New York State Energy Research and Development Authority (NYSERDA)

Operations and Accomplishments and Mission Statement and Performance Measurement Annual Report

Fiscal Year Ended March 31, 2015

Pursuant to Public Authorities Law Section 2800(1)

NYSERDA

NYSERDA is governed by a board consisting of 13 members, including the Commissioner of the Department of Transportation, the Commissioner of the Department of Environmental Conservation, the Chair of the Public Service Commission, and the President and CEO of the Power Authority of the State of New York, who serve ex officio. The remaining nine members are appointed by the Governor of the State of New York with the advice and consent of the Senate and include, as required by statute, an engineer or research scientist, an economist, an environmentalist, a consumer advocate, an officer of a gas utility, an officer of an electric utility, and three at-large members.

MISSION AND VISION

*NYSERDA's **mission** is to:*

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

*NYSERDA's **vision** is to:*

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

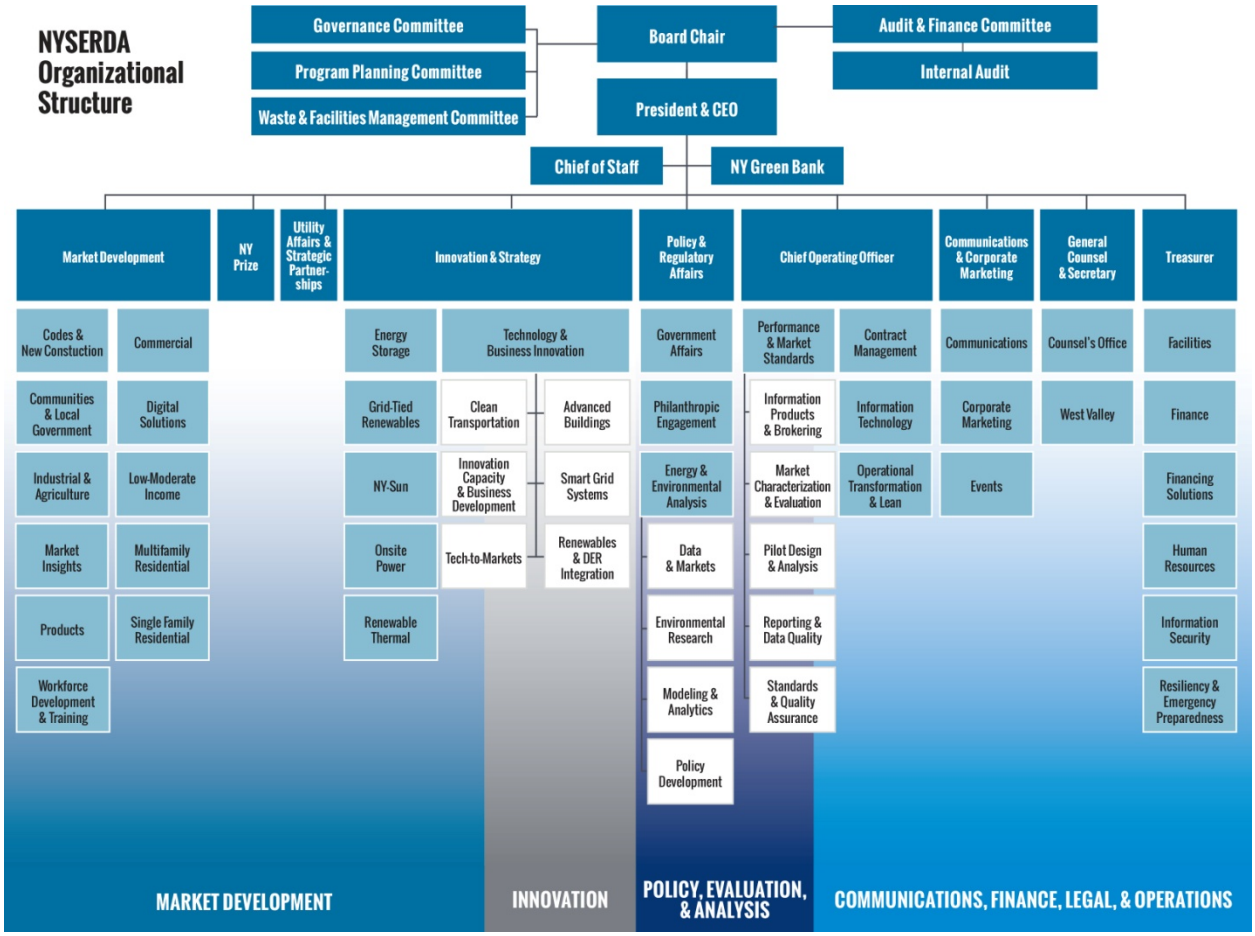
NYSERDA strives to facilitate change through the widespread development and use of innovative technologies to improve the State's energy, economic, and environmental wellbeing. NYSERDA's programs and services provide a vehicle for the State to work collaboratively with businesses, academia, industry, the federal government, the environmental community, public interest groups, and energy market participants.

OPERATIONAL CHANGES AND NEW INITIATIVES

Organizational Changes

NYSERDA was recently restructured to be more customer-oriented and focused to support its approach to clean energy markets, while continuing to ensure maximum coverage of market segments, and provide operational efficiency and accountability for use of public monies. The figure below represents NYSERDA's new organizational structure.

During FY 2014-2015, NYSERDA instituted several organizational changes.



New Initiatives

NY Prize – A first-in-the-nation $40 million competition designed to engage communities in creating microgrids and other local energy networks that can function separately from the utility grid. NY Prize helps communities reduce costs, promote clean energy, and build reliability and resiliency into the electric grid. NY Prize is a part of a statewide endeavor to modernize New York State's electric grid, spurring innovation and community partnerships with utilities, local governments, and private sector. Our mission is to enable the technological, operational, and business models that will help communities reduce costs, promote clean energy, and build reliability and resiliency into the grid.

PROGRAM ACCOMPLISHMENTS

NYSERDA's activities are focused on achieving the five strategic goals/outcomes shown in Table 1. NYSERDA's 2014 accomplishments are organized and reported in alignment with these five strategic outcomes.

Table 1: Mission, Vision, Outcomes

Mission	Advance innovative energy solutions in ways that improve New York's economy and environment.				
Vision	NYSERDA's vision is to serve as a catalyst – advancing energy innovation and technology, transforming New York's economy, and empowering people to choose clean and efficient energy as part of their everyday lives.				
Stakeholders	New York energy users, businesses and institutions engaged in the clean energy economy.				
Core Value	NYSERDA will serve as a source of objective, credible information.				
Goals / Outcomes	**Efficient Use of Energy** NYSERDA provides energy solutions that reduce the energy consumption and increase the energy efficiency of New York's residents and businesses.	**Diverse / Renewable Energy Resources** NYSERDA diversifies New York's portfolio of energy resources by growing renewable and distributed generation resources and reducing petroleum use.	**Clean Energy Economy** NYSERDA catalyzes economic growth by supporting technology and business innovation and by developing a skilled clean energy workforce.	**A Cleaner Environment** NYSERDA reduces the environmental impact of energy production and use.	**Contract and Cycle Time** NYSERDA is responsive to customer needs – delivering accurate and timely information, services and programs

The five tables that follow (i.e., Tables 2 through 6) provide performance information for each of the five outcomes, including: data that describes NYSERDA's cumulative performance prior to 2013, NYSERDA's annual incremental performance for calendar years 2013 and 2014, and the total achievement for all years through December 2014. Targets for calendar year 2015 are provided for performance measures where possible. The quantitative performance measurement data are supplemented with a brief bulleted list of 2014 accomplishments.

While the listed performance measures are used to evaluate NYSERDA's progress toward goals, the measures are influenced by factors that are out of NYSERDA's direct control, such as economic conditions, changes in energy markets and prices, and federal and state policy and funding decisions. The performance measures serve as indicators of NYSERDA's progress in the context of these external factors.

Table 2: Performance Measures - Efficient Use of Energy

EFFICIENT USE OF ENERGY *NYSERDA provides energy solutions that reduce the energy consumption and increase the energy efficiency of New York's residents and businesses.*							
Performance Measures	**Prior[1] to 2013**	**CY 2013 Addition**	**TARGET CY 2014 Addition**	**ACHIEVED CY 2014 Addition**	**Total at end of CY 2014**	**TARGET CY 2015 Addition**	**TARGET Total at end of CY 2015**
Electricity[2] (GWh) saved due to improved energy efficiency in New York's buildings and facilities. *(Comparison Point[3]: 2011 Statewide sales of electricity - 144,047 GWh)*	6,122	234	362	546	6,901	343	7,245
Fossil Fuels[2] (MMBtu) saved due to improved energy efficiency in New York's buildings and facilities. *(Comparison Point[3]: 2011 Statewide natural gas and petroleum usage – 1,053 million MMBtu)*	10.2	0.4	1.3	1.5	12.1	1.1	13.3
Number of New York households served.[4] *(Comparison Point[5]: 2011 Households in NYS – 8,119,364)*	502,697	64,013	100,000	94,383	661,093	100,000	761,093
Number of commercial and industrial customers served. *(Comparison Point[6]: 2010 Business Establishments in NYS – 519,504)*	24,309	4,211	2,412	3,358	31,878	1,453	33,331

[1] Performance measures began accumulating results in 1999 subsequent to the PSC's 1998 approval of the SBC Plan.
[2] Electricity and fossil fuel savings have been revised from previously reported values due to a change in the methodology for counting savings from the Systems Benefit Charge programs (SBC) and to correct data discrepancies discovered in 2012 Energy Efficiency Portfolio Standard (EEPS) reporting.
[3] NYSERDA, Patterns & Trends, Energy Information Administration (EIA)
[4] Households served include ARRA appliance rebates and completed multi-family units, (i.e., units with an energy reduction plan).
[5] http://quickfacts.census.gov/qfd/states/36000.html
[6] The total number of establishments in New York State for 2010 was 519,504 as reported by the U.S. Census Bureau: State and County QuickFacts.

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Performance Measures	**Prior[1] to 2013**	**CY 2013 Addition**	**TARGET CY 2014 Addition**	**ACHIEVED CY 2014 Addition**	**Total at end of CY 2014**	**TARGET CY 2015 Addition**	**TARGET Total at end of CY 2015**
Energy Bill Savings– 1) Annual direct energy bill savings realized by participating customers (Open programs only)[7]	$282 million	$40[8] million	$48 million	$97 million	$419 million	$51 million	$470 million
2) Annual direct energy bill savings realized by participating customers (All programs)[7]	$1,118 million	$(142)[8] million	**[9]	$86 million	$1,062 million	**[9]	**[9]
3) Energy bill savings realized by participating customers per energy efficiency dollar spent by NYSERDA	$3 dollars saved per dollar spent	**[10]	**[9]	**[10]	$3 dollars saved per dollar spent	**[9]	**[9]
Number of net additional jobs created as a co-benefit of NYSERDA's SBC-funded energy efficiency activities [11]	**[10]	**[10]	**[9]	**[10]	5,791	**[9]	**[9]

Highlights of Additional "Efficient Use of Energy" Accomplishments:

- Through December 2014, NYSERDA achieved over $7.9 billion dollars in cumulative energy bill savings through SBC and EEPS programs. For every $ 1 in energy efficiency funds spent by NYSERDA, $3 in

[7] Energy bill savings are shown separately for open programs and all programs. Energy bill savings for all programs reflect energy savings from System Benefits Charge funded New York Energy $mart and Energy Efficiency Portfolio Standard programs from Regional Greenhouse Gas Initiative (RGGI) programs. The New York Energy $mart Program closed in 2012 and is excluded from the open programs values.

[8] Annual bill savings decreased in 2013 due to the conservation assumption of retirement of lighting and other installed measures from New York Energy $mart projects. The electric rates used to calculate annual bill savings were lower in 2013 than in 2012, also causing savings to decrease.

[9] The measure will be monitored and reported but a target has not been set. NYSERDA has elected not to establish a target in cases where the measure is a function of a parameter that cannot be reliably predicted (e.g., energy costs) or in cases where the metric is new to NYSERDA.

[10] Not additive- annual analysis only

[11] Net additional jobs created are estimated using the Regional Economic Models, Inc. (REMI) Policy Insight™ model, and reflect the net macroeconomic impacts stimulated by the program activities. The estimated jobs impacts are largely driven by the additional purchasing power that results from the electricity and fossil fuel savings to customers, and also include the macroeconomic impacts of program expenditures, customer expenditures, lower sales by energy providers, and the opportunity costs of the program funds collected from ratepayers. The impacts of utility revenue decoupling are also accounted for across all years. The job figures represent the number of jobs that are estimated to exist as a result of cumulative program activity through the program year, relative to the number of jobs that would have existed in that year in the absence of the energy efficiency programs. The estimates of net jobs created are based on assumptions for average distributions of residential and commercial customer spending, and could be somewhat higher or lower in a given year depending on specific spending patterns, such as the proportions applied to pay off debt or to re-invest in a business.

energy bill savings were realized as a result of the energy efficiency improvements installed by customers participating in NYSERDA energy efficiency programs.

- Over the past 17 years, NYSERDA-administered energy efficiency programs have saved enough electricity to power 1,001,500 homes each year (i.e., 6,901,000 annual MWhs) and enough natural gas, propane, oil and other heating fuels to heat 155,400 homes each year (i.e., 12,128,000 annual MMBtu).
- Over 661,000 households and 31,800 commercial, industrial and institutional customers have reduced their energy use and annual energy bills by participating in NYSERDA programs since 1999.
- From 1999 through 2014, more than 5,700 jobs were created as a co-benefit of NYSERDA's SBC and EEPS-funded energy efficiency activities.
- NYSERDA received the 2014 ENERGY STAR® award for Sustained Excellence.
- The Council of Development Finance Agencies awarded the NY Green Bank with its "Excellence Award: Agency" in 2014.

Table 3: Performance Measures – Diverse / Renewable Energy

DIVERSE / RENEWABLE ENERGY *NYSERDA diversifies New York's portfolio of energy resources by increasing renewable and distributed generation resources and reducing petroleum use*							
Performance Measures	**Prior[12] to 2013**	**CY 2013 Addition**	**TARGET CY 2014 Addition**	**ACHIEVED CY 2014 Addition**	**Total at end of CY 2014**	**TARGET CY 2015 Addition**	**TARGET Total at end of CY 2015**
Electricity produced from renewable sources *(Comparison Point[13]: 2011 Statewide sales of electricity - 144,047 GWh)* – 1) Electricity Production (GWh) delivered to wholesale power market from incentivized installations	2,748	785	227	475[14]	4,008	14.8[15]	4,023
2) Electricity Production (GWh) from on-site installations	152	96	159	134	382	160	542
Number of operating renewable resource installations	7,286	2,965	3,863	7,462	17,713	12,501	30,214
Electricity (GWh) produced from combined heat and power (CHP) sources	772	51.1	84.2	56	879	43	922
Number of operating CHP installations	114	8	50	11	133	29	162
Petroleum Displacement (Thousands of gallons) in transportation sector *(Comparison Point[16]: 2011 Total Petroleum Use in Transportation Sector – 6.9 billion gallons)*	83,787	10,657	11,000	20,629[17]	115,073	8,669	123,742

[12] The electricity production from the renewable resource performance measures listed in Table 2 began accumulating results in 1999 subsequent to the Public Service Commission's (PSC) 1998 approval of the System Benefits Charge Operating (SBC) Plan, and more significantly in 2006 subsequent to the PSC's 2004 authorization of the Renewable Portfolio Standard. The CHP performance measures began accumulating results in 1999 subsequent to the Public Service Commission's (PSC) 1998 approval of the System Benefits Charge Operating (SBC) Plan. Petroleum Displacement results began accumulating as early as 2006 with more significant funding and benefits arriving in 2002.

[13] NYSERDA, Patterns & Trends, Energy Information Administration (EIA)

[14] Target exceeded due projects generating earlier and more than expected.

[15] The number of MWs installed from wind projects is expected to decrease. Wind developers rely on the Federal Production Tax Credit to cover a portion of the costs of developing renewable energy production. Due to Congressional inaction, there was significant uncertainty regarding the continuation of the Federal Production Tax Credit.

[16] NYSERDA, Patterns and Trends New York State Energy Profiles

[17] The calendar year 2014 addition accounts for approximately 9,900 additional gallons estimated as being displaced in calendar year 2014 and an additional 10,700 displaced gallons above prior year estimates that are not attributed to any one year.

Highlights of Additional "Diverse / Renewable Energy" Accomplishments:

- From 1999 through 2014, NYSERDA installed renewable generation at over 12,500 locations across New York State, primarily under the Renewable Portfolio Standard (RPS) Program.
- From 1999 through 2014, NYSERDA delivered 4,008 GWh of electricity production to the wholesale power market from incentivized installations. NYSERDA also delivered 382 GWh of electricity production from on-site installations.
- NYSERDA is helping to develop 65 large-scale renewable generation projects representing more than 2,000 MW of renewable generation capacity; 56 facilities are operating. The remainder of the projects are under design and construction.
- The Solar Foundation, an independent, non- profit solar research organization, ranked New York State fifth in the nation in the number of solar jobs per capita. This moves the State up from seventh place in 2012, with more than 5,000 jobs in 2013.
- To date, NYSERDA's Combined Heat & Power (CHP) programs have led to the installation of over 157 MW of distributed generation at 133 sites across New York State. Another 89 MWs of projects are under design and construction.
- Through 2014, the use of nearly 115 million gallons of petroleum has been reduced in the transportation sector through introduction of alternative fuels and efficiency strategies for vehicles and transportation systems.
- In 2014, the CHP Acceleration Program was awarded the State Leadership in Clean Energy Awards. The 2014 awards recognize eight outstanding state programs and projects that have accelerated the adoption of clean energy technologies and strengthened clean energy markets.
- The 2014 Northeast Clean Heat and Power Initiative (NECHPI) annual meeting honored the Albany Medical Center CHP project for which NYSERDA provided support. The project boasted over 75% efficiency in its first year of operations, was recognized as the "Outstanding CHP Project" of the year and honored as an exemplary cogeneration project.

Table 4: Performance Measures – Clean Energy Economy

CLEAN ENERGY ECONOMY *NYSERDA catalyzes economic growth by supporting technology and business innovation and by developing a skilled clean energy workforce*							
Performance Measures	**Prior[18] to 2013**	**CY 2013 Addition**	**TARGET CY 2014 Addition**	**ACHIEVED CY 2014 Addition**	**Total at end of CY 2014**	**TARGET CY 2015 Addition**	**TARGET Total at end of CY 2015**
Impacts of Product Development Activities – **1) Annual product sales**	$1,956 million	$225 million	Growth	Data lags by one year	$2,181 million[19]	Growth	Growth
2) Number of products in the market as a result of previous technology and business development investment	247	17	20	10[20]	339[20]	25	429
3) Change in GSP as a Result of R&D Product Development, expressed as a ratio of GSP impact to NYSERDA investment in R&D product development[21]	**[22]	**[22]	**[23]	**[22]	11.4[22]	**[23]	**[23]
4) **Number of net additional jobs created as a result of the net macroeconomic activity stimulated by R&D product development activities[24]**	**[22]	**[22]	**[23]	**[22]	603[22]	**[23]	**[23]

[18] Product development performance measures listed in Table 3 reflect ten years of sales data (e.g., 2001-2010) and ten years of NYSERDA spending data (1998-2007). Dollars invested in business development activities and the number of businesses receiving financial support began accumulating results in 2006, subsequent to PSC's 2005 authorization of SBCIII. Number of workers trained began accumulating results in 2005.

[19] At the end of CY 2013

[20] 10 products were commercialized in 2014. 65 products were commercialized in previous years but not previously captured and are reported here for completeness at the total at end of CY 2014.

[21] Gross State Product (GSP) impacts were estimated using a macroeconomic model called Policy Insight+, developed by Regional Economic Models, Inc. (REMI). GSP impacts include the effects of NYSERDA spending on product development activities; private monies spent on product development activities; and product sales that resulted from program activities. The negative GSP impact resulting from the collection of ratepayer funds was also incorporated

[22] Not additive- annual analysis only. Due to data lag of one year, values for 2013 are used to approximate values for 2014.

[23] The measure will be monitored and reported but a target has not been set. NYSERDA has elected not to establish a target in cases where the measure is a function of a parameter that cannot be reliably predicted (e.g., energy costs) or in cases where the metric is new to NYSERDA.

[24] Net additional jobs created are estimated using the Regional Economic Models, Inc. (REMI) Policy Insight™ model, and reflect the net macroeconomic impacts stimulated by the program activities. The estimated jobs impacts are largely driven by the additional purchasing power that results from the electricity and fossil fuel savings to customers, and also include the macroeconomic impacts of program expenditures, customer expenditures, lower sales by energy providers, and the opportunity costs of the program funds collected from ratepayers. The impacts of utility revenue decoupling are also accounted for across all

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Performance Measures	**Prior[18] to 2013**	**CY 2013 Addition**	**TARGET CY 2014 Addition**	**ACHIEVED CY 2014 Addition**	**Total at end of CY 2014**	**TARGET CY 2015 Addition**	**TARGET Total at end of CY 2015**
5) **Number of new clean energy products in development**[25]	N/A	141	154	142	N/A	152	N/A
Funding leveraged[26] by NYSERDA's investment in business and technology product development	$595 million	$184 million	$154 million	$229 million	$1,008 million	$140 million	$1,148 million
Dollars invested by NYSERDA in technology and business development activities	$210 million	$44 million	$36 million	$29 million	$283 million	$35 million	$318 million
Number of clean energy businesses receiving financial support *(Comparison Point:*[27] 2010 NYSDOL Green Jobs Survey - *~14,500 clean energy firms in NYS*)	**[28]	186	195	185	**[28]	185	**[28]
Number of patents, UL Listing certifications, license agreements, copyrights and other knowledge certifications	46	35	Growth	14	81	Growth	Growth
Number of workers trained in clean energy sectors [29]	31,901	2,219[30]	12,530	6,522	40,642	10,404	51,046

years. The job figures represent the number of jobs that are estimated to exist as a result of cumulative program activity through the program year, relative to the number of jobs that would have existed in that year in the absence of the energy efficiency programs. The estimates of net jobs created are based on assumptions for average distributions of residential and commercial customer spending, and could be somewhat higher or lower in a given year depending on specific spending patterns, such as the proportions applied to pay off debt or to re-invest in a business.

[25] Because product development efforts take years, the number of products in development is not cumulative, it is the total products in development at that time. The metric serves as an indicator of the degree of private sector engagement in NYSERDA's R&D program.

[26] Leveraged funding includes co-funding and subsequent follow-on private funding. Data collection for follow-on private funding is an ongoing effort. The reported values represent an incomplete data set that will be supplemented in future years.

[27] The DOL and its research partners surveyed 20,000 businesses in late 2010 to determine the number and types of green jobs in the State, specifically companies that produce goods or services that increase energy efficiency or generate renewable energy. DOL results were gathered under four industry sectors – Construction, Component Manufacturing, Professional Services and Building Services. New York State Department of Labor. *New York State Green Jobs Survey*. 2010.

[28] Not additive- some business are assisted for multiple years

[29] Number of workers trained is a count of the occupied seats at training sessions. A worker that attends more than one training session will be counted more than once.

Highlights of Additional "Clean Energy Economy" Accomplishments

- As a result of NYSERDA's technology and business development investments, there are over 339 new and improved clean energy products in the market, in all end-use energy sectors, from high-efficiency furnaces, to advanced lighting controls and hybrid electric buses.
- NYSERDA has invested $283 million dollars in business and technology development activities. An additional $1,008 million in funds has been leveraged by NYSERDA's investment in business and technology product development.
- For every dollar invested by NYSERDA in product development, New York State realized approximately $11 in statewide economic and environmental benefits, including the creation of over 600 net jobs in 2013.
- NYSERDA's incubator program, which supports six cleantech incubators, has assisted 133 clients and helped these startups raise $153 million in private funds while creating 125 new products and 395 new jobs. This program was lauded in a 2012 Brookings Institution's report, "Leveraging State Clean Energy Funds for Economic Development." The report said NYSERDA's six incubators have "been critical in helping New York create and retain the types of companies that form the bedrock of a clean energy economy."
- Proof-of-Concept Centers dedicated to helping inventors and scientists turn their high-tech, clean-energy ideas into successful businesses were established at Columbia University, NYU-Poly, and High Tech Rochester to facilitate clean energy business growth.

[30] Beginning in 2013 trainees from the Clean Tech Executive Program and Energy Codes and Standards are counted in this metric.

Table 5: Performance Measures – A Cleaner Environment

A CLEANER ENVIRONMENT *NYSERDA reduces the environmental impact of energy production and use.*							
Performance Measures	**Prior[31] to 2013**	**CY 2013 Addition**	**TARGET CY 2014 Addition**	**ACHIEVED CY 2014 Addition**	**Total at end of CY 2014**	**TARGET CY 2015 Addition**	**TARGET Total at end of CY 2015**
CO_2 equivalent emission reductions due to NYSERDA's energy efficiency, renewable and diverse energy programs (annual tons) [32] (Open programs only) [33] *(Comparison Point: 2011 Annual NYS Power Sector Emissions- 40 million short tons CO_2)* [34]	1,978,642	NA	319,479	375,928	2,306,449	263,551	2,570,000
CO_2 equivalent emission reductions due to NYSERDA's energy efficiency, renewable and diverse energy programs (annual tons) [32] (All programs) [33] *(Comparison Point: 2011 Annual NYS Power Sector Emissions - 40 million short tons CO_2)* [34]	4,321,999	(535,845)[35]	311,347	452,070	4,238,224[35]	227,751	4,465,975
NO_x emission reductions due to NYSERDA's energy efficiency, renewable and diverse energy programs (annual tons)[32] *(Comparison Point: 2011 Annual NYS Power Sector Emissions – 29,000 short tons NO_x)* [34]	4,163	116[35]	343	506	4,784[35]	248	5,032

[31] Performance measures listed in Table 4 began accumulating results in 1999 subsequent to the Public Service Commission's (PSC) 1998 approval of the System Benefits Charge Operating (SBC) Plan, with the renewable contribution becoming more significantly in 2006 subsequent to the PSC's 2004 authorization of the Renewable Portfolio Standard (RPS).

[32] These emission reductions are associated with electric and fossil fuel energy efficiency measure savings and renewable generation. The associated electricity and fossil fuel savings have been revised from previously reported values due to a change in the methodology for counting savings from the Systems Benefit Charge programs (SBC) and to correct data discrepancies discovered in 2012 Energy Efficiency Portfolio Standard (EEPS) reporting.

33New York Energy $mart Programs are closed. CO2 reductions from open programs (EEPS, RGGI, and RPS) are shown separately.

[34] NYS DEC 2011 Electric Generation Facility Emissions Data: Carbon Dioxide, Sulfur Dioxide and Nitrogen Oxides.

[35] In 2013 the factors for calculating emissions reductions were revised to reflect a reduction in the use of oil and coal for power generation on the New York grid, causing the impact of efficiency and renewable generation on emissions reduction to decrease.

Table 5: Performance Measures – A Cleaner Environment

A CLEANER ENVIRONMENT *NYSERDA reduces the environmental impact of energy production and use.*							
Performance Measures	**Prior[31] to 2013**	**CY 2013 Addition**	**TARGET CY 2014 Addition**	**ACHIEVED CY 2014 Addition**	**Total at end of CY 2014**	**TARGET CY 2015 Addition**	**TARGET Total at end of CY 2015**
SO_2 emission reductions due to NYSERDA's energy efficiency, renewable and diverse energy programs (annual tons)[32] *(Comparison Point: 2010 Annual NYS Power Sector Emission– 48,000 short tons SO_2)*[34]	8,028	(3,569)[35]	329[35]	510	4,968[35]	228	5,196
Energy-related environmental policies informed by NYSERDA reports / studies	new metric for 2011	See bulleted items below	List will be maintained	See bulleted items below	See bulleted items below	List will be maintained	List will be maintained

CY 2014

- Completed an update to the 2011 ClimAID projections, which will serve as the foundation for NYSDEC's official climate projections as mandated under the Community Risk and Resiliency Act.
- Conducted a project on marsh migration under future sea level rise, which will be used by a number of NYS and NYC agencies in coastal resource management, and the results of which have been incorporated into The Nature Conservancy's well-known Coastal Resiliency mapping tool.
- Initiated research into changing precipitation extremes across the state, which will be used by a number of agencies and organizations, including NYSDOS and NYSDEC.
- Briefed EPA Office of Air Quality Planning and Standards on Renewable Heat New York (RHNY) which led to EPA adopting RHNY Qualified Pellet Boiler Technologies as automatically certified for Step 1 of the NSPS (effective May 15, 2015) - this prevents disruption to several manufacturers and importers.
- Briefed the White House Office of Management and Budget on the state of technology and critical elements of the NSPS, stressing the need to both set high performance standards and remove a market barrier created by EPA accredited test labs.
- Developed a white paper on high-efficiency biomass heating technologies for the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) to be used as they consider adding biomass to the Green Buildings Standard.
- Assisted other states looking to RHNY for setting their own biomass heating program requirements [ex. MA, VT use the RHNY list of Qualified Technologies in their programs, Clean Energy States Alliance (CESA)].
- Developed a project to show how critical loads could be applied for developing a secondary National Ambient Air Quality Standard. A primer was commissioned to describe critical loads, how they are calculated, and how they have been used by policy makers. A group of 25 scientists and policy makers convened for a two-day workshop to discuss the more subjective aspects of Critical Loads and develop a general path forward. The approach will be supported by $200,000 in settlement funds provided by the NYS Office of the Attorney General.

Additional Policies Informed are included in the Accomplishments Section, below. Policies informed prior to 2014 are included in the Cleaner Environment table in the FY ending March 31, 2014 Operations and Accomplishments Report.

Highlights of Additional "Cleaner Environment" Accomplishments

- NYSERDA's energy efficiency and renewable energy programs reduce the need for fossil fuel production of electricity and avoid associated emissions. For 2014, this equates to eliminating over 4,784 annual tons of NOx, 4,968 annual tons of SO2, and nearly 4.2 million annual tons of CO2 into New York's air – equivalent to removing approximately 823,500 cars from New York's highways.

- In an effort to help regulators and developers respond to permitting needs for marine wind energy in New York, a two-phase project was conducted to establish specific monitoring guidelines for wildlife. Through a collaborative effort with stakeholders phase 1 identified specific monitoring and data requirements in relevant environmental regulations. Phase 2 then used this input to develop a Marine Wind Wildlife Research Plan. This plan identifies data gaps that should be addressed to facilitate offshore wind energy development in New York and prioritizes areas of future research needs.
- Continued collaboration with the Partners Restoring the Hudson effort (The Nature Conservancy, the US Army Corps of Engineers, et al.) to explore the inclusion of NYSERDA's new sea level rise mapping tool project in a Comprehensive Adaptation Plan for the Hudson River Estuary. This collaboration allowed TNC to avoid a duplicative effort and may result in the NYSERDA-funded tool being used in an outreach effort to communities by TNC/USACE for adaptation planning. In addition, NYSERDA's ~$300k funding into the Columbia/Stevens Institute modeling project may leverage approximately $1.5 million from the USACE and $500k from other agencies and organizations around the state. If recognized by Congress, which is the goal of the overall collaboration, it will open up avenues for federal funding for implementation of the comprehensive plan.
- Briefed EPA Office of Air Quality Planning and Standards on the Brookhaven National Laboratory method developed with NYSERDA support, leading to EPA's formal recognition as an approved test method for cordwood boilers. This method was also identified in the New Source Performance Standards (NSPS) and provides a mechanism for three NY manufacturers to stay in business.

Table 6: Performance Measures – Contract and Cycle Time

CONTRACT AND CYCLE TIME *NYSERDA is responsive to customer needs – delivering accurate and timely information, services and programs*					
Performance Measures	**CY 2012**	**CY 2013**	**TARGET CY 2014**	**CY 2014**	**TARGET CY 2015**
Contract processing time - Median time to process (weeks): 1) Contracts Awarded from Solicitations;	32.6 *(196 contracts)*	28.3 *(332 contracts)*	28.3	37.4 *(337 contracts)*	See Table 7
2) Open Enrollment Incentives;	14.6 *(3,909 contracts)*	4.4 *(4,927 contracts)*	5.0	2.9 *(16,437 contracts)*	See Table 7
3) Direct Contracts	3.9	3.9 *(331 contracts)*	4	4.0 *(293 contracts)*	See Table 7
4) Modifications / Task Orders	4.7	4.0 *(2,315 contracts)*	4	4.1 *(2,123 contracts)*	See Table 7
Invoice payment – 1) Number of invoices paid within 30 days	67,285	68,213 invoices	**[36]	77,418 invoices	**[36]
2) Percent of payments made within 30 days	99.99%	99.99%	100%	99.99%	100%

[36] The measure will be monitored and reported but a target has not been set. NYSERDA has elected not to establish a target in cases where the measure is a function of a parameter that cannot be reliably predicted (e.g., energy costs) or in cases where the metric is new to NYSERDA.

In order to provide more informative and actionable data, the contracting cycle times have been disaggregated for the highest volume programs.

Table 7: Performance Measures – Contract and Cycle Time Detail

	Due Date Solicitations				Open Enrollment and Task Work Orders			
Department Description	**CY 2014 Count**	**CY 2014 Median of Total No. of weeks**	**CY 2014 Average of Total No. of weeks**	**CY 2015 Target Average Weeks**	**CY 2014 Count**	**CY 2014 Median of Total No. of weeks**	**CY 2014 Average of Total No. of weeks**	**CY 2015 Target Average Weeks**
NY-Sun	60	33	43	28	14,252	3	5	2
Commercial	20	35	44	28	1,313	4	9	6
Codes & New Construction	2	55	55	28	717	31	48	36
Industrial and Agriculture	1	50	50	28	512	16	25	20
Multifamily Residential		n/a	n/a		218	5	7	4
On-Site Power	28	33	50	28	96	15	19	15
Clean Transport	27	45	51	28	42	16	18	15
All Other	171		35	28	197		6	4
Total	**309**		**44**	**28**	**17,347**		**14**	**11**

PROGRAM OPERATIONAL UNITS

Commercial

Commercial will address overcoming market barriers to develop a well-functioning market for clean energy in the buildings sector with expansion of ESCOs servicing this market. Customers will be positioned to invest in clean-energy projects via market-rate, long-term, self-sustaining financing options; use of cost-effective, technology-enabled tools: and comprehensive efficiency projects occurring in all significant market segments.

Communities & Local Government

Communities & Local Government provides a unified approach toward local energy action to better serve local communities' needs and advance clean energy policies statewide. They will work to implement a common framework that enables communities to embed clean energy into their planning, helps facilitate and prioritize implementation, and recognizes/showcases community energy and sustainability actions.

Codes & New Construction

Codes & New Construction works within many sectors to help build market capacity, demonstrate value propositions, and disseminate credible information to drive the market to deep energy savings and zero net energy performance in construction and substantial renovation. They will also address the safety and durability issues of buildings that meet or exceed future, increasingly stringent, energy codes; advance the energy code, improve design and construction practices.

Digital Solutions

Digital Solutions seeks to accelerate the impactful deployment of digital and information technology solutions that improve the energy performance of distributed energy resources and energy consuming devises.

Industrial and Agriculture

Industrial and Agriculture will advance the latest technologies and techniques to drive adoption of energy efficiency and process improvements through new strategies.

Low/Moderate Income

Low/Moderate Income will develop strategies and propose policy, coordinating across all sectors and various New York State organizations, to streamline and improve the effectiveness of the delivery of energy services to Low to Moderate Income households.

Multifamily

Multifamily will work to overcome market barriers in the multifamily sector (residential structures containing five or more dwelling units), pursuing strategies to: create awareness and demand for energy-efficient and high-performance buildings; increase market capacity to deliver energy services; stimulate consumer demand and choice to select energy and environmentally friendly buildings.

Products

Products conceptualizes, drives and implements strategies and interventions that accelerate the adoption of emerging or underutilized energy-relevant products by working to develop supply chains and service networks.

Market Insights

Market Insights supports work with actionable customer insights to help develop and guide strategy. Market Insights will generate actionable customer insights relevant to programs, partners, and end-use customers, develop market research in partnership and support of multiple teams across NYSERDA to understand market barriers and develop insights on customer decision making.

Single Family Residential

Single Family Residential works to overcome market barriers towards the development of a robust, self-sustaining, market-based energy efficiency industry for the existing homes sector (residential structure containing 1-4 dwelling units); and facilitates the growth of demand for energy services.

Workforce

Workforce enables workforce development and training where lack of a trained workforce is inhibiting growth of a particular energy industry, or where training is needed to perform critical functions; establishes energy training as a permanent and sustainable part of the community infrastructure; and enables growth of jobs in disadvantaged communities.

Technology and Business Innovation

Technology and Business Innovation facilitates the research, development and commercialization of new and innovative clean energy technologies that when deployed at scale will deliver meaningful reductions in greenhouse gas emissions. Technology and Business Innovation's direct investments help to determine technical feasibility, assess market opportunities, achieve key product development milestones, and validate new technologies at scale in "real world" applications. Strategic investments in statewide multi-use assets provide business incubation, manufacturing support, mentorship, and access to private sector investors and potential development and commercialization partners. Technology and Business Innovation has five teams focused on Smart Grid Systems, Renewables & Distributed Energy Resource Integration, Buildings, Clean Transportation and Innovation Capacity and Business Development.

Energy Storage

Energy Storage will develop and implement a robust energy storage strategy that removes the most impactful barriers preventing adoption in the electric grid, buildings and transportation sectors Initiatives will include: targeting soft costs to reduce total installed cost, validating new financing and ownership models, participating in ratemaking and tariff design, removing safety and performance uncertainty, and developing and demonstrating new products and integrated systems including microgrids.

Grid Tied Renewables

The Grid Tied Renewables team will sustain and expand the penetration of large scale renewables in New York and also support the development of New York's next frontier of renewable resources including the offshore wind resource. The program will facilitate New York's renewables voluntary market through the design and management of the New York Generation Attribute Tracking System,

provide technical and pre-development assistance to reduce soft costs associated with the development of these assets, assess alternate energy market valuation for renewables, and enable the development of the next generation of renewable technologies including offshore wind.

On-site Power Production

On-site Power Production will direct its major focus on animating the market for individual buildings to adopt natural gas-fueled Combined Heat and Power systems that will run every day as well as during a grid outage. The team will also assist the Anaerobic Digester Gas marketplace and the fuel cell marketplace with identifying business models that can lead to self-sustaining markets. On-site Power Production will also seek to advance the market for hybrid on-site power systems.

Renewable Thermal

Renewable Thermal will seek to enable a self-sustaining market for renewable heating and cooling solutions helping to increase the viability of net zero energy buildings in New York. Solar thermal, biomass heating and geothermal systems will be explored. Renewable Thermal will address barriers to market growth including low customer confidence, limited service providers, high upfront costs, significant soft costs, and variable performance data.

NY-Sun

NY-Sun is a multifaceted approach that aims to lower energy costs for all New Yorkers by increasing solar power capacity and the efficiency and reliability of the electric grid. In addition to the Solar Electric Program, the NY-Sun initiative has programs to help lower statewide solar soft costs including training for installers and public officials, a standardized permitting and interconnection process, customer aggregation, and consumer education.

Financing Solutions

Financing Solutions will develop strategies for mobilizing private capital and market-based financing solutions to support scaled investments in clean energy across sectors and technology areas.

Resiliency and Emergency Preparedness

Resiliency and Emergency Preparedness will innovate, develop and execute planning and strategies to manage NYSERDA responsibilities under the Governor's Fuel NY initiative, an integrated solution to ensure that New Yorkers have access to gasoline in a declared energy or fuel supply emergency.

Performance and Market Standards

Performance and Market Standards is responsible for data-driven and actionable business intelligence to support program design, performance measurement and management, test-measure-adjust, and Authority reporting. It is also responsible for using information, standards and quality assurance to build consumer and investor confidence in clean energy technology solutions and investments. It is made up Reporting and Data Quality, Market Characterization & Evaluation, Pilot Design and Quality Assurance and Standards and Information Products and Brokering.

Energy and Environmental Analysis

Energy and Environmental Analysis assists New York State policy decision-makers and stakeholders by identifying and evaluating policy, assessing the impact of energy and environmental policies, providing market intelligence across all energy and fuel types, including all energy systems, market participants and customer sectors and more

Government Affairs

Government Affairs helps to develop and implement strategies to attain authority goals and advises executive management on policy positions. Government Affairs helps construct the legislative agenda for the authority and monitors legislative activities at the state and federal level.

Philanthropic Engagement

Philanthropic Engagement's goal is to identify, cultivate and develop partnerships with mission-driven organizations such as foundations and corporate philanthropy for the purpose of serving as co-investors in clean energy initiatives in communities throughout New York State.

NY Prize

NY Prize is a first-in-the-nation $40 million competition designed to engage communities in creating microgrids that benefit the utility grid during normal operating conditions and can function independently from the utility grid during times of emergency.

Utility Affairs and Strategic Partnerships

Utility Affairs and Strategic Partnerships drives coordination and collaboration between NYSERDA and utilities as well as necessary partners to develop strategies, demonstration partnerships, programs, and market approaches that achieve Clean Energy Fund and Reforming the Energy Vision objectives.

Saratoga Technology + Energy Park® (STEP®)

Owned by NYSERDA, the Saratoga Technology + Energy Park® (STEP®) is a knowledge community with resources for companies in the clean-energy field looking to expand in New York's Tech Valley. A 280-acre site, STEP is located in Malta, New York, and is approved for 1.25 million square feet of office, research and development, and light manufacturing space while maintaining 77% green space. By creating a foundation for innovative clean-energy companies to collaborate, STEP is playing a role in the growth of the clean-energy economy in New York State.

West Valley Site Management Program (WVSMP)

NYSERDA has a major environmental responsibility through its stewardship of the West Valley site in Cattaraugus County. NYSERDA's WVSMP works with the U.S. Department of Energy (DOE) to conduct the West Valley Demonstration Project, a high-level radioactive waste solidification, decontamination, and decommissioning demonstration project. The unique state and federal partnership at West Valley was created by the U.S. Congress in 1980 through the passage of the West Valley Demonstration Project Act. The WVSMP is also responsible for the safe management of the remainder of the 3,300-acre Center, including the shut-down State-Licensed Disposal Area (SDA), a 15-acre disposal facility that contains 2.4 million cubic feet of radioactive waste that was disposed in the 1960s and 1970s.