%
$21,336,234	$30,000,000	$861,078,302	29.4%
$1,060	$1,500,000	$12,057,423	28.0%
$77,400	$-	$1,161,200	
$-	$-	$40,305	
$-	$-	$1,900,881	
$-	$-	$-	
$-	$-	$73,874	
$-	$-	$-	
$-	$-	$4,753,591	28.3%
$-	$-	$1,029,088	32.7%
$21,414,694	$31,500,000	$882,094,664	29.4%

* Quality Assurance/Quality Control

Additional Funds Available:

Cumulative Interest Earnings/LOC proceeds not yet approved for expenditure is $3,188,166.

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 – CURRENT RPS PROGRAM CASH FLOW ESTIMATES

	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	$1,439,179		($5,708,748)	($200,000)	($1,704,053)	($3,723,208)
2012	$202,989,832	$1,942,553		($5,072,000)	($662,294)	($3,267,857)	($3,447,376)
2013	$243,944,012	$2,383,431		($5,064,000)	($662,294)	($2,950,500)	($4,142,901)
2014	$281,544,226	$2,825,080		($5,036,000)	($200,000)	($2,985,000)	($716,249)
2015	$321,157,588	$3,273,629		($5,044,000)	($200,000)	($2,912,000)	
2016	$228,263,205	$1,523,838		($3,272,420)	($200,000)		
2017	$227,102,205	$1,391,144					
2018	$202,053,759	$1,224,696					
2019	$193,930,273	$1,177,369					
2020	$193,730,273	$2,376,974					
2021	$159,543,392	$1,066,737					
2022	$125,007,151	$911,339					
2023	$80,977,385	$697,515					
2024	$42,201,172	$438,742					
2025		$179,302					
2026		$130,198					
	$2,993,478,216	$29,151,006	$1,931,344	($57,529,000)			($16,783,325)

Highlighted cells represent actual revenues and expenditures

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
($54,762,704)		($4,124,798)	($45,097,621)	($115,321,132)	$56,568,262	$172,921,618
($69,418,664)	($12,500,000)	($4,124,798)	($61,829,575)	($160,322,565)	$44,609,819	$217,531,438
($68,943,786)	($45,000,000)	($4,124,798)	($71,432,465)	($202,320,744)	$44,006,699	$261,538,136
($68,943,786)	($75,000,000)	($4,124,800)	($82,598,724)	($239,604,559)	$44,764,747	$306,302,883
($68,943,786)	($117,326,708)	($1,920,000)	($82,690,990)	($279,037,484)	$45,393,733	$351,696,616
($55,030,403)	($159,653,416)	($699,105)	($56,336,963)	($275,192,306)	($45,405,263)	$306,291,353
($54,955,230)	($169,653,416)	($366,168)	($30,189,918)	($255,164,731)	($26,671,382)	$279,619,971
($50,886,986)	($169,653,416)		($16,194,134)	($236,734,535)	($33,456,080)	$246,163,891
($29,013,308)	($169,653,416)		($5,953,707)	($204,620,431)	($9,512,789)	$236,651,102
($21,360,885)	($169,653,416)		($623,407)	($191,637,707)	$4,469,540	$241,120,641
($17,430,250)	($169,653,416)		($233,064)	($187,316,729)	($26,706,600)	$214,414,041
	($157,153,416)			($157,153,416)	($31,234,926)	$183,179,116
	($124,653,416)			($124,653,416)	($42,978,515)	$140,200,600
	($94,653,416)			($94,653,416)	($52,013,502)	$88,187,099
	($52,326,708)			($52,326,708)	($52,147,406)	$36,039,693
	($10,000,000)			($10,000,000)	($9,869,802)	$26,169,891
($661,736,973)	**($1,696,534,155)**	**($33,432,222)**	**($532,375,000)**	**($2,998,390,675)**	**$26,169,891**	

Note: On January 31, 2011 NYSERDA filed a petition with the PSC to reallocate funds to cover currently estimated unfunded expenses, including approximately $4.4 million for program administration expenses (inclusive of Customer Sited Tier Quality Assurance and Quality Control (QA/QC) costs), and approximately $34.2 million for NYS Fees for the 2011-2024 time period. Those estimated unfunded balances are not included in the above table. The January 31, 2011 filing with the PSC requests that unfunded QA/QC costs be funded through uncommitted program administration funding to the extent such funding is available, with any remaining balance funded through re-allocation of CST program funds. The filing also requests that unfunded costs associated with the NYS fees be funded through the use of already earned interest and letter of credit proceeds not otherwise previously authorized, with any balance thereafter being funded pro-rata by Customer-Sited and Main Tier program funding. The current petition did not attempt to address QA/QC costs for years beyond 2012, nor did it contemplate the use of future interest earnings, although both of those items are estimated in the above table.

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