



**New York Power  
Authority**

Generating more than electricity

Generating

Sustainability

NYPA Sustainability Action Plan  
2010-2012





**Rarely before has energy been** such a significant part of the public conversation. Scientists and political leaders from around the globe are coming together to discuss clear and concrete ways to mitigate climate change caused in large part from industrial emissions. National security considerations now view safe and affordable access to fuel sources as a vital interest. And there is a growing acknowledgement that we can no longer act as if the Earth's natural resources are infinite. Electric utilities, particularly public entities like the New York Power Authority, have a leading role to play in this dialogue. With this Sustainability Action Plan, NYPA embraces this responsibility.

The term "sustainability" refers to the practice of meeting economic, environmental and social needs in ways that do not harm future generations. For the New York Power Authority, however, our perspective on sustainability includes not just a forward framework, but a look back over the past 78 years, when state leaders took steps to ensure public ownership and protection of New York's hydropower resources. So, while this *Generating Sustainability* initiative is new, it is built on a foundation of policies and practices that NYPA has developed throughout its history.

Our current pursuit of offshore wind projects, significant investments in energy efficiency and the cessation of operations at our Charles Poletti fossil fuel plant in New York City will help the state achieve its clean energy and carbon reduction goals. However, we must continue to push forward and seek out innovative means to further reduce our environmental impact and bring greater value to the New York economy, both locally and statewide. At the Power Authority, every employee should know that his or her job is ultimately tied to this long-term mission.

This is just the beginning of a process that we expect will infuse a new level of commitment in all of our employees, one that we hope will inspire our customers and stakeholders as well. These are challenging times, but they are also times of opportunity. The Power Authority prides itself on being willing and able to take the necessary actions that others could not or would not do themselves. In this instance, however, we invite all New Yorkers, from the public and private sectors, to join us in this effort that will affect and benefit us all.

We welcome your input, and appreciate your support, as we move forward together toward a more sustainable future.

Michael J. Townsend  
Chairman

Richard M. Kessel  
President & CEO

***This page, from top:*** NYPA's LEED-Gold office building in White Plains, the Niagara project visitors center, wildlife along the St. Lawrence River, NYPA President and CEO Richard Kessel (center) visits power allocation customer Anchor Glass, switchyard at the St. Lawrence-FDR project.

## A TRADITION OF RESPONSIBILITY

Few activities have as great an impact on the Earth and its inhabitants as the production and consumption of energy. From the earliest days of primitive civilization to the 21st century's high-tech infrastructure, meeting humanity's need for energy has altered the natural balance of our air, land and water.

In a positive development, utilities have begun taking steps toward more responsible operations, particularly in terms of minimizing their impact on the environment.

The New York Power Authority was established in 1931 with the ideal of responsible stewardship of the state's hydropower resources, instituting practices that tried to keep future generations in mind. These early efforts at sustainable development, using natural resources wisely, have expanded in recent years to include the use of energy efficiency and clean energy technologies that preserve the environment and promote the economy. Equally important are NYPA policies that encourage the input of customers and communities in major decision making.

This Sustainability Action Plan has been developed by a diverse team of NYPA employees to incorporate the "triple-bottom-line" goals of environmental stewardship, social equity and economic prosperity throughout the Power Authority. *Generating Sustainability* enables NYPA to tie many of its long-standing practices with several new initiatives under one sustainability umbrella.

The plan is built around five key areas that encompass all facets of the Power Authority: workplace, community, environment, marketplace and operations. Each of the plan's 21 focus areas comes with a high-level commitment and one or more specific action items. While the plan sets a long-term vision for the Power Authority, the strategies to reach these goals are intentionally short-term. The focus is on tangible, targeted initiatives that NYPA can undertake to have an immediate positive impact.

This Sustainability Action Plan is comprehensive yet strategic, ambitious yet realistic, and will bring increasing value to NYPA's employees, its stakeholders and, ideally, everyone who lives, works or visits New York State.

## WORKPLACE

- Culture of Sustainability
- Dynamic Workforce
- Green Workspaces
- Health and Safety

## COMMUNITY

- Stakeholder Engagement
- Community Investment
- Public Education and Communication

## ENVIRONMENT

- Carbon Reduction
- Water Management
- Land Management
- Waste Management

## MARKETPLACE

- Demand-Side Management
- Renewable Energy
- Alternative-Fuel Transportation
- Clean Energy Procurement
- Economic Development

## OPERATIONS

- Strategic Planning
- Generation and Transmission Reliability
- Generation and Transmission Efficiency
- Clean Energy Demonstrations
- Climate Change Adaptation



of employees surveyed  
rate NYPA excellent or  
above average on  
sustainability efforts

– NYPA Employee Survey, April 2009



# WORKPLACE



**FROM A 19TH CENTURY DAIRY BARN** now used to make energy education fun for all ages to the powerhouse of New York State's largest electricity generator, the New York Power Authority workplace encompasses a variety of settings for some 1,600 employees. Increasingly, the NYPA work force reflects the diversity of surrounding communities, and, like many utilities, includes an aging population that will necessitate creative solutions to retain the corporate knowledge of veteran employees while training junior staff members to eventually take the reins.

This Sustainability Action Plan commits NYPA to a range of measures that will make the workplace safer and healthier, with greater diversity among its workers who perform their jobs with a growing appreciation for sustainable policies and procedures. Recent advances include increased efforts at recycling various materials, reduced paper usage through duplex printing and electronic communications, and the introduction of green cleaning products at all NYPA work sites.

## **CULTURE OF SUSTAINABILITY**

*We will create a culture of sustainability that recognizes and rewards contributions to NYPA's triple bottom line.*

- Raise employee awareness through workshops, education communications and contests

## **DYNAMIC WORKFORCE**

*We will build and maintain an inclusive work environment where each individual's contribution is valued and respected while preserving institutional knowledge and providing career opportunities.*

- Enhance the skills and knowledge of our employees through a comprehensive succession planning program
- Expand diversity programs at NYPA that seek to build upon our myriad of backgrounds and skill sets, and foster interaction and respect between those of differing age, race and gender

# 15

The number of times in the past 15 years NYPA placed 1st or 2nd in the American Public Power Association's utility safety awards

“It used to be rare to see women in the senior management of a utility. At NYPA, increasing the diversity of viewpoints around the decision table has only enriched our organization.”

—Patricia Leto  
Vice President Procurement



## GREEN WORKSPACES

*We will create healthy work environments for our employees and utilize environmentally-friendly products and materials.*

- Identify environmentally-friendly substitutes for commonly purchased products per “Executive Order 4: Green Procurement and Sustainability” guidelines
- Develop green guidelines for office renovations that promote access to natural light, indoor air quality and workplace efficiency

## HEALTH AND SAFETY

*We will institute programs to enhance the health, safety and well-being of our employees.*

- Conduct an industrial hygiene analysis at all NYPA generating sites with a particular emphasis on noise and indoor air quality
- Enhance Job Safety Analyses to include a checklist of potential steps for completing common maintenance activities and procedures to minimize workplace injury or illness associated with completing each job

## LEEDING THE WAY

In 2006, NYPA’s administrative offices in White Plains received a Gold award in the Existing Building category from the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) program. Three years later, a major renovation of the office building’s fifth floor is under way, with NYPA pursuing LEED certification for Commercial Interiors as an additional milestone. Among the green design elements will be floor coverings and other materials made with recycled content as well as moveable, pre-wired wall panels that make possible a floor layout that prioritizes access to natural light and better flexibility for work spaces. Green building practices are planned for other NYPA facilities as well. For example, a new warehouse at the Niagara Power Project is being designed to meet LEED Gold for New Construction.

**Opposite page, clockwise:** Safety is paramount for hot-stick linemen, the St. Lawrence-FDR project, repairs are made to a hydro plant wicket gate, installing insulated film on office windows.

**This page, clockwise:** A recent purchasing exchange for minority- and women-owned business enterprises, annual health fairs bring employees and health care vendors together, NYPA’s White Plains office building is “gold” and “green.”





# COMMUNITY



**EVERY NYPA EMPLOYEE REPRESENTS** the Power Authority in his or her local community. However, a special effort is made, with dedicated staff members assigned, to serve the regions where NYPA facilities are located, providing assistance with low-cost electricity allocations, money-saving energy services projects and more.

NYPA's earliest power projects were built to include some 30,000 acres of land and water for parks and recreational facilities that preserve the environment and promote tourism. The public is further served with wildlife festivals, energy expos and other educational programs NYPA provides at its three visitors centers or at sites out in the community. Age-appropriate programs are designed for audiences ranging from school children to senior citizens, providing information on the safe and efficient use of electricity and other forms of energy. NYPA also partners with educational and cultural destinations near its outreach areas enabling tourists to do "more cruisin' and less fuelin'" on a tank of gas.

And, as a further boost to economic development, the Power Authority organizes networking opportunities to connect minority- and women-owned business enterprises with public and private employers around the state. This Sustainability Action Plan emphasizes transparency as a key feature of any interaction with the community, ensuring ongoing means for public engagement.

***This page, clockwise:** Wildlife festivals instill an appreciation for natural resources, community groups are encouraged to care for their local environment, energy expos provide money-saving tips for consumers, proceeds from a classic car show benefit a public service organization.*

***Opposite page, from top:** Wetlands in Western New York, a relicensing outreach meeting, riverfront recreation along the St. Lawrence River.*

140K

Average annual attendance at NYPA's three admission-free visitors centers





**AS STEWARD OF NEW YORK'S** largest hydropower resources, the Power Authority recognizes the importance of preserving the environment for future generations. Currently, some 75 percent of NYPA's own generation comes from renewable hydroelectricity, with increasing amounts of clean distributed generation being produced at NYPA customer sites. NYPA also supports the development of wind power by independent entities and in partnership with other utilities.

Once the Charles Poletti Power Plant closes in early 2010, the result of a landmark agreement reached between New York State leadership and local community representatives, NYPA's remaining fossil-fueled plants will be 15 years old or less, employing the latest in emission-control technology that makes them among the cleanest generators in the New York Metropolitan area. However, as the primary source of NYPA's greenhouse gas emissions, additional mitigation measures will be evaluated.

Besides its power generation operations, NYPA integrates environmental considerations into many other aspects of its business, and this Sustainability Action Plan identifies a wide range of measures that continue, or introduce, practices to promote a healthier planet.

**CARBON REDUCTION**

*We will reduce our carbon emissions by looking at all aspects of our footprint and aggressively identifying reduction opportunities.*

- Calculate carbon footprint per the Climate Registry protocol and publicly disclose analysis
- Conduct energy audits at all NYPA facilities and implement energy conservation measures
- Pursue LEED certification for all three existing NYPA visitors centers as well as all new construction

***This page, clockwise:** Right-of-way maintenance follows strict environmental guidelines, a school group observes wetlands at Blenheim-Gilboa, Hawkins Point offers prime viewing of the St. Lawrence-FDR project, caring for wildlife in the North Country.*

***Opposite page:** Westchester County's wastewater treatment plant in Yonkers saves energy with both solar photovoltaic panels and energy efficiency upgrades.*

# 34%

of the Power Authority's vehicle fleet is fueled by electricity or petroleum alternatives

- Continue to collaborate with relevant entities to enact a comprehensive federal climate change policy
- Develop a carbon-reduction program for NYPA fossil fuel generation facilities that ensures compliance with federal climate change legislation and other regulations
- Conduct a green Information Technology survey to identify energy savings and other efficiency measures
- Conduct a green fleet management study to maximize carbon reductions

### WATER MANAGEMENT

*We will manage our water resources efficiently and optimize conservation opportunities.*

- Conduct audits of non-process water use at all NYPA facilities to reduce the use of potable water, starting with NYPA's visitors centers in association with LEED for Existing Building efforts

### LAND MANAGEMENT

*We will manage the land under our care to protect sensitive habitats and species.*

- Complete the 18 Habitat Improvement Projects and 12 Recreation Enhancement Projects planned or already under way as part of the relicensing agreements for the Niagara and St. Lawrence-FDR power projects
- Continue to manage Rights-of-Way according to the Integrated Vegetation Management Plan and implement the Electric Power Research Institute's recommendations for improvements

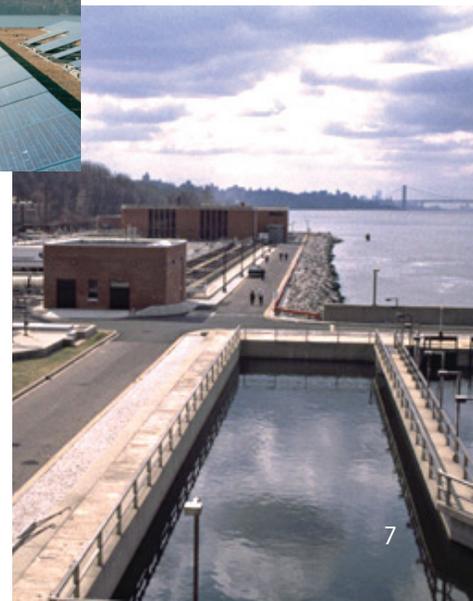
### WASTE MANAGEMENT

*We will reduce and manage our waste stream in an environmentally-responsible manner.*

- Develop a waste management plan in order to obtain a 10 percent reduction per "Executive Order 4: Green Procurement and Sustainability" guidelines

## GREEN ENERGY = CLEAN WATER

NYPA is working with municipalities across the state to realize significant savings in energy along with reductions in greenhouse gas emissions through an initiative designed for water supply and wastewater treatment plants. NYPA is now offering a package of clean energy options that includes solar power installations, biogas recovery systems and efficiency measures that, together, target usage reductions of some 20 percent at these high-demand sites. Additional benefits are achieved by taking the waste gas, previously flared into the atmosphere, and converting it into electricity through a fuel cell.





“Access to NYPA’s hydropower was a key factor in our expansion plans in Western New York.”

—Derrick Millard, Director  
Real Estate & Facilities  
Management, GEICO

**This page, clockwise:** High-efficiency lighting illuminates the George Washington Bridge, Yahoo! groundbreaking in Western New York, hydropower has helped FMC expand in Tonawanda, Fairport shows off its new hybrid-electric bucket truck.

**AS NEW YORK’S ONLY STATEWIDE** electricity supplier, the Power Authority serves a variety of customers. From Fortune 100 corporations and major manufacturers, to the City of New York and its myriad governmental facilities, to the state’s 51 municipal electric utilities and rural electric cooperatives, these entities and many others rely on NYPA power to maintain and expand their operations. The Power Authority also leverages its low-cost electricity to foster economic development, supporting some 400,000 jobs throughout the state.

The Power Authority’s hallmark of “generating more than electricity” places special emphasis on customer value, and this Sustainability Action Plan continues the relationship-building fundamentals NYPA practices in the marketplace. Besides electricity, the Power Authority provides an array of energy services to help a growing number of entities save money and megawatts, with total investments passing the \$1 billion mark. Installations of on-site renewable generation and assistance with clean transportation fleets are additional energy solutions NYPA contributes to the marketplace. NYPA also purchases some 112,000 megawatt-hours of green power on behalf of its customers annually, with additional amounts expected in the coming years.

#### DEMAND-SIDE MANAGEMENT

*We will foster demand-side management by helping our customers and energy services participants achieve their energy efficiency goals, conserve resources and reduce their environmental impact.*

- Continue to provide turn-key energy efficiency services, including consulting, financing and project management
- Explore an alternative rate structure for governmental customers that encourages demand-side management

## RENEWABLE ENERGY

*We will expand the amount of emission-free, renewable energy available in New York State.*

- Formalize and promote NYPA's ability to offer green power and credits to our customers
- Increase distributed renewable energy generation via initiatives involving solar, wind and fuel cell installations
- Foster utility-scale renewable energy generation capacity by pursuing offshore wind projects in the Great Lakes and the Atlantic Ocean
- Continue to fund research of large-scale renewable energy storage

## ALTERNATIVE-FUEL TRANSPORTATION

*We will build upon our alternative-fuel transportation programs to accelerate market penetration.*

- Continue to participate in national, state and regional programs to promote the development and demonstration of electric, hybrid-electric and plug-in hybrid-electric vehicles
- Develop and demonstrate solar energy "smart charge" infrastructure for electric and plug-in hybrid-electric vehicles

## CLEAN ENERGY PROCUREMENT

*We will encourage the procurement of clean energy on behalf of our customers.*

- Establish policy regarding fuel source and environmental impacts for bilateral energy contracts

## ECONOMIC DEVELOPMENT

*We will utilize NYPA low-priced power to create and maintain family-supporting jobs in New York State.*

- Continue to maximize NYPA power resources to attract business capital and quality jobs, and conduct energy audits for our customers to demonstrate energy efficiency opportunities

**\$485**

**MILLION:** Total amount of direct and subcontracted business awarded by NYPA to state-certified Minority- and Women-Owned Business Enterprises since 1983

## A SHINING EXAMPLE

For more than a decade, the Power Authority has helped advance the use of solar energy, and its recent efforts will position the state as a national market leader. In 2009, as part of a \$21 million renewable energy program, NYPA joined the University at Buffalo in announcing a 1.1-megawatt (mw) installation that would be one of the largest solar projects on any college campus in the nation (artist's rendering shown right). The bulk of the work will be done by a Western New York firm, creating green jobs for the local economy. The effort also supports a new solar incentive program for customers of municipal utilities and rural electric cooperatives. Additionally, NYPA is spearheading a 100-mw solar initiative planned for multiple sites throughout the state that will increase New York's installed solar capacity fivefold.





# OPERATIONS



**THE POWER AUTHORITY'S MISSION** is to provide clean, economical and reliable energy consistent with its commitment to safety, while promoting energy efficiency and innovation for the benefit of NYPA customers and all New Yorkers. Currently, the Power Authority operates 18 generating sites of varying sizes and fuel sources, capable of producing approximately 6,700 megawatts (mw) for a diverse mix of customers. Besides its generation assets, NYPA is the state's largest transmission owner, with 1,400 circuit-miles of high-voltage power lines that are managed at the Clark Energy Center in Marcy, Oneida County. As one of the state's primary electricity providers, keeping its equipment operating as efficiently and reliably as possible is of the utmost importance to the Power Authority and is reflected in an annual reliability average of 97 percent.

The Power Authority's large-scale generation and transmission facilities serve major segments of New York's demand, and NYPA employs the latest technology to maintain these vital operations. For example, a groundbreaking Convertible Static Compensator installed at the Clark Energy Center permits some 200 mw of additional electricity – enough to serve about 200,000 homes – to be carried on existing transmission lines. New smart grid technology will also facilitate the integration of more intermittent resources, such as wind energy. Throughout its history, NYPA has demonstrated innovation and flexibility in its service to the public, and this Sustainability Action Plan ensures that tradition remains intact.

“The tasks I perform for the Power Authority have a direct impact on the reliability of New York's power system, and that is a responsibility I take very seriously.”

–Debra Maroti  
Senior Engineer

**20%** of New York State's electric power is provided by NYPA

**Opposite page, clockwise:** Constructing a stack at the 500-mw plant, NYPA's transmission grid, the Robert Moses Niagara Power Dam, moving a rotor into place during a hydro project upgrade.

**This page, from top:** Solar photovoltaic panels atop NYPA's White Plains office, fish restocking at the Blenheim-Gilboa project.



## STRATEGIC PLANNING

*We will ensure that our strategic plan reinforces our sustainability efforts and that sustainability remains a driving factor in our strategic planning process.*

- Incorporate sustainability into NYPA's strategic planning process

## GENERATION AND TRANSMISSION RELIABILITY

*We will maintain the reliability of NYPA's generation and transmission facilities for the benefit of our customers and New York State.*

- Continue to maintain generation and transmission equipment to meet and exceed industry reliability goals per NERC and FERC requirements
- Facilitate interconnection of renewable power generation to NYPA's transmission infrastructure

## GENERATION AND TRANSMISSION EFFICIENCY

*We will improve the efficiency of NYPA's generation and transmission facilities for the benefit of our customers and New York State.*

- Complete the current hydropower Life Extension and Modernization programs and evaluate similar programs for remaining hydro facilities and for transmission infrastructure
- Integrate smart grid technology – such as smart meters, thermal circuit ratings and phasor measurements – into NYPA's transmission system
- Explore the use of non-petroleum-based oils in NYPA's electrical equipment

## CLEAN ENERGY DEMONSTRATIONS

*We will lead by example and demonstrate clean energy technologies at our own facilities.*

- Install renewable distributed generation systems at select NYPA facilities

## CLIMATE CHANGE ADAPTATION

*We will acknowledge the significant impact climate change can have on NYPA infrastructure and plan accordingly.*

- Identify climate change impacts on NYPA infrastructure and develop adaptation plan

## MAINTAINING POWER, PRESERVING FISH

In 2006, NYPA began a Life Extension and Modernization (LEM) program at its Blenheim-Gilboa Pumped Storage Power Project. The 1,040-mw facility helps meet the state's peak power needs by recycling water between two reservoirs, generating hydropower during times of high demand. The LEM program will replace Blenheim-Gilboa's four existing pump-turbines with newer, more efficient ones able to produce an additional 30 mw apiece, increasing the project's overall output by 11.5 percent. Since replacing the turbines requires draining the upper reservoir, NYPA is working with the State University of New York at Cobleskill to trap, transfer and then safely return walleye, trout and other fish that live there. The entire LEM, currently under-budget by \$10 million, is slated for completion in June 2010.



# Generating Sustainability

**NYPA'S HISTORY** is full of examples of sustainable practices. Here are some of the latest projects that will help New York realize a more sustainable future.

**IN NORTHERN NEW YORK**, a \$2 million eel ladder installed at NYPA's St. Lawrence-FDR Power Project is helping thousands of juvenile American eels safely complete their migration from the Atlantic Ocean upstream to the Great Lakes.

**IN WESTERN NEW YORK**, a new storage site for NYPA's Lake Erie-Niagara River Ice Boom will free up waterfront property for revitalization of Buffalo's Outer Harbor and set aside land for a new neighborhood park.

**IN CENTRAL NEW YORK**, electricity produced at upstate wind farms is being sold to downstate customers thanks, in part, to renewable energy credits, or attributes, that NYPA is helping to procure.

**IN THE HUDSON VALLEY**, NYPA supports the Science Barge, a prototype urban farm that generates its own power with clean, renewable resources and grows its own food using efficient, sustainable hydroponic techniques.

**IN THE NEW YORK METROPOLITAN AREA**, NYPA provided four hybrid-electric shuttle buses to transport workers between the Hunts Point Food Distribution Market in the South Bronx and the local subway station, reducing traffic and enhancing employee access.



♻️ This Sustainability Action Plan was designed, written, photographed and produced entirely in-house by the New York Power Authority's Corporate Communications staff. To preserve resources and save energy, only a limited number were printed, using the NYPA Reproduction Division's iGen3 digital printer, on 100 % recycled paper. We encourage everyone to view and download the plan in its entirety at [www.nypa.gov](http://www.nypa.gov)

# Across the Empire State



■ St. Lawrence-FDR Project

NORTHERN  
NEW YORK

■ Jarvis Plant

■ Clark Energy Center

■ Crescent Plant

CENTRAL  
NEW YORK

■ Vischer Ferry Plant

■ Blenheim-Gilboa Project

■ Niagara Project

WESTERN  
NEW YORK

■ Ashokan Project

HUDSON  
VALLEY

DOWNSTATE

■ Kensico Project

NYPA's Small, Clean  
Power Plants

■ Flynn Plant

■ 500-MW Combined-Cycle Plant  
Poletti Power Project





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