New York State Energy Research and Development Authority

Mission Statement and Performance Measurement Report

Pursuant to Public Authorities Law Section 2800(1)

June 2012

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.	**Satisfied Customers** NYSERDA is responsive to customer needs – delivering accurate and timely information, services and programs

The following five tables identify performance measures associated with each of the five goals listed in Table 1 above. While the listed performance measures are used to evaluate NYSERDA's progress toward goals, many of the measures are influenced by factors that are out of NYSERDA's direct control, such as, general economic conditions, changes in energy markets and prices, and various federal and state policy and funding decisions. The performance measures serve as general 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 2010**	**CY 2010 Addition**	**TARGET CY 2011 Addition**	**ACHIEVED CY 2011 Addition**	**Total at end of CY 2011**	**TARGET CY 2012 Addition**	**TARGET Total at end of CY 2012**
Electricity[2] (MWh) saved due to improved energy efficiency in New York's buildings and facilities. *(Comparison Point[3]: 2010 Statewide sales of electricity - 144,624 GWh)*	3,666 GWh	631 GWh	759 GWh	1,107 GWh	5,405 GWh	677 GWh	6,082 GWh
Fossil Fuels[2] (MMBtu) saved due to improved energy efficiency in New York's buildings and facilities. *(Comparison Poin3[2]: 2010 Statewide natural gas and petroleum usage – 1,070 million MMBtu)*	6.9 million MMBtu	2.8 million MMBtu	2.3 million MMBtu	1.7 million MMBtu	11.4 million MMBtu	1.6 million MMBtu	13.0 million MMBtu
Number of New York households served.[4] *(Comparison Point[5]: 2010 Households in NYS – 7,205,740)*	101,800 Households	195,600 Households	133,500 Households	111,200 Households	408,600 Households	97,900 Households	506,500 Households
Number of commercial and industrial customers served. *(Comparison Point[6]: 2009 Business Establishments in NYS – 515,819)*	14,140 Customers	3,630 Customers	3,920 Customers	3,470 Customers	21,240 Customers	3,670 Customers	24,910 Customers
Energy Bill Savings[7] – 1) Annual direct energy bill savings realized by participating customers	$680 million	$124 million	**[8]	$211 million	$1,015 million	**[8]	Growth
2) Energy bill savings realized by participating customers per energy efficiency dollar spent by NYSERDA	$2.3 dollars saved per dollar spent	N/A	**[8]	N/A	$2.7 dollars saved per dollar spent	**[8]	**[7]

[1] Performance measures listed in Table 1 began accumulating results in 1999 subsequent to the Public Service Commission's (PSC) 1998 approval of the System Benefits Charge Operating (SBC) Plan.

[2] Electricity savings and fossil fuel savings have been revised from previously reported values to segregate Combined Heat and Power (CHP) contributions from NYSERDA's existing facilities and technical assistance programs.

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

[4] Households served include ARRA appliance rebates and completed multi-family units, (i.e., units that have installed their full work scope – partial completions are not counted). Previously reported values for the number of households served have been revised to correct computational errors discovered subsequent to the submittal or the 2010 report.

[5] http://quickfacts.census.gov/qfd/states/36000.html

[6] The total number of establishments in New York State for 2009 was 515,819 as reported by the U.S. Census Bureau: State and County QuickFacts.

[7] Energy bill savings reflects savings associated with System Benefits Charge funded New York Energy $mart and Energy Efficiency Portfolio standard programs only.

[8] The measure will be monitored and reported but a 2012 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.

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Number of net additional jobs created as a co-benefit of NYSERDA's SBC-funded energy efficiency activities [9]	3,540 Jobs	540 Jobs	**[8]	1,620 Jobs	5,700 Jobs	**[8]	**[8]

Highlights of Additional "Efficient Use of Energy" Accomplishments:

- More than $4.8 billion dollars in cumulative direct energy bill savings have been achieved through NYSERDA's System Benefits Charge (SBC) and Energy Efficiency Portfolio Standard (EEPS) programs.
- NYSERDA achieved 102% (2,149 GWh) of its SBC3 electricity savings goal (2,102 GWh) with an expenditure of 71% of the SBC3 budget.
- On January 30, 2012 (4 months before required by the Power NY Act of 2011), NYSERDA implemented the most comprehensive statewide on-bill recovery financing program in the nation for residential consumers (with financing for small businesses, not-for-profits, and multifamily buildings to be implemented by May 30).
- NYSERDA continued the rollout of Green Jobs Green New York (GJGNY) financing for residential consumers, including providing access to financing for consumers who do not qualify for financing under traditional lending criteria. As of March 31, 2012, the program issued 1,329 loans to consumers totaling nearly $12 million. 99.9% of loans are current on repayments.
- In 2011, NYSERDA's Residential Energy Services programs supported the construction of 2,097 New York ENERGY STAR® homes and installed energy efficiency measures in over 16,500 existing homes resulting in estimated average annual energy bill savings of approximately $370 per household.
- NYSERDA's Energy Efficiency Services managed over 3,400 commercial, industrial and institutional efficiency project applications in 2011 and achieved 10% more MWh savings in 2011 than 2010.
- As of December 2011, NYSERDA's multifamily programs have improved the energy efficiency of over 84,900 units yielding projected per unit tenant energy bill savings of approximately $200 annually.
- During 2011, NYSERDA increased by eight percent, the market share of ENERGY STAR qualified products (dishwashers, clothes washers, refrigerators and room air conditioners) sold by its 865 retail and 47 manufacturer partners. The EEPS Compact Fluorescent Lighting (CFL) Expansion Program supported more than 60 CFL buy-down promotions and generated sales of more than 9.8 million CFLs in 2011, saving over 536.5 million annual kWhs of electricity.

[9] 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.

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[10] to 2010**	**CY 2010 Addition**	**TARGET CY 2011 Addition**	**ACHIEVED CY 2011 Addition**	**Total at end of CY 2011**	**TARGET CY 2012 Addition**	**TARGET Total at end of CY 2012**
Electricity (MWh) produced from renewable sources *(Comparison Point[11]: 2010 Statewide sales of electricity - 144,624 GWh)* – 1) Electricity Production (GWh) delivered to wholesale power market from incentivized installations	1,774 GWh	167 GWh	192 GWh	253 GWh	2,194 GWh	976 GWh[12]	3,170 GWh
2) Electricity Production (GWh) from on-site installations[13]	26 GWh	27 GWh	32 GWh	38 GWh	91 GWh	121 GWh	212 GWh
Number of operating renewable resource installations	2,087 installations	1,277 installations	1,328 installations	1,391 installations	4,755 installations	2,315 installations	7,070 installations
Electricity (GWh) produced from combined heat and power (CHP) sources	364 GWh	333 GWh[14]	47 GWh	65 GWh	762 GWh	50 GWh	812 GWh
Number of operating CHP installations	61 installations	18 installations	26 installations	23 installations	102 installations	19 installations	121 installations
Petroleum Displacement (Thousands of gallons) in	52,183 thousand	8,550 thousand	9,075 thousand	11,640 thousand	72,373 thousand	11,669 thousand	84,042 thousand

[10] 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.

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

[12] 2012 Target includes generation under contract from commercially operational facilities with executed RPS contracts.

[13] Previously reported values for the electricity production for on-site generation have been revised to correct computational errors discovered subsequent to the submittal or the 2010 report.

[14] Electricity production from CHP installations supported through the FlexTech Program in CY 2010 and prior to CY 2010 are currently shown as being added during 2010. Efforts have been initiated to attribute the FlexTech CHP savings to the correct years prior to 2010.

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transportation sector *(Comparison Point[15]: 2010 Total Petroleum Use in Transportation Sector - 7.2 billion gallons)*	gallons	gallons	gallons	gallons	gallons	gallons	gallons

Highlights of Additional "Diverse / Renewable Energy" Accomplishments:

- Approximately 47% of the NYSERDA's (Renewable Portfolio Standard) RPS Main Tier and Customer Sited Tier 2015 target is under contract with 39% of the total RPS budget committed.
- 56 large-scale generation projects representing more than 1,841 MW of new renewable generation capacity have been selected to provide electricity to New York consumers. Of the 56 projects selected, 46 are operating, and 10 are in development or under construction.
- Successfully launched the "Geographic Balance" regional program, with the issuance of $34.5 million of awards to solar installers, solar developers and real estate owners to help fund larger-scale (each greater than 50 kW) solar PV projects in New York City and the lower Hudson Valley.
- NYSERDA continued to provide incentives for early adoption of alternative fuel vehicles, emission reduction, fuel efficiency, alternative-fuel refueling infrastructure and transportation efficiency technologies. In 2011, NYSERDA supported deployment of: 244 medium and heavy-duty alternative fueled vehicles; 17 public E85 fueling facilities; 155 diesel fired anti-idling coolant heaters on school buses; 80 private fleet alternative fuel vehicles; 10 ferry vessels; and 76 school buses and 71 private fleet heavy-duty trucks retrofitted with emission reduction technologies.
- On behalf of a 12-state regional collaborative, NYSERDA was awarded US Department of Energy funding to create planning documents and conduct outreach and education for region-wide implementation of electric vehicle infrastructure projects, and to support development of a Northeast Regional Electric Vehicle Network. The ultimate goals of the initiative are to accelerate the introduction of a network of electric vehicle (EV) charging stations throughout the region, ensure that travelers can drive electric vehicles with ease locally and region-wide and attract private sector investment to the region and encourage the development of an EV market both for consumers.
- NYSERDA completed the Solar Study as directed under the Power New York Act of 2011. The study assessed the costs and benefits of increasing the use of PV in New York to 5,000 MW by 2025.

[15] NYSERDA, Patterns and Trends New York State Energy Profiles: 1996-2010, April 2012, p. 33.

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[16] to 2010**	**CY 2010 Addition**	**TARGET CY 2011 Addition**	**ACHIEVED CY 2011 Addition**	**Total at end of CY 2011**	**TARGET CY 2012 Addition**	**TARGET Total at end of CY 2012**
Impacts of Product Development Activities – **1) Annual product sales**	$1,292 million	$199 million	Growth	Data lags by one year	$1,491 million (at end of CY2010)	Growth	Growth
2) Number of products[17] in the market as a result of previous technology and business development investment	181 Products	20 Products	15 Products	15 Products	216 Products	20 Products	236 Products
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[18]	5.4 Benefit / Cost Ratio	6.8 Benefit / Cost Ratio	** [19]	Data lags by one year	N/A	**[19]	**[19]
4) **Number of net additional jobs created as a result of the net macroeconomic activity stimulated by R&D product development activities[20]**	810 Jobs	630 Jobs	**[19]	Data lags by one year	1,440 Jobs (at end of CY2010)	**[19]	**[19]

[16] 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.

[17] The reported number of new products are from NYSERDA's incubator programs only. Efforts are underway to collect new product data from other program efforts and will be incorporated in future reports.

[18] 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

[19] 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.

[20] 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

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5) **Number of new clean energy products in development**[21]	new metric in 2011	new metric in 2011	25 Products	99 Products	N/A	100 Products	N/A
Funding leveraged[22] by NYSERDA's investment in business and technology product development	new metric in 2011	new metric in 2011	$50 million	$158 million	$158 million	$150 million	$308 million
Dollars invested by NYSERDA in business development activities	$92 million	$38 million	$36 million	$36 million	$167 million	$36 million	$203 million
Number of clean energy businesses receiving financial support[23] *(Comparison Point:*[24] 2010 NYSDOL Green Jobs Survey - *~14,500 clean energy firms in NYS*)	501 businesses	170 businesses	180 businesses	188 businesses	Not additive – some businesses are assisted for multiple years	180 businesses	Not additive – some businesses are assisted for multiple years
Number of patents, UL Listing certifications, license agreements, copyrights and other knowledge certifications	new metric in 2011	new metric in 2011	**[19]	14	14	Growth	Growth
Number of workers trained in clean energy sectors[25]	17,546 trainees	6,144 trainees	7,150 trainees	4,819 trainees	28,509 trainees	3,000 trainees	31,509 trainees

proportions applied to pay off debt or to re-invest in a business.

[21] 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.

[22] 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.

[23] Incubator sites are currently fully occupied and funding levels are flat so growth in the number of clean energy companies assisted in 2012 is not anticipated.

[24] 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.

[25] 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

- NYSERDA continued to develop the Saratoga Technology and Energy Park (STEP), a 280 acre knowledge community that currently houses 15 clean energy and high tech tenant companies with over 200 employees. STEP employment numbers are expected to increase as NYSERDA constructs new buildings and attracts additional clean tech companies to the Park.
- NYSERDA supports six clean energy incubators across NYS. As of the end of 2011, the program had been active for 30 months and had assisted 77 client companies in raising $41 million in private capital; created 140 and retained 201 jobs at client companies within the incubators; developed and refined 33 new clean energy products; and assisted client companies in attracting $11.7 in federal funding. One of the Incubator clients, ThinkEco is working with Con Edison to create smart AC control through modlets on 10,000 New York City air-conditioners, resulting in five megawatts of demand reduction, enough power for 5,000 homes. Con Edison plans to distribute the modlets in the summer of 2012 in large apartment buildings throughout New York City, working with building owners and tenants to install the energy saving devices.
- NYSERDA's support for the New York Battery and Energy Storage Technology Consortium (NY-BEST), an industry consortium, is helping to position New York as a global leader in energy storage technology for heavy-duty transportation, electric grid, and other applications. Seventeen NY-BEST research and development projects are underway comprising $15+ million with $7.5 million provided by NYSERDA in NY-BEST CAIR funding. These projects are helping to support 118 engineering, product development, and research staff and train 18 graduate and undergraduate students. NY-BEST was awarded $3.5 million under the Regional Economic Development Council initiative to establish a Product Commercialization Center at the Eastman Business Park in Rochester.
- NYSERDA is providing $5 million in funding for the PV Manufacturing Consortium (PVMC) which is intended to accelerate the coordination of stakeholders and fund technology development efforts across the solar industry and, with other state and federal policy incentives, facilitate the development of a strong PV manufacturing industry and supply chain in the U.S. The ultimate goals of this initiative are to support the creation of a robust U.S. PV manufacturing base, develop a highly trained workforce with the critical required skills, and speed the implementation of new cutting edge technologies.
- NYSERDA has awarded $4.2 million to Intertek, a leading international provider of quality assurance testing and certification, to open the first East Coast Solar Testing Laboratory at Intertek's facility in Cortland, NY, and to launch a new Wind Turbine Blade Testing Lab at Clarkson University. Intertek will partner with Clarkson University, Rochester Institute of Technology, Alfred State College, Binghamton University and AWS TruePower to form the Center for Evaluation of Clean Energy Technology (CeCeT), an organization that will benefit manufacturers of clean energy technology by providing access to testing equipment and expertise. Having accredited testing labs for renewable technologies will make it easier for manufacturers – especially those in the Northeast -- to get products certified and ready for market.
- NYSERDA continues to help New York's emerging clean energy industry by developing improved processes to manufacture clean energy technologies in NYS better, faster, cheaper and cleaner, thus enhancing their viability in the market. An example of a project under this program is working with Crystal IS to manufacture UV light-emitting diodes (LEDs) using a new process that will potentially reduce the energy usage by over 80%.
- NYSERDA's training network has expanded to 52 training entities delivering training in energy efficiency and building science, solar electric and thermal, small and large wind, geothermal, fuel cells, and anaerobic digester training.
- NYSERDA has partnered with the International Brotherhood of Electrical Workers (IBEW) and the National Electrical Contractors Association (NECA) to launch a 40-hour Advanced Lighting and Controls Training Program for journeyman electricians to ensure electricians have state-of-the-art knowledge and skills for new control technologies and lighting systems. The training program is delivered in partnership with the National Joint Apprenticeship and Training Committee (NJATC), which is a joint effort of the IBEW and NECA that was formed in 1941 and has developed into one of the largest apprenticeship and training programs of its kind. To date, 40 instructors have been trained and are prepared to deliver training to over 1,200 journeyman electricians through 16 JATC training centers in New York State. It is expected that 650 journeyman electricians will receive their NY Advanced Lighting and Controls certification in the coming year.

Table 5: Performance Measures – A Cleaner Environment

A CLEANER ENVIRONMENT *NYSERDA reduces the environmental impact of energy production and use.*							
Performance Measures	**Prior [26] to 2010**	**CY 2010 Addition**	**TARGET CY 2011 Addition**	**ACHIEVED CY 2011 Addition**	**Total at end of CY 2011**	**TARGET CY 2012 Addition**	**TARGET Total at end of CY 2012**
CO_2 equivalent emission reductions due to NYSERDA's energy efficiency, renewable and diverse energy programs (annual tons) [27] *(Comparison Point: 2010 Annual NYS Power Sector Emissions [28] - 41 million short tons CO_2)*	2,630,000 annual tons	421,000 annual tons	541,000 annual tons	670,000 annual tons	3,720,000 annual tons	810,000 annual tons	4,530,000 annual tons
NO_x emission reductions due to NYSERDA's energy efficiency, renewable and diverse energy programs (annual tons)[27] *(Comparison Point: 2010 Annual NYS Power Sector Emissions[28] - 34,000 short tons NO_x)*	2,550 annual tons	420 annual tons	520 annual tons	650 Annual tons	3,610 annual tons	790 annual tons	4,400 annual tons
SO_2 emission reductions due to NYSERDA's energy efficiency, renewable and diverse energy programs (annual tons)[27] (*Comparison Point: 2010 Annual NYS Power Sector Emissions[28] - 56,000 short tons SO_2)*	5,190 annual tons	1,030 annual tons	920 annual tons	1,300 annual tons	7,500 annual tons	1,600 annual tons	9,100 annual tons
Energy-related environmental policies informed by NYSERDA reports / studies	new metric for 2011	new metric for 2011	new metric for 2011	See bulleted items in row below	See bulleted items in row below	List will be maintained	List will be maintained
• NYSERDA's report, "Responding to Climate Change in New York State: An Integrated Assessment for Effective Climate Change Adaptation" (aka "ClimAID") was issued in 2011. Draft versions of this report served as the basis for the climate change adaptation component of the New York State Climate Action Plan. This report provides							

[26] 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.

[27] These emission reductions are associated with electric and fossil fuel energy efficiency measure savings and renewable and CHP generation.

[28] NYS DEC 2010 Electric Generation Facility Emissions Data: Carbon Dioxide, Sulfur Dioxide and Nitrogen Oxides.

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science-based guidance for climate vulnerabilities, risks and adaptation for eight sectors in New York State: water resources, coastal zones, ecosystems, agriculture, energy, transportation, telecommunications, and public health.

- NYSERDA's comprehensive mercury monitoring and research activities provided significant support for the Environmental Protection Agency's (EPA) 2011 Mercury and Air Toxics Standards, the first national standards to protect American families from power plant emissions of mercury and other toxic air pollution. EPA estimates that the new safeguards will prevent as many as 11,000 premature deaths and 4,700 heart attacks, 130,000 cases of childhood asthma symptoms and about 6,300 fewer cases of acute bronchitis among children each year. EPA also estimates that every dollar spent to reduce pollution from power plants will result in up to $9 in health benefits, with total annual health and economic benefits as much as $90 billion.
- NYSERDA provided support for the development of the *Revised Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program*, issued by the New York State Department of Environmental Conservation in September 2011. NYSERDA's assistance was also instrumental in developing the accompanying *Recommendations for Permitting High-Volume Hydraulic Fracturing in New York State*. These recommendations, if adopted in final form, are designed to protect the state's environmentally sensitive areas while realizing the economic development and energy benefits of the state's natural gas resources.
- Significant power plant NOx and SO_2 emissions reductions will be realized with implementation of the federal Cross State Air Pollution Rule beginning in 2012. The Rule specifically addresses upwind sources of pollutants that cross state boundaries, addressing the difficulty for affected states to control in-state air quality. Technical supporting documentation used to evaluate impacts for New York State include EPA-authored Acid Rain Program Progress Reports which used data from many NYSERDA-sponsored projects that monitor and quantify impacts of power plant emissions.
- NYSERDA environmental research program data was cited in the 2011 EPA report: *Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur*. This document is serving as the basis for the development of the SOx and NOx secondary standards 5-year field pilot program that will collect and analyze data designed to inform the next review of the NAAQS for SOx and NOx, and support development of a monitoring network for a multi-pollutant standard.
- The new report to Congress from the National Acid Precipitation Assessment Program (NAPAP) is an excellent example of how scientific information can be used to inform air quality policies. Research funded through NYSERDA's EMEP program provided important information to evaluate trends and spatial patterns of acidification, leverage federal dollars for projects in NY, and document that although we have seen some improvements in aquatic ecosystems as acid deposition levels have declined, full recovery has not yet been achieved.

Highlights of Additional "Cleaner Environment" Accomplishments

- Safely managed the State-Licensed Disposal Area and Retained Premises of the Western New York Nuclear Service Center in full compliance with all regulations, including the installation of erosion control structures that stabilized a critical segment of stream valley near the radioactive waste disposal areas at the Western New York Nuclear Service Center.
- Continued to manage NYSERDA's interests in the West Valley Demonstration Project, including initiation of technical studies, jointly managed with the U.S. Department of Energy, to evaluate issues related to upcoming West Valley decommissioning decisions.

- NYSERDA-sponsored monitoring and its funded researchers continue to provide the foundation for litigation designed to reduce emissions from upwind power plants, especially projects related to atmospheric transport and climate change.
- In 2011 the Environmental Energy Alliance of New York stated that their 14 electric utility members rely on information from NYSERDA's Environmental Research program to help ensure that new regulations are as cost-effective as possible in attaining environmental goals.
- Through a research partnership between NYSERDA and the Water Research Foundation, a report was published in 2011 entitled "*Energy Efficiency Best Practices for North American Drinking Water Utilities*". Recognizing the inherently conservative nature of this sector - one driven primarily by public health mandates - a critical need existed to document and share information on the practices of early adopters. This project includes five New York State case studies and identifies numerous energy efficiency best practices available to, and currently in use at drinking water utilities, many of which require little to no capital investment.
- In 2011, NYSERDA's Biomass Heating R&D program, a joint effort of the environmental and buildings research programs, made great progress in providing assistance to NYS manufacturers in the development of high efficiency biomass heating technologies. With increased heating system efficiency, the emissions of carbon monoxide and fine particles decrease substantially. This improved performance over conventional technologies is being evaluated by independent researchers at universities in NYS and at national laboratories. In addition, emission control technology is being evaluated to bring high-efficiency pellet boiler heating systems as close to the performance of oil-fired systems as possible with respect to energy efficiency, carbon monoxide and particulate emissions. This achievement will be necessary to prevent increased on-site emissions, an important consideration for installations at schools, health care facilities and other locations with susceptible populations.

Table 6: Performance Measures – Satisfied Customers

SATISFIED CUSTOMERS *NYSERDA is responsive to customer needs – delivering accurate and timely information, services and programs*					
Performance Measures	**Prior to 2010**	**CY 2010**	**TARGET CY 2011**	**CY 2011**	**TARGET CY 2012**
Contract processing time - Median time to process (weeks): 1) Contracts Awarded from Solicitations;	new metric for 2010	**31.5 weeks** *(660 contracts)*	**28.3 weeks**	**36.9 weeks** *(209 contracts)*	**28.3 weeks**
2) Open Enrollment Incentives;		**14.6 weeks** *(1,925 contracts)*	**13.1 weeks**	**14.6 weeks** *(2,681 contracts)*	**13.1 weeks**
3) Direct Contracts		**7.0 weeks** *(210 contracts)*	**6.3 weeks**	**3.9 weeks** *(534 contracts)*	**4.0 weeks**
4) Modifications / Task Orders		**3.3 weeks** *(2,352 contracts)*	**3.0 weeks**	**2.*9 weeks*** *(3,050 contracts)*	**3.0 weeks**
Invoice payment – 1) Number of invoices paid within 30 days	new metric for 2010	42,356 invoices	** [29]	63,010 invoices	**[29]
2) Percent of payments made within 30 days	new metric for 2010	99.98%	100%	99.99%	100%

Highlights of Additional "Satisfied Customers" Accomplishments

Third-party evaluations of NYSERDA's energy efficiency programs indicated that:

- the skill and flexibility of NYSERDA staff in implementing programs is one of the organization's greatest strengths;
- program communication is ranked as excellent due to program staff responsiveness to participants; and
- NYSERDA is viewed as a trustworthy source of information and a source of technical expertise.

[29] The measure will be monitored and reported but a 2012 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.