NYPA Sustainability Action Plan - 2007-2012

NYPA is committed to being a leader in the industry in demonstrating progress towards meeting the most urgent sustainability challenges facing our sector, our organization, and our customers. We have developed a sustainability framework that enables us to prioritize and communicate the most material issues for NYPA and our stakeholders at this time. We have developed a five-year action plan that will significantly improve our sustainability profile. Tangible strategies and specific targets will ensure that performance can be monitored and reported in a transparent manner.

	Commitment	Specific Measures	Targets	Responsibility	Estimated Costs
WORKPLACE					
Culture of Sustainability	We will create a culture of sustainability that recognizes and rewards contributions to the triple bottom line of NYPA.	- Appoint a Director of Sustainability who will be responsible for the implementation of NYPA's sustainability plan	- Appoint Director of Sustainability, accountable to the VP of Environmental Health & Safety by Q3 2007	VP Environmental Health & Safety	$250k annual budget
		- Raise employee awareness of sustainability through training, communications, and contests	- Roll out an organization wide training program that includes Sustainability Training for department heads and facility managers by Q1 2008	Director of Sustainability	$22k to develop training program $15k annual to provide training, materials and sponsor contests
Diversity	We will strive for diversity in our staff that reflects the diversity in New York State while meeting the technical requirements of our workforce.	- Enhance the skills and knowledge of our employees through management processes that motivate performance in order to successfully implement our strategic objectives	- Roll out succession planning program across all locations by Q3 2007	Director of Human Capital	Costs covered in strategic plan
		- Implement a diversity program that establishes a culture of diversity within NYPA operating regions and reflects the diversity in the hiring pools. Seek new sources of qualified candidates that better reflect the diversity of New York State.	- Foster diversity and determine need for additional programs by Q1 2009; report on diversity in hiring and promotions every six months	Director of Human Capital	Costs covered in strategic plan
Health and Safety	We will institute programs to enhance the well-being of our employees.	- Establish a safety certification program for completing Job Safety Analyses	- Ensure 100% Maintenance Resource Managers are trained on Job Safety Analyses by Q2 2008	VP Environmental Health & Safety	$30k to develop an in-house program and conduct training $5k to conduct training to 200 participants in total

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		- Study causes, costs and risks of employee injuries and assess the benefits and feasibility of investing in on-site strength training or other programs (i.e., facility Industrial Nurse for Return to Work) to address injuries resulting from an aging workforce.	- Reduce Workmen's Comp costs by 10% by 2009 through injury reduction - Reduce workplace ergonomic injuries by 20% by 2009 - Complete analysis of all facility related injuries by June 2008	VP Environmental Health & Safety	$15k to conduct internal study Capital costs TBD, selected through cost-benefit analysis Meeting target = $200k in annual savings
COMMUNITY					
Stakeholder Engagement	We will implement programs to engage with NYPA stakeholders in a respectful, productive and ongoing manner. We will ensure that communities that are impacted by NYPA operations are treated fairly, with respect and due process.	- Develop a policy of social and environmental justice that encompasses all of NYPA's activities, providing guidance on engagement with the communities near NYPA facilities, stakeholders and first nations	- Social and environmental justice policy to be in place by Q1 2008	SVP Public & Government Affairs	None
		- Map stakeholders and develop a forum for ongoing communication	- Establish face-to-face stakeholder forum by Q2 2008	SVP Public & Government Affairs.	$6k for mapping exercise $23k for 4 regional meetings per quarter
		- Increase the transparency and efficacy of community contributions and investment programs	- Post Community Support policy online Q3 2007 - Continue to support first responders as a matter of priority	SVP Public & Government Affairs	$5k annually to develop content for website
		- Develop sustainability guidelines for community contributions and investment programs	- Incorporate guidelines for sustainability into the Community Support policy. Add evaluation criteria of which applications should meet at least one, Q4 2007	SVP Public & Government Affairs	No additional cost
Access to emissions-free power	We will support sustainability initiatives within NYPA-affected communities that result in increased access to low-emissions power through NYPA pilot programs and support of government initiatives.	- Enhance and expand programs that result in a renewable source of energy for the benefit of communities near NYPA facilities, thereby providing jobs and access to clean power at reasonable rates	- Explore whether a loan fund of $2M could be dedicated to supporting renewable energy projects in and around NYPA facilities	General Counsel	$6k to explore potential of loan fund establishment

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Sustainability Reporting	We will monitor and report on our sustainability performance annually in a transparent manner.	- Establish a working group to develop a full sustainability report following the guidelines developed by the Global Reporting Initiative (GRI)	- Establish working group by Q4 2007 - Join GRI as an Organizational Stakeholder by Q1 2008	SVP Public & Government Affairs	$29k upfront cost for a cross-organization working group of 3 staff $13.5k annual membership to Global Reporting Initiative (GRI)
		- Publish summary of sustainability performance in accordance with GRI, noting material issues, priorities, targets and accomplishments during the reporting period	- First GRI compliant report to be published in 2009, concurrent with cycle of annual reporting	Director of Sustainability	$5k annually to develop level C GRI report index as part of annual report Costs for design and printing are covered through budget for preparation of annual report
Sustainability in Decision-making	We will update sustainability priority areas as part of the strategic planning process conducted every three years at NYPA.	- Revise strategic decision drivers to infuse the principles of sustainability into NYPA's planning and decision-making process	- Revise decision drivers in collaboration the Director of Sustainability by Q4 2007	SVP ERM & Strategic Planning	No additional cost
ENVIRONMENT					
Reducing NYPA's Carbon Footprint	We will strive to become a carbon neutral organization, firstly through energy efficiency in our operations, secondly through generating emissions free power, thirdly through offsets and lastly through sequestering carbon or creating carbon sinks as appropriate technology becomes available.	- Calculate NYPA's carbon footprint based on six classes of greenhouse gas: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6)	- Complete baseline carbon footprint calculation by Q3 2007 - Implement data collection system to streamline calculation process in future by Q2 2008 - Include carbon footprint in sustainability reports from 2009 onwards	VP Environmental Health & Safety Director of Sustainability Director of Sustainability	$9k upfront cost for developing data collection and analysis system $7k costs for annual data collection

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	- Reduce or offset emissions from NYPA's major direct sources, including our fossil-fueled plants, transportation, and fugitive emissions from equipment. Reductions will be in line with requirements of RGGI, CCX and NY State as applicable.	- Reduce equivalent tons of NYPA's of carbon emissions by 5% (excluding Poletti) by 2012 - Reduce equivalent tons of NYPA's carbon emissions to 85% of 2006 baseline (excluding Poletti) or 1990 level by 2020, whichever is more stringent. Offset additional 25% of 2006 baseline to achieve a 50% reduction overall. - Reduce equivalent tons of NYPA's carbon emissions to 50% of 2006 baseline (excluding Poletti) or 1990 level by 2050, whichever is more stringent. Offset remaining emission to achieve carbon neutrality.	VP Environmental Health & Safety	$10 k upfront cost to oversee development of a carbon reduction strategy $120k upfront cost for consultant study to assess feasibility of different carbon reduction strategies Costs of carbon reduction TBD (based on abatement cost and market price of carbon)
	- Conduct energy audits of our facilities and implement appropriate measures to improve performance	- Reduce energy consumption of NYPA office buildings (not including WPO) to 75% of 2006 value by 2012, and to 50% of 2006 value by 2025 - Reduce energy consumption of NYPA facilities by 10% by 2015, or as recommended following an energy audit - 100% of power supplied to NYPA facilities (non-process, non-station) to be green-e certified by 2012	SVP Energy Services & Technology SVP Energy Services & Technology SVP ERM & Strategic Planning	$12k upfront cost to oversee 5 facility audits $125k upfront cost for audit of 5 facilities (undertaken by consultant) Capital costs to reduce energy use TBD, selected through cost-benefit analysis Annual cost savings from energy efficiency measures TBD
	- Conduct education and training of our staff, customers, and suppliers, in order to reduce our indirect emissions	- Training programs developed by Q4 2008; reach 70% staff participation and 40% customer participation by 2012	Director of Sustainability	$12k upfront cost to manage development of training program, and $50k to develop training program $24k annual costs to provide training and materials
	- Support R&D to make carbon sequestration technologies commercially viable	- Increase support of existing research initiatives related to carbon sequestration by up to $500,000 per year	Director of Research & Development	Up to $500,000 increase in annual budget

	Commitment	Specific Measures	Targets	Responsibility	Estimated Costs
		- Establish a pilot project to evaluate different species of switchgrass for cultivation as biofuel on the rights-of-way - Develop and promote incentives to encourage landowners to grow switchgrass on their land - Support landowners in sourcing state and federal incentives where applicable	- Complete pilot project, including a full year of growth, by Q2 2010 - Develop a tool to help landowners calculate the cost/benefit of pursuing a biofuel strategy on their holdings by Q2 2011	System Forrester Director of Real Estate	$100k costs for implementing pilot project. $7k for annual program supervision. $50k annual allocation to provide incentives to encourage landowners to "Make the Switch"
		- Develop criteria for investment in local carbon offset projects, and realize the benefits of resulting carbon offsets	- Allocate $1m to develop this type of offset	Director of Sustainability	$1m annual allocation
		- Prepare to participate in a cap & trade carbon market by actively participating in the existing voluntary market	- Join the Chicago Climate Exchange, or equivalent exchange by Q1 2009	Director of Sustainability	$15k one-time enrollment fee $35k member dues
Water Resource Management	We will manage water to achieve water neutrality through reduction of water use, recycling of process water, replenishing our water sources, and maintaining the quality of our watersheds.	- Conduct audits of non-process water use - Identify opportunities to increase water efficiency and conservation	- Complete non-process water audits of all facilities by Q3 2009 - Reduce use of non-process water by 30% by 2012 or as recommended by water audit - Include water audits in sustainability reports	VP Environmental Health & Safety	$6k upfront cost to develop scope of work for audit $12k to supervise 5 audits $125k to audit 5 facilities (undertaken by consultant) Capital costs to reduce water use TBD, selected through cost-benefit analysis

	Commitment	Specific Measures	Targets	Responsibility	Estimated Costs
		- Conduct audits of process water use - Identify opportunities to increase water efficiency and conservation - Study process modifications to reduce consumption of process water	- Recycle and reuse 95% of non-evaporated process water by 2012; 98% by 2020 - Evaluate the feasibilty of recovering water currently lost to atmosphere through evaporative cooling - Eliminate process wastewater discharges by 2020 - Evaluate feasibility of offsetting all remaining water withdrawals through rainwater collection and aquifer recharge by 2025 - Include water audits in sustainability reports	SVP Power Generation	$12k upfront cost to supervise feasibility study $225k upfront cost for feasibility analysis to be conducted by consultant on Flynn, 500 MW plant and the small clean plants Annual cost savings from water efficiency measures is TBD
		- Map NYPA watersheds and manage according to Low-impact Hydropower Institute (LIHI) criteria	- LIHI management program strategies in place for all hydro facilities by 2012 - LIHI certification of eligible hydropower projects by 2012	VP Environmental Health & Safety	One-time LIHI documentation costs and associated studies $125k Capital investment costs associated with LIHI compliance TBD
Land Management	We will manage the land under our care to protect sensitive habitats and species.	- Develop a habitat and biodiversity management plan	- Develop and implement a habitat & biodiversity management plan by 2012 - 100% of land under NYPA's management will be mapped for habitats by 2012 with an ongoing commitment to record species as part of this process	VP Environmental Health & Safety	$28k for in house development of plan Annual $15k for consultant support in plan development

	Commitment	Specific Measures	Targets	Responsibility	Estimated Costs
		- Develop a web-based information portal on sustainable land use, for the benefit of the owners of rights-of-way, covering opportunities for sustainable farming, growing switchgrass for biofuel, partnering, Integrated Pest Management, fertilizer minimization, xeriscaping, environmentally friendly herbicides and native vegetation.	- Launch sustainable land-use portal by Q4 2008	Director of Sustainability	$10k for supervision of portal development $25k external consultant support
LEED® Rated Buildings	We will ensure that our buildings have a minimal impact on the environment by conducting LEED® certification of all existing and new facilities.	- Obtain LEED® for Existing Buildings (EB), LEED® for Commercial Interiors (CI) or LEED® for New Construction (NC) certification as appropriate.	- 50% of appropriate existing facilities to be certified LEED® EB or CI Silver by 2010; remainder to achieve same status by 2012 - All new facilities to achieve LEED® NC Silver	Director of Energy Services	Costs covered by existing initiatives
Environmental Management	We will continuously monitor and improve environmental performance by implementing an EMS at NYPA facilities.	- Define boundaries for measuring and reporting environmental performance, including carbon emissions - Implement ISO 14001 certified EMS	- ISO 14001 certification across all facilities by Q4 2010	VP Environmental Health & Safety	$121k annual cost for 1 FTE to work full-time on EMS development and monitoring. $100k in consultant support per year from 2010-2012 to assist in EMS development.
MARKETPLACE					
Access to low-cost power	We will be a leader in offering renewable energy to customers.	- Formalize and promote NYPA's ability to source "green-e" certified power on behalf of customers	- Target customer participation of 200,000 MWh of power purchases by 2020 - 3% (approx. 500,000 MWh) of all purchased capacity to be "green-e" certified by 2030 - Revise targets upwards if LIHI certification of hydropower facilities is achieved	SVP Marketing & Economic Development	$5k annually for development of promotional materials
		- Support promotion and development of renewable energy technologies in the marketplace	- Join the American Council on Renewable Energy, or equivalent, by Q1 2008	Director of Research & Development	$5k annual membership

	Commitment	Specific Measures	Targets	Responsibility	Estimated Costs
Demand-side Management	We will help our electric customers achieve their energy efficiency goals, conserve resources, and reduce their environmental impacts.	- Develop a web-portal for customers for information about Energy Services and distributed generation, that helps NYPA customers to manage their own energy consumption and carbon emissions across their building portfolio, and learn from best practices in their industry sector.	- Operating by Q1 2008 - Reach 40% customer participation in web portal by Q4 2008, 70% by 2012	SVP Marketing & Economic Development	Costs covered by existing initiatives
		- Support energy services customers in monetizing carbon and efficiency credits generated by energy services projects	- NYPA expertise in place by Q3 2008	SVP Energy Services & Technology	$60k for 0.5 FTE for facilitation $25k to participate in conferences and training programs
		- Continue to act as a "broker" of energy efficiency services to maximize participation, offering consulting, financing, contractor/supplier information, rebate applications, etc.	- Reach 60% of electric customer participation by 2010, 80% by 2012	SVP Energy Services & Technology	Costs covered by existing initiatives
Government Relations	We will foster good relations with the Governor and the legislature by keeping them informed of the sustainability benefits of our proposals.	- Develop a list of prioritized initiatives that would improve NYPA's sustainability profile, but would require an act of legislation in order to proceed	- Develop prioritized list by Q1 2008	SVP Public & Government Affairs	$9k to develop initial list of initiatives
		- Collaborate with businesses and organizations, the legislature, Congress, and other stakeholders, to enact a comprehensive climate change policy	- Join the US Climate Action Partnership by Q4 2008	SVP Public & Government Affairs	No cost
Renewable Energy	We will expand the amount of emissions-free renewable energy available to our customers	- Increase distributed solar generation capacity at customer sites	- Increase customer solar capacity by 2% over 2006 baseline, per year	Director of Energy Services	$5k annually for development of promotional materials. Capital costs covered by existing initiatives
		- Continue to fund research of large-scale renewable energy storage	- Increase funding for research in renewable energy storage by up to $500,000 per year	Director of Research & Development	Up to $500,000 increase in annual budget

	Commitment	Specific Measures	Targets	Responsibility	Estimated Costs
		- Increase NYPA's renewable energy generation capacity	- Invest in developing new renewable energy projects for NYPA, as appropriate	Director of Research & Development	Capital costs TBD
			- Increase emissions-free generation capacity by 1MW per year, to the extent allowable or dictated by the legislature	SVP Power Generation	
OPERATIONS					
Reliability	We will improve the reliability of NYPA generation and transmission facilities for the benefit of our customers and NYS	- Increase efficiency of hydro-generation assets	- Complete Life Extension and Modernization programs for all hydroelectric plants according to NYPA's strategic plan	SVP Power Generation	Costs covered by existing initiatives
		- Continue to maintain transmission and generation equipment to meet goals of the internal balanced scorecard	- Maintain generation reliability at 98.5%	SVP Power Generation	Costs covered by existing initiatives
			- Maintain transmission reliability at 99.18 %	SVP Transmission	
			- Evaluate extent of Life Extension and Modernization program for the transmission system	SVP Transmission	
		- Support interconnection of renewable power generation to NYPA's transmission infrastructure	- Formalize and disseminate existing protocol for connection of new renewable energy projects to transmission system	SVP Transmission	No additional costs

Justification for carbon emission reduction targets.

This note is provided as background to the Action Plan final draft.

The proposed target emission reduction targets are based on regional (NY, RGGI), national and global targets (see below). Most of the proposed NYPA targets meet or slightly exceed the regional/global targets.

Year	Other Target	NYPA Target
2009	Cap at current levels (2006/7) (RGGI target)	**95%** of carbon emissions by **2012** (excluding Poletti) from 2006 baseline.
2010	Chicago Climate Change target of 6% reduction from 2000 levels – this is the commitment that must be made to join the exchange.	
2019	10% reduction from 1990 levels (RGG target).	**85%** of carbon emissions **by 2020** from 2006 baseline (excluding Poletti) or 1990 level, whichever is greater.
2030	30% reduction set by New York City for itself from 2006 baseline	-
2050	50% Figure being discussed at international level which some countries have signed up to and the US is considering. NJ have set a target of 80% below 2006 levels.	**50%** reduction of carbon emissions **by 2050** from 2006 baseline (excluding Poletti)or 1990 level, whichever is greater.

In addition to carbon emission reduction targets there are energy reduction targets such as the NY Governor's '*15 by 15*' pledge.

Poletti and its replacement.

The replacement of Poletti was raised as a major concern in Tuesday's meeting. However, further analysis has revealed that its replacement would have a very minor marginal increase on NYPA's carbon footprint. This is because of the way the Green House Gas Protocol accounts for carbon emissions. The emissions associated with the replacement power generation would count towards the owner of the plant's carbon footprint, not NYPA's. NYPA would only be responsible for the carbon emissions associated with the loss of power from transmission when it sells the electricity to its customers. Therefore, NYPA would still see a significant reduction (37% +/-) in its carbon footprint when Poletti goes offline.

Summary of Estimated Sustainability Program Costs

The tables below provide a summary of the estimated sustainability program costs and savings. The initial investment represents the upfront costs associated with setting up programs, undertaking studies, etc., while the ongoing costs represent the annual costs to be incurred for implementation of the sustainability program.

Table 1 presents the funding required by theme area. It should be noted that these costs include the costs for FTEs required for the sustainability program (as shown in Table 2).

Table 1: Funding Required by Theme Area

Funding by Theme Area	Initial Investment	Ongoing Costs	Savings
Workplace	$ 72,100	$ 263,100	$200,000 (reduction in workman's comp)
Community	$ 27,400	$ 50,600	
Environment	$ 1,039,100	$ 1,356,000 to $1,856,000	Energy & water savings TBD
Marketplace	$ 13,700	$ 605,300	
Operations	$ -	$ -	
Total	$1.16 million	$2.27 - $2.78 million	

Table 2 indicates how the funds will be used, including the number of FTEs required for implementation.

Table 2: Uses of Funds

Uses of Funds	Initial Investment		Ongoing Costs	
FTE (senior)	0.7	$ 101,600	1.0	$ 167,400
FTE (midlevel)	0.9	$ 109,100	2.0	$ 233,600
FTE (junior)	0	$ -	1.0	$ 92,300
Consultant services		$ 923,000		$ 100,000
Memberships & conferences		$ 15,000		$ 93,750
R&D funding, biofuel incentive				$1,550,000 to $2,050,000
Printing & materials		$ 5,000		$ 37,500
Total		$1.16 million		$2.27 - $2.78 million