



**Environmental  
Protection**

Michael R. Bloomberg, Mayor

Carter H. Strickland, Jr., Commissioner

# **STRATEGY**

## *2011-2014*



# **2011 PROGRESS REPORT**



Dear Friends,

The New York City Department of Environmental Protection (DEP) is the largest municipal water utility in the nation, delivering one billion gallons of drinking water to more than nine million people and treating 1.3 billion gallons of wastewater each day.

When I released *Strategy 2011-2014* as DEP commissioner last year, the agency committed to 100 specific and achievable initiatives that articulate its priorities: provide the highest quality water and sewer services at a price New Yorkers can afford, be a best-in-class construction owner, protect worker health and safety, protect New York City's environment, and make sustainability a driving principle in all DEP operations. *Strategy 2011-2014*'s principles of transparency and smart, cost-effective investments also allowed us to implement the first single-digit rate increase in five years.

In the past year, this strategy has become DEP's benchmark of success. Just this week, Commissioner Carter Strickland and State Department of Environmental Conservation Commissioner Joe Martens signed a 20-year agreement on a groundbreaking green infrastructure plan that will dramatically improve New York's waterways, and eliminate or defer more than \$3 billion in infrastructure costs. At the same time, DEP is moving quickly on investments like the repair of the \$2.1 billion repair of the Delaware Aqueduct, which is necessary to secure New York City's water supply for future.

As much success as we have had, it's just the beginning. In my current role as deputy mayor, I am privileged to support DEP as it meets and exceeds its ambitious goals—and daily obligations to provide more than 9 million New Yorkers with the best water and sewer services in the country.

All the best,

A handwritten signature in black ink, appearing to read "Caswell F. Holloway". The signature is fluid and cursive.

Caswell F. Holloway  
Deputy Mayor of Operations



Dear Friends,

When DEP released *Strategy 2011–2014* last February, we committed to being the safest, most efficient, cost-effective, and transparent water utility in the nation. We set forth 29 broad goals that further our mission, 100 specific initiatives to measure our success, and an overarching objective to ensure the safety of all our employees and contractors. The 2011 Progress Report provides an overview of DEP’s progress and provides accountability to our ratepayers and other stakeholders.

I am proud to share some of the most notable accomplishments of the past year, in which we:

- Developed innovative and cost-effective improvements to customer service such as the Leak Notification Program;
- Continued to protect the vital water supply of nine million New Yorkers by submitting critical scientific analyses, comments, and testimony regarding the risks of natural gas drilling;
- Made more city property in the watershed available for recreation by expanding our boating program to an additional 12,544 acres of water and by opening more than 6,600 acres of land to the public;
- Deferred spending over \$1.6 billion dollars to cover the Hillview Reservoir and initiated other reform efforts with our state and federal regulators to promote regulatory reform that prioritizes cost-effective investments with the greatest public health benefits;
- Negotiated an agreement with the State that will eliminate \$1.4 billion in mandates while deferring \$2 billion in grey infrastructure to achieve water quality standards, and also incorporating the principles outlined in the *NYC Green Infrastructure Plan*; and
- Improved the air quality of New York by promulgating a new rule to phase out the use of No. 4 and No. 6 heating oils over the next 20 years.

Thanks to the hard work of our nearly 6,000 dedicated employees, DEP has accomplished many of the milestones we committed to just one year ago. In addition, we have made significant strides toward achieving our remaining goals and becoming exactly what New Yorkers deserve: the best water utility in the nation.

Sincerely,

A handwritten signature in black ink that reads "Carter H. Strickland, Jr." in a cursive script.

Carter H. Strickland, Jr.  
Commissioner



# INTRODUCTION

In February 2011, DEP released *Strategy 2011–2014*, a far-reaching plan that set forth 29 goals and 100 specific and measurable initiatives to make DEP the safest, most efficient, cost-effective, and transparent water utility in the nation. Each of these directly supports one of DEP’s core functions: to serve nine million water customers; to supply and treat more than one billion gallons of water every day; to make cost-effective infrastructure investments; and to achieve a sustainable quality of life for all New Yorkers.

To improve strategic planning and performance, in 2011 DEP launched H<sub>2</sub>OStat, an agency-wide real-time performance assessment system based on more than 200 key indicators. Once fully implemented, H<sub>2</sub>OStat will provide a centralized data source for all performance metrics, streamlining nearly 20 existing analytic models and databases into a single management tool. DEP also launched *Operational Excellence (OpX)*, an ambitious effort to improve our delivery of services and enhance productivity by implementing industry best practices and leveraging staff expertise.

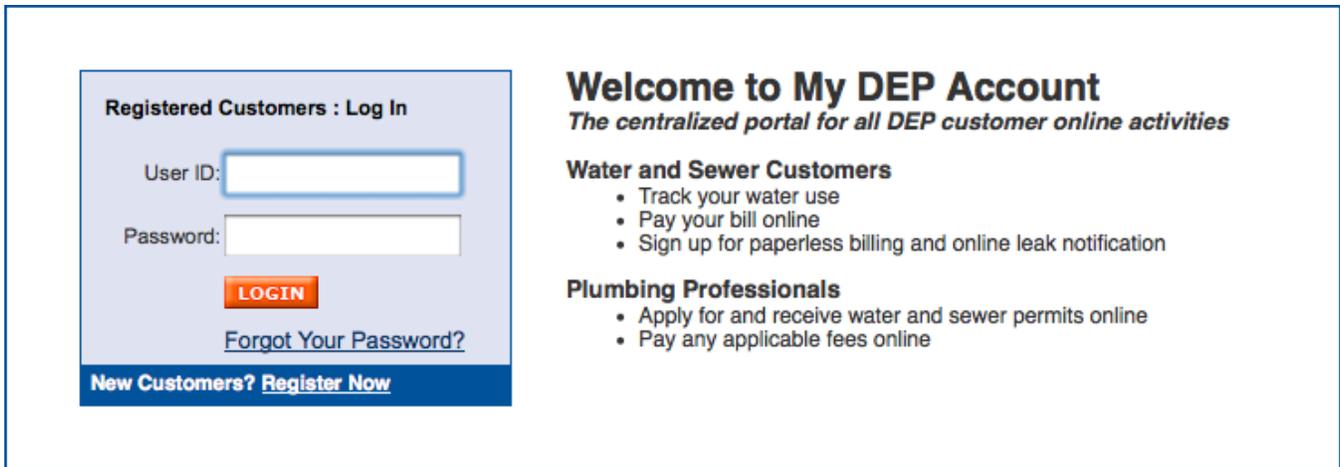
The 2011 Progress Report demonstrates progress toward our goals during the first year of *Strategy 2011–2014*. In 2011, we fully achieved 14 of the 100 initiatives, partially

achieved 49, and initiated 36 others. One initiative was deferred in order to fund a more critical capital priority. Thanks to the dedication of our nearly 6,000 employees, DEP is well on its way toward achieving the 29 goals outlined by the plan. As we begin the second year of *Strategy 2011–2014*, this report serves as a benchmark by which the public can measure our success in meeting our objectives.

2011 Progress	Status	
Achieved and Ongoing	11	◆◆◆◆+
Achieved	3	◆◆◆◆
Partially Achieved	49	◆◆◆◇
Initiated	36	◆◇◇◇
Deferred	1	◇◇◇◇

Initiatives are:

- **Achieved and Ongoing** if they have met the milestones set forth in *Strategy 2011-2014* and DEP has incorporated the initiative into ongoing operations.
- **Achieved** if they have met the milestones set forth in *Strategy 2011-2014*.
- **Partially Achieved** if they have met significant milestones and are on track to be completed on schedule.
- **Initiated** if they are still in the early stages of development but are still on track to be completed on schedule.
- **Deferred** if they have been significantly delayed by choice or by mandate, or they will be achieved through a different strategy.



## Customer Service

DEP is committed to providing transparent, high-quality and efficient customer service to the 836,000 customers who pay for the water and sewer services that fund the city’s water and wastewater system, the nine million people who use our water every day, including eight million residents of New York City and nearly one million people who live in Westchester, Putnam, Ulster and Orange counties, and the developers, engineers, construction companies, and plumbers that need DEP permits to continue the city’s growth. In 2012, we will offer in-city customers a Service Line Protection Plan to help mitigate unanticipated costs incurred by broken water or sewer lines.

### Key Customer Service Milestones:

- Launched the Leak Notification Program alerting customers to deviations from their normal water usage
- Released a Request for Proposals for development of a Service Line Protection Plan to mitigate financial duress incurred from broken water or sewer lines
- Launched the online Water and Sewer Permitting System for businesses, engineers and contractors

- Simplified the Community Right to Know online reporting process (Tier II) to allow filers to report hazardous substances through a single certification letter amending prior years’ submissions

## Worker Safety, Public Health, and Environmental Protection

The ambitious goals of *Strategy 2011–2014* can only be met if conditions are safe for DEP’s nearly 6,000 employees and hundreds of on-site contractors at critical facilities. This requires continuous training, rigorous compliance, and open communication among DEP staff. DEP’s annual Environmental Health and Safety (EHS) Survey in 2011 found that 80% of employees regularly follow EHS publications, which encourage frequent and candid communication of worker safety issues. In 2012, we will launch a new EHS audit management system to allow us to record, analyze and report information collected from facility site assessments; publish a new EHS employee handbook; and continue to integrate computer-based training modules to make training more convenient and accessible.



### **Key Worker Safety Milestones:**

- Reduced total recordable workplace illnesses and injuries by 42% year-to-date
- Developed EHS Performance Metrics to evaluate compliance with regulations, provide risk assessments, and foster continuous improvements
- Implemented the Training Tracking and Reporting System and computer-based training for several mandatory courses

## **Operations**

DEP's ability to confront future operational challenges—both planned and unanticipated—is vital to the health, safety, and economic development of New York City and the upstate watersheds. In 2011, Hurricane Irene and Tropical Storm Lee tested DEP's water supply system with record rainfall in the west-of-Hudson watershed. In preparation for the storm, DEP took a number of preventive measures to mitigate potential damage, including increasing releases from our upstate reservoirs to increase their capacity to absorb inflow and establishing emergency operation centers at three separate locations throughout the watershed. In the five boroughs, we deployed extra sewer maintenance crews to inspect catch basins at 115 flood-prone locations, cleared sewer backups, and placed more than 3,500 sandbags around wastewater treatment plants located in evacuation zones. Thanks to the dedicated work of our

employees, we provided uninterrupted water and wastewater services throughout the storms.

These challenges showcased DEP's vital responsibilities in managing a system comprising 19 reservoirs, 295 miles of aqueducts, 6,600 miles of water mains, 7,400 miles of sewers, 965 water quality monitoring stations, 109,000 fire hydrants, 144,000 catch basins and 14 in-city wastewater treatment plants. In 2012, we will expand use of mobile technology in the field; continue comprehensive efforts to restore watershed streams and mitigate flooding hazards; and complete consolidation of outdated telemetry systems into the Citywide Collection Facilities Integrated Supervisory Controls and Data Acquisition System.

### **Key Operations Milestones:**

- Certified that the Newtown Creek Wastewater Treatment Plant meets federal Clean Water Act (CWA) standards for secondary treatment two years ahead of schedule
- Improved high-priority fire hydrant repair response time to an average of 5.9 days through a new partnership with the New York City Fire Department
- Expanded recreational boating access to Neversink, Pepacton, and Schoharie Reservoirs and opened 6,765 acres of watershed land for recreational use



## Capital

DEP has the largest capital program of any city agency and one of the largest construction budgets in the region, with \$11 billion in current construction and \$3 billion more in the planning or design stages. *Strategy 2011–2014* included initiatives to ensure that projects remain on time and on budget in order to keep water rates as low as possible. In 2012, we will complete a state-of-the-art forecast modeling tool for replacement of individual water and sewer mains and complete revisions to the city’s Standard Construction Contract.

### **Key Capital Milestones:**

- Completed the Project Management Information System to collect and manage project schedule and budget information and make this data available to managers through one web portal
- Created an internal Project Controls Division to maintain and expand control systems as well as support project teams in budget and schedule management
- Developed a 10-Year capital plan that prioritizes funding for critical assets

## Sustainability

DEP promotes the public health, economic development, and quality of life of New York City by developing sustainable environmental policies and enforcing regulations designed to reduce air and noise pollution and to control asbestos removal. DEP administers New York City’s air pollution control code, which is in the early phase of a major overhaul to update existing provisions and to look at new strategies to improve the city’s air quality. In 2012, we will publish this revision to the air code, and continue our implementation of the *NYC Green Infrastructure Plan*, including the construction of 100 bioswales as well as retrofits to city-owned facilities.

### **Key Sustainability Milestones:**

- Established the Office of Green Infrastructure and awarded \$3.8 million in green infrastructure grants
- Promulgated a new rule to phase out the use of No. 4 and No. 6 heating oils over the next 20 years

**The 2011 Progress Report provides a detailed assessment of our advancements on each initiative over the past year. Over the next three years and beyond, we will continue to implement this plan and publish annual progress reports.**

# STRATEGIC PLANNING AND PERFORMANCE

Strategy	Progress to Date	Status	
1	Launch H <sub>2</sub> OStat to ensure the efficient and cost-effective operation of the water system and the entire agency.	In January 2011, DEP launched the first phase of H <sub>2</sub> OStat, an agency-wide effort to assess real-time performance and to use those metrics to improve operational efficiency and address additional challenges.	Achieved and Ongoing ◆◆◆+
2	Innovate and implement best practices through active engagement with our partner water utilities and stakeholder organizations around the country and the world.	In November 2011, DEP announced <i>Operational Excellence</i> , or <i>OpX</i> . This program is intended to help DEP find ways to enhance productivity in order to become the best water utility in the nation, while continuing to serve the nine million New Yorkers who rely on us every day. To realize this effort, we hired Veolia Water North America (Veolia), a firm with international experience identifying opportunities for efficiency gains, streamlining workflows, and reducing expenses at water and wastewater utilities. Veolia will work with our staff in this effort, leveraging skills and institutional knowledge to develop and implement recommendations that improve operations and build performance management systems—all in an effort to keep future water rate increases as low as possible.	Initiated ◆◇◇

## CUSTOMER SERVICE

Strategy	Progress to Date	Status	
<b>Goal: Provide the highest quality service to nine million New Yorkers, including our 836,000 bill-paying customers.</b>			
3	Substantially complete the installation of Automated Meter Reading (AMR) devices citywide by January 2012 and continue to improve the online AMR tool.	As of March 2012 we have installed Automated Meter Reading (AMR) devices for 94% of our customers. AMR technology allows customers to track their water use by sending accurate meter readings to a computerized billing system up to four times a day. AMR is one of our most important customer service initiatives, almost single-handedly changing the way customers view, understand, and pay their water and sewer bills. By integrating AMR with our new online <i>My DEP Account</i> platform, we have allowed our customers to view and pay their bills online from the comfort of home. To date, more than 150,000 customers have registered their accounts online.	Partially Achieved ◆◆◇
4	Develop a leak detection system for customers who want to know when their water use deviates from normal consumption patterns.	In 2011, DEP developed the Leak Notification Program, which alerts enrolled customers to costly leaks when their water consumption deviates from typical patterns. In 2012, we will expand this program to include large buildings and give property owners the ability to set their own triggers for notification. We will also integrate Leak Notification alerts with the upcoming <i>My DEP Account</i> smartphone application, offering New Yorkers the option to monitor their water use on the go.	Achieved and Ongoing ◆◆◆+
5	Reduce call response time to 30 seconds or less.	In 2011, we upgraded our phone system to reduce caller wait times, and improved representative training to increase customer satisfaction. As a result, the average speed at which calls are answered has dropped by more than 50% in the last six months to 38 seconds.	Partially Achieved ◆◆◇
6	Continue and expand programs for customers in financial distress.	In 2011, the Water Debt Assistance Program relieved more than 250 qualified customers who were at risk of mortgage foreclosure of past-due water and sewer debt. DEP is currently exploring new ways to expand the program in 2012.	Initiated ◆◇◇

7	Offer customers a service line protection plan.	Without proper coverage, if a customer's water or sewer line breaks, they could be responsible for thousands of dollars' worth of costly repairs. To reduce this financial risk, in 2012 we will offer rate-paying customers a Service Line Protection Plan. In December 2011, DEP released a Request for Proposals (RFP) and we will choose a winner by April 2012.	Partially Achieved ◆◆◇
8	Promote NYC Water by building partnerships with community organizations, businesses, and other city agencies.	In 2011, we served water to more than 200,000 thirsty New Yorkers six days a week at fountain locations throughout the city. We will continue to expand <i>Water-On-the-Go</i> as a part of our education and outreach efforts, and will assess the success of a second full season to determine future opportunities to encourage more New Yorkers to drink NYC Water.	Initiated ◆◇◇
<b>Goal: Ensure effective and fair revenue collection.</b>			
9	Replace the DEP customer information data system and convert to monthly account billing.	We will complete the customer information data system by September 2012. Beginning January 1, 2012, all customers who enter into a payment agreement with DEP now receive monthly water and sewer bills.	Partially Achieved ◆◆◇
10	Convert customers to paperless billing and specific online payment methods.	More than 38,000 customers have signed up for paperless billing. For customers that have not yet signed up, in 2012 all paper bills will feature a message about the advantages of <i>My DEP Account</i> and we will distribute brochures at outreach meetings.	Initiated ◆◇◇
11	Increase revenue collection with new collection tools and by targeting specific customer segments.	In 2011, DEP awarded a contract to a third-party collection agency to aggressively pursue select non-paying customers. In 2012, DEP will continue to explore new collection tools in an effort to boost our collection rate amongst customers who repeatedly refuse to pay for the water and sewer services they use.	Partially Achieved ◆◆◇
12	Renew and expand DEP's lien sale authority.	In 2011, DEP partnered with the City Council to reauthorize our lien sale authority through 2014 to keep water rates as low as possible and to ensure that all New Yorkers pay their fair share for water and sewer services.	Achieved and Ongoing ◆◆◆+
13	Replace approximately 30,000 large meters on industry-recommended cycles over the next 10 years.	In January 2012, DEP included the large meter replacement project as an <i>OpX</i> initiative. The <i>OpX</i> team will identify and replace underperforming meters.	Initiated ◆◇◇
14	Evaluate new water rate structures.	In 2011, DEP piloted a new stormwater charge of \$0.05 per square foot for stand-alone parking lots that do not receive or pay for water service but that discharge stormwater to our sewers. We have also instituted a credit program to waive charges for lots that demonstrate the ability to effectively capture stormwater. Over the past year, DEP began analysis of the effectiveness of continuing frontage rates and the value of a new development charge and has considered introducing a fixed rate for a portion of annual water and sewer charges.	Initiated ◆◇◇
<b>Goal: Encourage economic development by simplifying and improving permitting processes.</b>			
15	Increase online permitting for businesses, engineers, and contractors.	In 2011, DEP moved several types of permits online, including water and sewer repair/relay, new sewer connections, and plug sewer permits. This online tool, called the Water and Sewer Permitting System, is accessible through <i>My DEP Account</i> and allows Licensed Master Plumbers to apply for and receive permit approvals without ever having to visit a DEP location. By moving these permitting processes online, we have reduced wait times from a few days to just under a few hours.	Partially Achieved ◆◆◇

16	Consolidate permitting functions to simplify customer interactions with DEP.	Last May, DEP and the Department of Buildings (DOB) announced a new simplified permitting process for converting boilers from high-sulfur residual fuel oil to cleaner fuels. Now, licensed boiler installers will be able to submit one form to both DEP and DOB to certify that fuel grade conversions were documented and the necessary work was properly performed without the need for more complex design submissions. The new simplified process will save building owners on average 80% of the upgrade design costs, approximately \$3,000 per boiler. Additionally, the joint-agency filing will speed up the permitting process, allowing permits to be obtained in days instead of weeks.	Initiated 
17	Update and improve DEP's air permitting database.	In February 2012, DEP moved boiler registration online. In 2012, we will add new online functionality, including the ability for building owners to obtain a Certificate to Operate.	Partially Achieved 
18	Publish an annual regulatory agenda.	In January 2012, DEP published a <a href="#">regulatory agenda</a> which details forthcoming reforms to DEP-issued rules and requirements. Moving forward we will publish this regulatory agenda on our website on an annual basis.	Achieved and Ongoing 
19	Publish regulatory guidance manuals.	In 2011, DEP published the <a href="#">Noise Code Guide</a> and the <a href="#">Guidelines for the Design and Construction of Stormwater Management Systems</a> to help New Yorkers better understand and comply with DEP regulations. In 2012, we will develop and publish guidance materials for the automotive and hospitality industries.	Partially Achieved 
20	Simplify the reporting process for businesses and other entities that are required to report their hazardous substances to DEP.	The Community Right-to-Know Tier II Filing System (Tier II) is a web-based system that allows facilities to submit their annual chemical inventories online. In 2011, DEP upgraded Tier II to make the reporting process faster, easier, and more efficient for the hundreds of businesses that must file annual reports. A new feature allows businesses to amend their prior year's submission, saving them valuable time by eliminating redundancies. Business owners with multiple facilities can now submit a single certification letter for all their facilities. In order to assist businesses with the transition to online filing, we set up workstations at our headquarters in Queens and helped more than 80 businesses file their Tier II online.	Partially Achieved 

## WORKER SAFETY, PUBLIC HEALTH, AND ENVIRONMENTAL PROTECTION

Strategy	Progress to Date	Status	
<b>Goal: Run the safest operations and capital program in the country with the best environmental compliance record of any large water and wastewater utility.</b>			
21	Measure EHS performance and demand success.	In 2011, DEP implemented a new <i>Compliance and Continuous Improvement Policy</i> , which uses programmatic environmental health and safety (EHS) audits to better gauge EHS performance throughout the agency. EHS metrics are also included in agency-wide meetings.	Initiated 
22	Integrate EHS compliance into every aspect of DEP operations and construction.	In 2011, we began training operations and EHS employees on a new compliance violation management system. This allows us to more quickly address non-reportable and reportable releases, track our progress in addressing root causes and communicate lessons learned and best practices. We also upgraded our EHS capital construction program, which now allows both DEP and the contractors we work with to be involved in the development, implementation, and measurement of EHS performance.	Partially Achieved 

23	Ensure effective EHS training and education for all employees.	In 2011, we developed and/or offered computer-based trainings on Equal Employment Opportunity, Employee Concerns Procedures, EHS Right-to-Know for Managers and Office Employees, Family Medical Leave Act, Bed Bug Awareness, and Influenza Health and Safety Manager Training online. In September 2011, construction began on a facility that will provide hands-on training to field staff in the Bureau of Water and Sewer Operations. In 2012, DEP will offer classroom courses in Effective Workplace Communication, Supervisory Skills Training, and Workplace Violence refresher training.	Initiated 
24	Encourage open, frequent, and candid communication about EHS issues.	DEP shares EHS information through its “Spotlight on Safety” feature in the electronic newsletter, <i>Weekly Pipeline</i> , and regularly distributes case studies of EHS incidents and scenarios in <i>EHS Matters</i> . Results from the second annual EHS Employee Survey indicate that 80% of DEP employees actively follow these regular publications, and a higher percentage of DEP employees report that they feel safe on the job, compared to last year. Due to increased EHS awareness and EHS program improvements, DEP has seen a significant improvement in total recordable illnesses and injuries, which have dropped by 42% year to date in FY12 compared to FY11.	Partially Achieved 

## WATER SUPPLY

Strategy		Progress to Date	Status
<b>Goal: Supply high quality drinking water.</b>			
25	Maintain the city's Filtration Avoidance Determination (FAD).	In December 2011, DEP launched a comprehensive Watershed Forest Management Plan that was developed in partnership with the United States Forest Service. The plan will protect the health of forests in the watershed by promoting rapid tree growth to absorb more nutrients from the soil, stabilize steep slopes and stream banks, and prevent nutrients and silt from running into streams and reservoirs. DEP submitted its long term FAD plan to regulators in December 2011. Funding for Filtration Avoidance Determination activities has been included in the 10-Year Capital Plan.	Partially Achieved 
26	Purchase watershed lands that protect water quality.	In 2011, DEP solicited 60,000 acres and closed on a total of 7,037 acres in fee or easement to meet the requirements of the Land Acquisition Program, a mandated component of the Filtration Avoidance Determination. Since the inception of the Land Acquisition Program, New York City has protected more than 120,000 acres of watershed land—including more than 78,000 since 2002—in the Catskill/Delaware and Croton watersheds.	Partially Achieved 
27	Complete and operate the Catskill/Delaware Ultraviolet (UV) Disinfection Facility to comply with the federal mandate for secondary disinfection of the Catskill and Delaware water supplies.	In 2011, DEP continued construction of the \$1.6 billion Catskill/Delaware UV Disinfection Facility, the largest facility of its kind in the world. The current phase of work includes disinfection of the facility, preliminary startup and checkout of installed equipment, and connection to the Catskill Aqueduct.	Partially Achieved 
28	Complete and operate the Croton Water Filtration Plant by 2013.	Completion of the \$3 billion Croton Water Filtration Plant in the Bronx will enable DEP to supply 290 million gallons of water a day from the more developed east-of-Hudson watershed and remove seasonal variations in color, odor, and taste. In February 2011, DEP announced the completion of two water tunnels linking the plant to the New Croton Aqueduct.	Partially Achieved 

**Goal: Protect New York City's watershed.**

29	Protect the water supply from hydrofracking for natural gas in the New York City watershed.	In the past year, DEP has worked to ensure that New York State's policy on natural gas development will not in any way affect the watershed's natural ability to filter and protect New York City and upstate consumer drinking water. In 2011, the New York State DEC proposed regulations that would ban hydrofracking in the watershed. However, these proposed regulations would allow drilling activities in the vicinity of our tunnels, dams, and other water supply infrastructure. In response, we hired geotechnical experts to more fully evaluate the risk to our infrastructure from induced seismicity. We included the results from this analysis in a detailed letter and technical report submitted to DEC during the public comment period in January 2012, and we will seek to discuss our comments with DEC in the coming year. During 2011, DEP senior management provided testimony on the risks of natural gas drilling on the water supply at two New York City Council subcommittee hearings, a New York State Assembly hearing, and a public hearing on the RDGEIS. We also submitted public comments on the natural gas regulations proposed by the Delaware River Basin Commission.	Partially Achieved 
30	Support economic development compatible with watershed protection.	In 2011, DEP continued to work closely with local communities and partners to support compatible economic and recreational opportunities that take advantage of and enhance the region's environmental qualities without compromising the integrity of the water supply. In response to the damage caused to watershed communities by Hurricane Irene and Tropical Storm Lee, we provided millions of dollars in manpower and equipment assistance, extensive technical support for stream clean-ups, and \$1 million in grants to help watershed businesses rebuild. These efforts supported the work of the Catskill Watershed Corporation, which established a \$5 million Flood Recovery Fund and will administer the funds to support flood recovery efforts.	Achieved and Ongoing 
31	Expand recreational opportunities in the city's watershed.	In 2008, DEP launched a pilot boating program at the Cannonsville Reservoir, allowing use of rowboats, canoes, kayaks, sculls and small sailboats for the first time ever. In three years of the pilot, 871 boat tags were issued, of which 93% were for kayaks and canoes. Monitoring reports indicated no detectable negative impacts to water quality and no indication of invasive species. In February 2012, we announced an expansion of the program to the Neversink, Pepacton, and Schoharie reservoirs, opening up an additional 12,544 acres for public use. In 2011, DEP also opened 49 new recreation units for 6,765 acres and converted 1,596 acres of "entry by permit" lands to Public Access Areas.	Achieved and Ongoing 

**Goal: Maintain robust, secure, and cost-effective water supply infrastructure and improve operational efficiency with new technology.**

32	Develop and implement a plan to repair the Delaware Aqueduct.	<p><i>Water for the Future</i> is a \$2.1 billion initiative that will ensure clean, reliable, and safe drinking water for nine million New Yorkers for decades to come. The program will address leaks in the Delaware Aqueduct by building a two-and-a-half mile bypass tunnel around a portion of the aqueduct that is leaking in the Roseton area of the Town of Newburgh and repairing leaks in the Town of Wawarsing from inside the existing tunnel.</p> <p>In July 2011, we began the first geotechnical test borings for the construction of access shafts in the Towns of Newburgh and Wappinger. These shafts will enable the construction of a new tunnel to bypass a leaking section of the Delaware Aqueduct. We will break ground on the bypass tunnel shafts in 2013, and expect to begin the bypass connection in 2020. In December 2011, we released a Draft Environmental Impact Statement which determined that construction of the tunnel would not result in significant, long-term adverse impacts, but predicts temporary adverse impacts on traffic and noise for both the east- and west-of-Hudson study areas that will be mitigated.</p> <p>Also in 2011, DEP unveiled a study to evaluate the effectiveness of leak mitigation in the Delaware Aqueduct by adding lime to water in order to seal the cracks from within the tunnel. The \$4 million project will help the city better determine if full-scale application of lime will be successful. The tests are anticipated to begin in June 2012 and will be performed for one year. If successful, the technique may be used for applications in the Delaware Aqueduct and elsewhere in the water supply system to repair, mitigate, and prevent leaks in New York City's vast 6,600-mile water supply network.</p>	Initiated 
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33	Pressurize the Catskill Aqueduct.	In 2011, DEP conducted an analysis to prioritize its capital plan informed by a 2010 updated risk analysis for the potential failure of a section of the Delaware Aqueduct. Based on this analysis, DEP concluded that this repair is the highest capital priority to ensure a continued and uninterrupted delivery of water to our customers, and has redirected capital resources to expedite this repair. DEP will still be able to operate the Catskill/Delaware UV Disinfection Facility as expected.	Deferred 
34	Connect the Delaware and Catskill aqueducts.	In 2011, DEP continued designs for a connection between the two aqueducts that will allow water from the Delaware system to cross the Hudson River through the Catskill Aqueduct. In 2012, we will break ground on the Catskill-Delaware Interconnection at Shaft 4. Construction is anticipated to be completed by 2015.	Initiated 
35	Develop cost-effective groundwater and other supplemental water supply alternatives.	In August, DEP issued an RFP for consulting services to develop designs for cost-effective groundwater treatment facilities as part of the <i>Water for the Future</i> program; the RFP includes engineering design services, bid assistance, and design during construction, including start-up evaluations. We expect to award a contract in early 2012. In addition, DEP is exploring connections to regional partners to provide additional sources of water and is investigating new ways to increase water conservation throughout the city.	Initiated 
36	Operate and maintain DEP's network of dams.	In November 2011, DEP completed \$96 million in reconstruction work on five dams in the Croton watershed. The upgrades of Croton Falls, Croton Diverting, Sodom, and Bog Brook One and Two dams have extended the useful life of each dam and bring all of them into compliance with DEC's Dam Safety Guidelines, including the capacity to safely release water in the event of an emergency. The reconstruction included enhanced control and measurement systems to improve drainage and stability, as well as upgraded mechanical and electrical equipment to increase operational reliability in the Croton watershed.	Partially Achieved 
37	Optimize water delivery by integrating next-generation forecasting models into daily operations.	Over the past year, DEP developed Draft Interim Flexible Flow Management Program (FFMP) release rules for the Delaware reservoirs for the period June 2011 to May 2012 using the Operation Support Tool (OST). DEP is also developing a new data management tool to automatically acquire and review the data inputs for OST. In 2012, we will fully develop the prototype graphical user interface and begin to use it in operations. We will continue to use the Operation Support Tool for a range of purposes, including operations based on the 2011 FFMP rules for the Delaware basin, development of the 2012 FFMP, evaluation of release protocols for Ashokan reservoir, and modeling to support the Shandaken Tunnel Intake Chamber bypass work.	Partially Achieved 
38	Continue to protect the New York City watershed and water infrastructure.	In 2011, DEP increased the number of online water quality monitoring stations in the distribution system to eight with plans for four additional sites. Water quality data is available on an online dashboard and has been integrated with Consumer Call Surveillance and Sampling and Analysis data. In addition, we prepared and tested a consequence management plan and risk communication plan in a tabletop and functional exercise with multiple DEP operating divisions. In 2011, DEP conducted 247,176 security patrols, up from 192,419 in 2010.	Partially Achieved 

# WATER DISTRIBUTION

Strategy	Progress to Date	Status	
<b>Goal: Complete key infrastructure projects to improve the delivery of water to New Yorkers.</b>			
39	Activate Stage 2 of City Water Tunnel No. 3.	Activation of the Manhattan portion of City Water Tunnel No. 3 requires integrating it into the city's existing network through a new series of trunk water main projects. We made substantial progress on these projects in 2011: four projects are currently under construction, with an additional four sites currently moving through the final stages of the procurement process. By 2013, all critical water main work necessary to support activation of City Water Tunnel No. 3 will be complete.	Partially Achieved 
40	Build the Staten Island Siphon.	In partnership with the Port Authority of New York and New Jersey and the New York City Economic Development Corporation (EDC) we prepared the Staten Island shaft site. In early 2012, we will begin the construction of the Brooklyn shaft site in preparation for tunneling operations.	Initiated 
41	Build out and replace critical water supply infrastructure to support residential, commercial, and industrial growth throughout the city.	In 2011, DEP undertook large water main projects at Atlantic Yards and Pelham Parkway. We are working closely with EDC for anticipated development in Coney Island, where construction of the first new water main projects will begin by 2013, with additional planning and scoping of water and sewer projects for future phases of work underway. Ongoing planning continues for water main upgrades in Jamaica Estates and the Rockaways.	Partially Achieved 
<b>Goal: Build out sewer and stormwater infrastructure to improve water quality in New York Harbor, reduce flooding, and support economic growth.</b>			
42	Build out and upgrade the sewer network in southeast Queens, Staten Island, and other neighborhoods that need additional capacity.	DEP will continue to prioritize the extension of sanitary and storm sewers to neighborhoods throughout the five boroughs that need additional capacity or to support future growth. In 2011, we completed new sanitary sewers at Albee Avenue and Seguine Avenue on the south shore of Staten Island. In spring 2011, we completed a \$62.8 million reconstruction project at 99th Avenue and 110th Avenue in southeast Queens that included both water main and sewer upgrade work. Designs for sewer upgrade projects in Laurelton and Maspeth/Middle Village are also underway, with construction scheduled to begin in 2013.	Partially Achieved 
43	Complete a comprehensive drainage investment strategy for the city.	In 2011, DEP completed drainage plans for the Mid-Island portion of the award-winning Staten Island Bluebelt and published a Draft Environmental Impact Statement. In 2011, we also completed an amended drainage plan for the rezoned area of Jamaica, Queens and completed high level storm sewer drainage plans for Laurelton and for the Park Slope/Gowanus area, to ensure that the pace of infrastructure upgrades will match planned economic development initiatives.	Partially Achieved 
<b>Goal: Increase the efficiency of field crews to optimize the maintenance and performance of the water and sewer networks.</b>			
44	Decrease water main breaks and sewer backups and improve response time.	Reported sewer backups continued to decline last year for the fifth year in a row. In 2011, DEP implemented several new programs to address sewer backups, including increasing the number of locations where we perform programmatic degreasing, and modifying our sewer backup response practices to include additional cleaning efforts. Last year we created a new 23-person Capacity, Management, Operations and Maintenance unit, which will bring targeted technical and advanced contract capabilities, along with a focused maintenance effort, to the areas of the city with the highest recurrences of backups and flooding. This unit will study root causes and assess solutions for the most chronic locations citywide. We have expanded our sewer cleaning operations from 244 miles in 2010 to more than 600 miles in 2011, and we have increased funding for our sewer cleaning expenditures by \$2 million for the next two years.	Initiated 

45	Expand catch basin cleanings and rehabilitation to prevent flooding and protect water quality.	We are on pace to inspect all 144,000 catch basins on a three-year schedule. We have also continued to work with the Office of Emergency Management, the Department of Sanitation and the Department of Transportation to pre-inspect known flooding locations before major storms, reducing the potential for flooding that results from catch basin problems, such as debris on grates. Our goal to substantially eliminate catch basin repair backlog also has considerable momentum this year: we reduced it from 2,350 to 1,679 by the end of 2011, a reduction of 29%, putting us on target to eliminate the repair backlog by 2014.	Partially Achieved 
46	Expand the preventive maintenance program of critical water infrastructure.	In 2011, DEP created the Valve and Regulator Repair Unit to implement the enhanced preventive maintenance program for water main valves and regulators to minimize the potential for breaks. By the end of the year, we were already meeting our monthly preventive maintenance targets. Managing pressure ensures reliable and consistent supply, reduces water quality complaints, and lowers overall stress on the system, which helps reduce the likelihood of water main breaks.	Achieved and Ongoing 
47	Improve hydrant repair response time.	In 2011, DEP improved the time to repair high-priority fire hydrants to an average of 5.9 days from an average of 7.5 days the previous year. We also formed a partnership with the Fire Department (FDNY) to allow 16 FDNY fire houses to enter data about broken hydrants directly into DEP's computer system, minimizing the time between issue identification and resolution, reducing inspection redundancy, and eliminating duplicative data entry. In 2012, we will implement the program citywide.	Partially Achieved 
48	Increase field crew productivity to increase maintenance and improve system performance.	In 2011, DEP installed ToughBooks in 30 light duty pick-up trucks to allow on-site technicians access to the most up-to-date maps and our work order management system. These tools will help field staff make more informed decisions faster. In 2012, we will focus on enhancing training for mobile technology and optimizing its use in the field. We will also continue to pursue GPS and GIS to enhance the efficiency of our route planning and improve emergency response times.	Initiated 
<b>Goal: Protect public health and water and sewer infrastructure by promoting and enforcing the installation of backflow preventers, grease traps, and other critical equipment.</b>			
49	Increase backflow prevention inspections.	DEP requires large buildings and certain businesses to install and maintain backflow preventers to keep stagnant or potentially contaminated water from entering the drinking water system. In 2011, we expanded our inspection plan and reallocated resources to increase inspections of potentially hazardous facilities. We have streamlined the cross connection approval process and reduced review time by 30%. In 2012, we will focus on efficiency planning to ensure the distribution system is protected from cross connections.	Partially Achieved 
50	Update grease trap regulations, increase inspections, and educate the business and development communities about compliance.	In 2011, DEP updated grease trap regulations, clarifying requirements to increase compliance. We are also working with DOB to ensure that the upcoming revision to the New York City Building Code reflects a coordinated regulatory oversight for grease traps to enforce both the New York City Plumbing Code and DEP sewer regulations. All Licensed Master Plumbers in the city have been notified about the changes in regulations, and we have developed a curriculum and provided education courses for all licensees. As part of DEP's community outreach plan, our economic development team held 20 grease interceptor compliance workshops with commercial food service establishments to improve compliance with our regulations.	Initiated 
51	Promote and incentivize yellow grease recycling for use as a biodiesel fuel.	Effective October 1, 2012, all heating oil sold in New York City will be required to contain at least 2% biodiesel. To promote yellow grease recycling, which can be converted to biodiesel, we expanded outreach to large scale residential communities, property managers, carting companies, biodiesel producers and tenant associations. Additionally, we have distributed more than 46,000 "Cease the Grease" leaflets.	Initiated 

# WASTEWATER TREATMENT

Strategy	Progress to Date	Status
<b>Goal: Certify citywide compliance with Clean Water Act standards for secondary wastewater treatment.</b>		
52 Certify that the Newtown Creek Wastewater Treatment Plant meets secondary treatment standards by June 2011.	Under the federal Clean Water Act, wastewater must be treated to remove at least 85% of certain pollutants before post-treated water can be discharged into surrounding waterways. In May 2011, DEP certified that the Newtown Creek Wastewater Treatment Plant met Clean Water Act secondary treatment standards two years ahead of schedule, as a result of a \$5 billion upgrade that will be substantially completed in 2013.	Achieved ◆◆◆
53 Complete \$2.6 billion in upgrades underway at six wastewater treatment plants.	DEP has modernized wastewater treatment plants to ensure high performance standards well into the future. Six plants are in the process of extensive capital upgrades, with \$2.6 billion in additional work underway.	Partially Achieved ◆◆◇
<b>Goal: Continue to improve water quality in New York Harbor to facilitate new development and increased waterfront access for all New Yorkers.</b>		
54 Implement the <i>NYC Green Infrastructure Plan</i> .	<p>In 2011, DEP continued to invest in cost-effective grey infrastructure, tide gate repair, inflatable dams, and sewer cleaning to reduce combined sewer overflows. We completed the Alley Creek and Paerdegat combined sewer overflow detention facilities, which have holding capacities of five million gallons and 50 million gallons, respectively. In 2011, we inspected all 281 tide gates in the Newtown Creek, Wards Island, Port Richmond and Red Hook Wastewater Treatment Plant drainage areas. Of those 281 tide gates, we repaired 243 and have scheduled for larger scale capital repair and/or replacement work on the remaining 38. In 2012, we will inspect the remaining 219 tide gates throughout our system and repair them where necessary.</p> <p>In 2011, DEP finished inspecting all 729,771 linear feet (approximately 138 miles) of interceptor sewers throughout the city using state-of-the-art sonar and closed circuit television monitoring. This inspection found that approximately 13% of the system required cleaning. In 2011, we finished the interceptor sewers leading to the Jamaica and Tallman Island wastewater treatment plants. In total, we removed 4,959 cubic yards of material, freeing up capacity that will reduce combined sewer overflows by more than one million gallons per storm.</p> <p>In 2011, DEP installed inflatable dams at Gold Street and South 5th Street in Brooklyn. These inflatable dams can hold up to 2.2 million and 2 million gallons, respectively, of combined sewer overflows during a storm.</p>	Initiated ◆◇◇
55 Activate the SHARON and ARP treatment technologies to remove oxygen-depleting nitrogen from wastewater.	DEP installed the Stable High Ammonia Removal Over Nitrite (SHARON) process at the Wards Island Wastewater Treatment Plant in December 2011, which has the capacity to treat 1.85 million gallons per day. We will monitor the effectiveness of this process as part of our ongoing Nitrogen Removal Applied Research Program.	Initiated ◆◇◇
<b>Goal: Optimize the efficiency and reliability of wastewater treatment operations.</b>		
56 Pilot contracting competition between city workers and private contractors.	DEP awarded its first contract to DEP employees as part of an insourcing pilot in April 2011. DEP is exploring other applications of this pilot across the agency.	Initiated ◆◇◇
57 Improve inventory management and planning.	DEP is implementing the Computerized Maintenance Management and Inventory Control System (CMMS) to more efficiently keep equipment in a state of good repair. This system compiles a master list of all parts and materials in our facilities, generates preventive maintenance work orders, and estimates the full cost of repairs. CMMS is in place at 11 wastewater treatment plants and in 2012, DEP will expand CMMS by integrating preventive maintenance information to two pump stations.	Partially Achieved ◆◆◇

58	Use new technology to constantly monitor pump stations and other infrastructure and reduce staff inspections.	Under the Citywide Collection Facilities Integrated Supervisory Controls and Data Acquisition System (SCADA) project, we will combine three different telemetry systems for 101 regulators and 95 pumping stations into one state-of-the-art system that will include monitoring of influent gates at 14 wastewater treatment plants, five CSO facilities and three in-line throttling gates. During Phase I, DEP installed SCADA at 38 regulators in accordance with a DEC Consent Order. Phase II, which is ongoing, consists of installing the new system at the remaining regulators, pump stations, wastewater treatment plants, combined sewer overflow and throttling facilities. All civil/mechanical construction and electric work has been completed, and we are completing software upgrades, instrumentation, and telecommunication work.	Partially Achieved 
<b>Goal: Evaluate the economic, ecological, and social effects of DEP's capital investments and wastewater treatment operations.</b>			
59	Develop and implement a long-term citywide sludge management program.	The wastewater treatment process produces more than 1,200 tons of biosolids per day. In 2010, we discontinued a costly contract with the New York Organic Fertilizer Company in the Bronx, which also was the subject of many odor complaints, and successfully negotiated price reductions with two existing contractors to bring the total program price down to \$43 million. In 2011, following up on a commitment to develop cost-effective and sustainable methods to reuse biosolids, DEP began a program to send up to 400 tons of biosolids a day to eastern Pennsylvania to be used in mine reclamation projects. We will continue to look for cost-effective and sustainable methods to reuse our biosolids.	Achieved and Ongoing 
60	Expand and strengthen DEP community partnerships throughout the five boroughs.	DEP attends monthly committee meetings with stakeholders at the Hunts Point, Newtown Creek, and North River Wastewater Treatment Plants, and has partnered with the Metropolitan Transit Authority (MTA) to include information about the Visitor Center at Newtown Creek on MTA's Trip Planner and on appropriate bus and subway maps.	Partially Achieved 

## CAPITAL

Strategy	Progress to Date	Status	
<b>Goal: Implement strong capital project controls to deliver projects on time and on budget.</b>			
61	Implement new project controls business processes.	Over the past year, DEP completed development of standardized project controls procedures for the management of project scopes, schedules, and budgets and has integrated the Program Controls Division into project teams to support cost and schedule management. The accuracy of our construction cost estimates is improving, making project costs more predictable. Schedule slippage is decreasing; we have improved our performance through timely resolution of issues, development of recovery plans, and close attention to scope.	Initiated 
62	Create a Project Controls Division.	Created in fall 2010, the Program Controls Division implements new procedures to maintain and expand our project control systems, and supports project teams with schedule and budget management. In 2012, we will continue to assess the performance of the team and find ways to support their efforts to deliver projects on time and on budget.	Achieved 
63	Create a New Capital Management Information System.	DEP has developed the Capital Management Information System to increase visibility into the cost and schedule performance of our capital projects. We are expanding the system to incorporate automated workflows to streamline our major project controls business processes. This expansion is expected to be completed in June 2012. In 2013, we add a construction management module to the system to standardize the management of construction related business processes across all of our construction sites.	Initiated 
64	Provide public transparency into DEP capital projects.	In spring 2012, we will publish a new, database-driven webpage that will display real-time information on open bids, including a summary of bidders, bids, and preliminary bid results.	Partially Achieved 

<b>Goal: Achieve \$100 million in savings through value engineering and by deferring projects.</b>			
<b>65</b>	Implement an Asset Management Program to make the right decisions at the right time.	<p>DEP's Asset Management Program ensures the right capital investments are made at the right time and stores critical information on more than 290 wastewater, water supply, and other facilities. To date, we have scored more than 25,000 assets and have used that information to prioritize more than 350 repair and replacement projects. In 2011, we used the data from this program to formulate a capital investment strategy for the next 10 years that prioritizes funding for most needed assets. In 2012, we will launch an asset database tool that includes centralized tracking of asset age, condition, performance, replacement cost, and eventually performance.</p> <p>We are also using existing pipe data and our comprehensive GIS database to gauge reliability and predict the consequence of incidence to prioritize the replacement of individual water and sewer mains. This data will be incorporated into a state-of-art forecasting modeling tool, and used to develop a 50-year rehabilitation and replacement cost projection. We anticipate completing this project by mid-2012.</p>	Partially Achieved 
<b>66</b>	Develop a 10-year capital plan that prioritizes funding for critical assets and minimizes the need for future water rate increases.	DEP used the data from the Asset Management Program to develop a 10-Year Capital Plan. We will continue to use data from our Asset Management Program to amend and prioritize our 10-Year Capital Plan on a biannual basis.	Achieved and Ongoing 
<b>Goal: Strengthen technical expertise in design and construction management.</b>			
<b>67</b>	Enhance expertise through reduced dependency on consultant support.	DEP's In-House Design Division has more than a dozen major capital construction projects in progress and as our expertise expands, we will deliver more projects more efficiently. We are also bringing more construction oversight and management in-house, reducing overall project costs, allowing better quality control, and increasing our in-house expertise.	Partially Achieved 
<b>68</b>	Recruit top engineering talent to pave the way for future success.	DEP is expanding recruitment efforts to attract the best engineers in the world. In 2012, we will continue to improve our internship program and recruitment website, develop new focused outreach materials to target specific needs within the agency, and expand our use of social media to broadcast new career opportunities at DEP and stay connected with potential recruits.	Initiated 
<b>69</b>	Implement a workforce development program.	DEP is creating a workforce development strategy to address current and future personnel needs. For example, over the past year we have developed a plan to help more than a dozen DEP employees become LEED-certified professionals. Over the next year we will continue to assess our staffing needs and will find ways to expand opportunities for staff development and mentoring.	Initiated 
<b>Goal: Become the owner of choice in the regional and national design and construction community.</b>			
<b>70</b>	Improve DEP's standard construction contract language and processes.	DEP has worked closely with the Law Department to develop changes to the city's Standard Construction Contract to make it more comprehensible, more equitable, and more efficient for both the city and its partners. We have also updated insurance and bond requirements for the Standard Construction Contract in order to modernize requirements and make them consistent with current best practices.	Partially Achieved 
<b>71</b>	Strengthen outreach to design and construction industry partners and expand minority- and women-owned business participation.	DEP has spent the last year working to make the bidding process on capital projects more accessible to a diverse array of contractors, including minority- and women-owned businesses (MWBE). In 2011, we strengthened outreach to industry partners and expanded participation in the bidding process to MWBEs by establishing the MWBE Advisory Board and hosting monthly "How to do Business with DEP" group meetings.	Partially Achieved 

# REGULATORY RELATIONSHIPS AND POLICY

Strategy	Progress to Date	Status
<b>Goal: Enlist stakeholders to develop investment priorities and help secure funding for water and wastewater infrastructure.</b>		
<b>72</b> Form a clean water and clean air partnership with civic groups, customers, regulators, and other stakeholders.	<p>In February 2011, DEP held the first Green Infrastructure Citizen's Group meeting as a forum for public update on our green infrastructure projects. We also convened the Green Infrastructure Steering Committee comprising cross-section of stakeholders from environmental justice, economic development, architecture and design, real estate, and other experts in stormwater management issues.</p> <p>In 2011, DEP worked with different stakeholder groups, including: the Ashokan Release Working Group, the Wawarsing Project Advisory Committee, the Jamaica Bay Eco Watchers, the American Littoral Society, Jamaica Bay Task Force, Eastern Queens Alliance and the Rockaway Waterfront Alliance. We also worked with public, private, and not-for-profit stakeholders to develop the stormwater performance standard and its companion document, <i>Guidelines for the Design and Construction of Stormwater Management Systems</i>. As we revise the Air Pollution Control Code, we will engage stakeholders.</p>	Partially Achieved 
<b>73</b> Advocate for federal funding for water and wastewater infrastructure.	<p>DEP actively participated in the National Association of Clean Water Agencies "Money Matters" campaign for smarter investments in clean water programs and worked with them to draft legislation for a 10-year permit prioritization of Clean Water Act mandates. In March 2011, former Commissioner Cas Holloway outlined the need for a new, flexible and collaborative enforcement approach to the Clean Water Act at a "Money Matters" summit.</p>	Partially Achieved 
<b>Goal: Engage state and federal regulators in proactive regulatory review and reform to incorporate sustainability principles into clean water regulations and initiatives.</b>		
<b>74</b> Accelerate meaningful regulatory reform.	<p>We engage with our regulators directly and through partner stakeholder groups. We have joined together with stakeholder groups representing municipalities across the country, including the National Association of Clean Water Agencies, New York Water Environment Association, Clean Water America Alliance, American Water Works Association, Association of Metropolitan Water Agencies, and the US Conference of Mayors to advocate commonsense approaches to environmental issues to ensure investments are made that address the most pressing local issues.</p> <p>In 2011, we continued to make significant progress on federal regulatory reform. In August, the federal government published Executive Order 13563, which recognized the need for both flexibility and the use of cost-benefit principles in regards to federally mandated projects. DEP submitted multiple rounds of comments and in EPA's resulting plan, <i>Improving our Regulations: Final Plan for Periodic Retrospective Reviews of Existing Regulations</i>, the agency committed to reviewing its application of the Combined Sewer Overflow Policy and requirements for covering drinking water reservoirs under the Long Term 2 Enhanced Surface Water Treatment Rule (LT2 rule). EPA has already deferred the implementation of the LT2 rule in New York City, which would require a \$1.6 billion concrete cover over the 90-acre Hillview Reservoir – a project that our research shows would produce no public health benefit.</p>	Partially Achieved 
<b>75</b> Advocate for flexible new state and federal regulations that accommodate local conditions.	<p>In December 2011, Commissioner Strickland testified to Congress and presented at the US Conference of Mayors on regulatory reform and EPA's proposed integrative planning framework, to increase collaboration between regulators and municipal agencies. DEP also participated in "EPA Workshops on Achieving Water Quality Through Integrated Municipal Stormwater and Wastewater Plans Under the Clean Water Act" in February 2012. That same month, Senator Sherrod Brown introduced the "Clean Water Affordability Act," which DEP helped draft with the National Association of Clean Water Agencies, to increase federal funding for water and sewer infrastructure and require EPA to tailor mandates to the specific needs of individual communities.</p>	Partially Achieved 
<b>76</b> Seek affordability criteria that make sense for urban areas.	<p>DEP has identified New York City-specific economic indicators and is exploring alternative metrics for evaluating affordability. We will use these results to inform the development of our Long Term Control Plans.</p>	Initiated 

77	Press for state and federal adoption of a watershed management approach to environmental compliance.	DEP and DEC signed a draft agreement to reduce combined sewer overflows that uses an adaptive watershed management approach. Under this approach, DEP will have the ability to test the effectiveness of various grey and green infrastructure technologies that will help us meet our water quality goals in the least expensive way possible.	Initiated 
78	Refine dissolved oxygen criteria and measurements to open up new recreational opportunities.	DEP is currently developing monitoring techniques to track improvements in water quality where infrastructure improvements have occurred or are planned. DEP is nearing completion on updated modeling procedures along with public waterfront access guidelines, notification, and advisory information. This information, combined with post-construction monitoring of water quality improvement projects, will assist us as we prepare Long Term Control Plans and Use Attainability Analyses for specific waterbodies.	Initiated 

## HARBOR WATER QUALITY

Strategy	Progress to Date	Status
<b>Goal: Maximize the use of green infrastructure and other source controls to improve water quality.</b>		
79 Reduce runoff from new and existing development by capturing one inch of rainfall on 10% of the impervious areas in CSO watersheds over the next 20 years.	In 2011, DEP negotiated with DEC and agreed to a consent order that will use green infrastructure to significantly reduce amounts of stormwater from entering the city's combined sewer system by managing one inch of rain on 10 percent of impervious surfaces in combined sewer drainage areas by 2030. In 2011, DEP established an Office of Green Infrastructure, convened five meetings of a multi-agency Green Infrastructure Task Force, designed standard right of way bioswales, signed a Memorandum of Understanding with the Department of Parks and Recreation (DPR) to maintain vegetated green infrastructure in the right of way with existing staff, underwrote DPR's Greenstreets program to capture additional stormwater, promulgated an enhanced on-site stormwater performance standard, built green infrastructure pilots across the city, and awarded \$3.8 million through the first ever Green Infrastructure Grant Program.	Initiated 
80 Expand the number of water-quality parameters and testing sites in the New York Harbor Survey.	Over the past year, DEP expanded the number of harbor monitoring stations from 65 to 72 testing sites citywide and is exploring opportunities to expand the number of water quality parameters.	Partially Achieved 
81 Measure CSO volumes.	In 2011, DEP researched the possibility of installing telemetry equipment at combined sewer overflow outfalls to measure the actual volumes of combined sewer overflow discharges at select outfalls throughout the city. In 2012, we will install telemetry equipment at five outfalls located near recreational areas. Work is expected to begin in spring 2012.	Partially Achieved 
<b>Goal: Restore natural systems that can reduce pollution while providing recreational opportunities, habitat, and climate adaptation benefits.</b>		
82 Restore wetlands habitat in and around Jamaica Bay.	Over the last two years, DEP encouraged ecological rehabilitation of oysters and mussels in Jamaica Bay. In October 2010, we constructed an oyster bed to study potential water quality improvement benefits on the bay. The oysters have grown from their average original size of approximately 10 mm to nearly 70 mm as of November 2011. In August 2011, DEP encouraged the natural expansion of ribbed mussels by constructing five underwater cargo nets and A-frame structures to house mussels. The mussels will filter water to remove nutrients, bacteria, and other suspended organic material. We will closely monitor the project for the next two years to evaluate the role that ribbed mussels can play in nutrient removal and the costs associated with achieving various levels of water quality improvement.	Partially Achieved 

83	Expand the Staten Island Bluebelt.	<p>In 2011, DEP continued construction of the Bluebelt in South Richmond, Staten Island as the storm sewer network is completed according to the Bluebelt drainage plans. DEP is currently expanding the Bluebelt program into other parts of Staten Island—New Creek, South Beach and Oakwood Beach. DEP held a public hearing on the draft environmental impact statement for the new drainage plans this past October.</p> <p>In July 2011, we completed the first Bluebelt in Queens at Oakland Lake Park. This \$2.5 million project includes restoration and repair of the park’s perimeters, lake shoreline, ravines and side slopes, planting of thousands of new trees, new recreational opportunities, and installation of storm sewers in streets near the park to better control stormwater runoff and avoid erosion. We are currently in the planning stages of an additional Bluebelt project at Van Cortlandt Park in the Bronx.</p>	Initiated 
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## ENERGY

Strategy	Progress to Date	Status
<b>Goal: Reduce DEP’s carbon footprint.</b>		
84 Implement strategy to reduce DEP greenhouse gas emissions by 30% from 2006 levels to meet <i>PlaNYC</i> goals.	<p>DEP’s 14 wastewater treatment plants are a significant source of greenhouse gas emissions, particularly methane from anaerobic digester gas produced as part of the wastewater treatment process. DEP has completed greenhouse gas and energy efficiency audits at four wastewater treatment plants, and is in the process of auditing four additional plants to identify where energy use and emissions can be reduced. We are also reducing digester gas methane emissions by repairing digester roofs, piping, and flares.</p> <p>In 2011, DEP explored the feasibility of reusing anaerobic digester gas to power wastewater treatment plant operations and meet on-site heat and electricity needs. A project is underway at the Oakwood Beach Wastewater Treatment Plant that will allow the plant to use digester gas as its primary heating fuel, greatly reducing both fuel oil consumption and methane emissions. These improvements, along with projects to replace or rehabilitate power and heat generation equipment and install more energy efficient centrifuges, will decrease greenhouse gas emissions across in-city wastewater treatment plants by 304,000 metric tons per year. We are also working with National Grid to convert anaerobic digester gas from the Newtown Creek Wastewater Treatment Plant into pipeline-ready natural gas. This gas-to-grid project is the first example in the United States of injecting purified digester gas directly into a local natural gas distribution system. The gas, which normally would be flared, could heat up to 2,500 homes and would account for the removal of approximately 15,000 metric tons of greenhouse gasses per year.</p>	Initiated 
<b>Goal: Reduce electricity demand.</b>		
85 Ensure the reliability of our power supply.	<p>DEP is continuing to work with utilities and state and federal regulators to reassess and renew established protocols. DEP, DEC, and Con Edison signed a memorandum of understanding to operate emergency generators, preventing power disruptions at key DEP facilities, such as wastewater treatment plants. Additionally, Con Edison, in partnership with DEP, completed a report and findings on how to improve communication protocols during energy emergencies (e.g., heat waves). In 2011, DEP commissioned a study on the environmental and electrical system reliability impacts of closing Indian Point Nuclear Power Plant.</p>	Partially Achieved 
86 Implement aggressive demand-side management practices to mitigate projected 53% increase in electricity demand over the next five years.	<p>Facility-level energy audits are underway at wastewater treatment plants to identify opportunities for greater energy efficiency. Many of the most promising solutions include operational improvements or upgrades to process controls and installing better equipment such as more efficient lighting, heating, ventilation, and cooling systems. In 2011, we completed modifications to five of the nine blowers at the Newtown Creek Wastewater Treatment Plant, increasing energy efficiency and reliability.</p>	Initiated 

87	Facilitate new gas transmission projects into New York City to lower gas and power prices, increase the reliability of power and gas supply, and decrease fuel oil consumption.	Natural gas is the cleanest burning fossil fuel, but it has been nearly 40 years since the last new major natural gas trunk line has been built directly into the city. Over the past year, DEP has worked with private developers and with the Federal Energy Regulatory Commission (FERC) to bring vital new gas supply into the city. Two projects currently in development will have a significant impact on New York City: one from Spectra Energy (800 million cubic feet of natural gas per day) and another from Williams (600 million cubic feet per day). Together, these projects will meet the city's future gas needs. Both of these pipeline proposals are currently moving through the regulatory scoping process; New York City is the lead agency for the Williams environmental review, while FERC has the primary role for the Spectra interstate project.	Partially Achieved 
<b>Goal: Explore and invest in cost-effective clean energy projects.</b>			
88	Develop 30-50 megawatts of clean energy supply at DEP facilities to ensure the reliability of our core operations and to reduce the net consumption, energy costs, and emissions across the agency.	<p>In May 2011, the Department of Citywide Administrative Services released an RFP for the development of three megawatts (MW) of solar power on the rooftops of city facilities. The Port Richmond Wastewater Treatment Plant in Staten Island has been selected as one of the facilities for this renewable energy supply program; and we estimate that the 200,000 square foot roof can accommodate up to 1.5 MW.</p> <p>Although a feasibility study for the development of a 1.5 MW wind turbine at the Oakwood Beach Wastewater Treatment Plant in Staten Island concluded that wind turbines would not be a cost-effective investment DEP will continue to look for opportunities for clean energy projects at our other facilities. For example, we are pursuing development of solar and wind energy at closed city landfills and are evaluating the feasibility of hydroelectric generation at some of our upstate reservoirs and at our in-city wastewater treatment plants.</p> <p>DEP is evaluating the feasibility of building cogeneration facilities at the North River and Wards Island Wastewater Treatment Plants, which together would provide up to 14 MW of new, clean distributed generation. Cogeneration facilities achieve major efficiencies by maximizing the use of digester gas, combining the production of power and heat for use onsite at the wastewater treatment plants.</p>	Initiated 
89	Work with regulators to promote competitive energy markets and efficient and fair energy incentives for New York City.	In 2011, DEP supported efforts to improve state criteria for distributed generation and combined heat and power systems. We also worked to ensure that the Renewable Portfolio Standard targeted for downstate projects is operating effectively, and established regulatory criteria for the importation of Canadian hydropower into the city that are best designed to meet both city and state public policy goals. In addition, we supported the application for a planned lease of federal offshore waters to support wind turbines as a means of bringing an additional source of renewable energy to the city. We are also an active party in the pending DEC case considering issuance of a federal Clean Water Act permit for the Indian Point nuclear plant that serves the city without the emission of greenhouse gases.	Partially Achieved 

# HAZARDOUS MATERIALS

Strategy		Progress to Date	Status
<b>Goal: Prevent public and ecosystem exposure to contaminated sediments and soils, return water to providing ecological services, and reuse clean soils and sediments.</b>			
<b>90</b>	Continue to work with EPA to clean up Superfund-designated sites.	<p>In 2010, EPA listed Newtown Creek and Gowanus Canal on the Superfund National Priorities List. Over the past year, DEP worked with the Newtown Creek Group, composed of a number of significant stakeholders, to launch an investigation into the degree of contamination in the creek, as well as associated health and environmental risks. The Newtown Creek Group has submitted work plans to EPA, and plans to begin the first phase of surface water and sediment sampling early this year.</p> <p>In 2011, EPA released both the Remedial Investigation and Feasibility Studies for the Gowanus Canal. We continue to provide information to EPA about the sources of chemical contamination in the canal to support cost-effective cleanup that will address contaminated sediment. EPA's Contaminated Sediments Technical Advisory Group will review our comments in response to the Remedial Investigation. DEP will work with EPA and DEC to define our next steps as we work together to improve the water quality of the canal.</p>	Initiated ◆◇◇
<b>91</b>	Secure the repeal of GASB Standard 49.	In 2006, the Government Accounting Standards Board (GASB) issued a standard that municipalities following generally accepted accounting principles (GAAP) can no longer capitalize costs to investigate or remediate environmentally contaminated sites. The city initially secured a waiver from this ruling that was set to expire in 2011, and through the joint efforts of the Comptroller's Office and the Office of Management and Budget, subsequently obtained State legislation permanently enabling the city to continue using capital funds for remediation costs incurred as a component of larger capital projects. However, even under this waiver, much of the remediation work at the two Superfund sites will not be capital eligible.	Achieved ◆◆◆
<b>92</b>	Promote beneficial use determinations (BUDs)	In 2011, DEP submitted a draft interagency agreement to the New York State Department of Environmental Conservation (DEC) streamlining regulatory approval for reuse of non-hazardous soil and fill material. DEC is reviewing the document, and will provide comments to DEP in spring 2012.	Initiated ◆◇◇
<b>Goal: Ensure proper management of hazardous materials.</b>			
<b>93</b>	Continue to meet all of the requirements of the Construction, Demolition, and Abatement (CDA) laws and improve asbestos compliance.	In 2009, the city enacted a number of new laws to ensure that asbestos abatement is conducted safely. These laws impact the ways that asbestos projects are filed, approved and inspected, and involve new levels of cooperation between DOB and FDNY. Our asbestos enforcement staff conducted 5,545 asbestos-related inspections in 2011. DEP also developed an iPad interface to streamline complaint response and notification inspections, and all asbestos enforcement staff are using iPads in the field. In 2011, this interface was named Best Wireless Project by the New York City Department of Information Technology and Telecommunications at their annual Excellence in Technology Awards. Over the last year, DEP improved the online asbestos permit database to allow for faster permit filing and renewal and developed stricter new controls to ensure that only certified asbestos inspectors can submit applications. As of December 1, 2011, all Asbestos Assessment Reports must be filed and paid for online by certified asbestos investigators at our e-file site, relocating this service from DOB.	Achieved and Ongoing ◆◆◆+
<b>94</b>	Improve and refine hazardous material management systems.	In 2011, DEP implemented a new hazardous materials inspection system and increased inspections of facilities to improve compliance standards. In 2011, we conducted more than 9,100 Right-to-Know inspections, an increase of 14% over 2010, and issued more than 730 violations.	Partially Achieved ◆◆◇
<b>95</b>	Improve responses to emergencies.	DEP implemented a program to improve response efficiency by streamlining the criteria and the type of events that require a response. DEP also restructured operational procedures to improve the efficiency of hazardous material mitigation.	Partially Achieved ◆◆◇

# AIR AND NOISE POLLUTION

Strategy	Progress to Date	Status
<b>Goal: Improve air quality and public health in New York City by controlling local sources of air pollution.</b>		
96 Reduce air emissions from idling.	In 2011, DEP inspectors collaborated with DEC regulators to enforce the City's and State's three-minute and five-minute idling standards, respectively. We also assessed schools with high childhood asthma rates and placed "No Idling" signs around 12 schools in East Harlem and the South Bronx in conjunction with the new one-minute idling limit in school zones. We continue to send flyers to schools, parents, and transportation providers to enforce idling regulations.	Partially Achieved 
97 Reduce local air emissions from the use of residual heating oil.	In April 2011, DEP promulgated a new rule to phase out the use of No. 4 and No. 6 heating oils over the next 20 years. These regulations are expected to save more than 300 lives and avoid 600 emergency room visits and 200 hospitalizations each year by 2030. In July, DEP and DOB streamlined the fuel change filing process, making the transition to cleaner No. 2 oil or natural gas faster and easier and saving building owners approximately \$3,000 for each boiler conversion. In 2011, the city also announced the Clean Heat campaign, an education and outreach program to assist property owners comply with these regulations through education and outreach and technical assistance to building owners.	Achieved and Ongoing 
98 Update the New York City Air Code for the first time since 1970.	The New York City Air Pollution Control Code (Air Code) is a critical tool to reduce pollution, but has not undergone a comprehensive revision since 1970. DEP is currently in the process of updating the code to refine local air emission inventories, better regulate perchloroethylene and non-perchloroethylene chemicals (chemicals widely used to dry-clean clothes), reduce local emissions from the use of residual heating oils, revise emissions standards to be consistent with existing state and federal regulations, and expand permitting to address new technologies and newer fuels such as renewables and recycled cooking oils. We are also eliminating outdated and unused provisions, improving technology, and further reducing local pollutant emissions.	Initiated 
99 Expand and refine local air emission inventories with DOHMH and relevant stakeholders.	DEP finalized a rule regarding perchloroethylene chemicals with the Department of Health and Mental Hygiene (DOHMH) and met with the dry cleaners association. We will continue to meet with DOHMH regarding better ventilation controls.	Initiated 
<b>Goal: Reduce noise by targeted enforcement and code changes.</b>		
100 Enhance the 2005 Noise Code.	Noise complaints are one of the most significant referrals to DEP through 311 and there is growing consensus that noise pollution has an adverse effect on public health. New York City adopted a comprehensive Noise Code in 2005, the first of its kind in any major metropolis. We have integrated this Code into our operations, and since 2005, we have improved mitigation technologies and techniques, including acoustical designs for buildings. As we analyze the effectiveness of the 2005 changes, DEP will assess mitigation methods from sectors that produce significant complaints and incorporate noise mitigation and attenuation methods into the revised Building and Noise Codes. DEP is conducting a Noise Code listening tour and has begun to review and amend language in reference to street plate noise, circulation devices, emergency signals, horn-honking, commercial music, and sound reproduction devices.	Partially Achieved 



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