



**THE PORT AUTHORITY**  
OF NEW YORK & NEW JERSEY

*The Port of New York and New Jersey*

# *The Environment*



# *An Important Resource for Our Region*

*The Port of New York and New Jersey*

As the premier cargo center on the eastern seaboard, the Port of New York and New Jersey connects our region to both the international marketplace and to the nation's leading consumer markets. It provides businesses with access to millions of customers and provides consumers with competitively priced international goods. And every day, people use goods — from orange juice to automobiles — that come through our port.



Local residences and businesses increasingly benefit from its presence as well. The port directly and indirectly supports 230,000 diverse and highly skilled jobs within the two states of New York and New Jersey and generates \$9.4 billion a year in personal income.

Imports and exports are critical economic drivers in the United States, accounting for a significant percentage of our Gross National Product. Since consumer demand for international goods continues to increase, The Port Authority of New York and New Jersey is investing \$1 billion toward improving productivity and increasing terminal capacity for ocean borne commerce.

We must actively invest now in order to maintain our preeminent position and to ensure competitively priced goods continue to reach local consumers. This effort will also help us to remain competitive, securing our position as the premier cargo destination on the East Coast while contributing to the region's economic success.

# Environmental Stewardship

*The Port of New York and New Jersey*



The Port is a vibrant economic engine, driving job creation with good wages, improving quality of life and providing substantial state and local tax revenues. At the same time, we are driven by our social responsibility to the community to ensure these economic benefits don't come at the expense of the environment. We recognize that we have a responsibility as an environmental steward of the harbor - without this harbor, there would be no port. As such, we strive to balance our economic development goals with our goals for environmental enhancement. Our entire port community is working together to advance these vital economic assets, while at the same time moving forward to address the environmental needs of the land, water, air, natural resources, flora, fauna and people.

To remain competitive, meet growing consumer demand and continue being one of the world's largest ports, many challenges must be met. Substantial investments are being made at our port facilities and to related infrastructure that will enable international trade businesses better access and faster throughput time. As we advance our capital program, protecting our environment is an integral part of our planning and delivery.



# Improving Inland Access

*The Port of New York and New Jersey*

Reducing truck generated air emissions and roadway congestion are primary goals across the port, and beyond. The Port Authority of New York and New Jersey is making significant efforts to build infrastructure that will provide environmentally beneficial alternatives to inland trucking.



## **EXPANDING EXPRESSRAIL AND REDUCING CONGESTION**

Rail is a critical component of our port redevelopment program. Today, about 13 percent of the cargo handled by our marine terminals is transported off the port by rail, and our goal is to see that number grow to as much as 30 percent in the future. We are investing \$600 million for a comprehensive rail program to develop an on-dock rail system at all of the Port's major container terminals. The first phase of the new ExpressRail Facility in the Port Authority-Elizabeth Marine Terminal, began operating in October 2004 and has increased rail capacity to 350,000-container lifts per year from 225,000. Once completed,

the ExpressRail system will be capable of handling up to 1.5 million cargo containers annually. The Port Authority has also provided \$25 million each to New York and New Jersey for off-port regional rail improvement projects.

Greater rail capacity at our port reduces transportation costs and roadway congestion leading to air quality improvement. By building a strong rail system, we're creating economic and environmental benefits for both the port community and the residents of the region.

## **PIDN INITIATIVE**

Beyond rail, the Port Authority is investing \$6 million for a Port Inland Distribution Network, an environmentally friendly and efficient barge and rail transport system that would lead to reduced truck traffic and improved air quality. Discussions with inland ports in New Jersey, Connecticut and Rhode Island are currently under way.



# Onsite Terminal Improvements

*The Port of New York and New Jersey*

As part of our ongoing investment to improve productivity and increase terminal capacity for ocean borne commerce, the Port Authority has undertaken several Green infrastructure and transportation enhancements at the port that provide both short and long-term environmental benefits to our harbor.



## **ELECTRIFICATION OF PORT CRANES**

To reduce diesel exhaust emissions, the Port Authority has supported the electrification of port cranes, either by purchasing and replacing diesel-powered cranes at a cost of \$12 million, or by expending over \$100 million in infrastructure improvements that enable tenants to install new electrical cranes.

## **GATE MODIFICATIONS AND NEW YARD EQUIPMENT**

At many terminals, port tenants have installed electronic gates, relocated gates, and extended gate hours to reduce truck delays and congestion, thus reducing air emissions. Some tenants have replaced their diesel-powered forklifts with cleaner-burning propane, or switched from propane to electric, and modernized their non-road cargo handling equipment fleet to meet the more stringent United States Environmental Protection Agency's (USEPA) 2004 on-road standards.

As a result of these tenant activities, the Port Authority's 2004 Cargo Handling Equipment (CHE) Emissions Inventory Report indicates a greater than 30 percent reduction of air emissions across a full spectrum of pollutants when compared with the results from a similar

study in 2002. These reductions were achieved despite a 19 percent rise in CHE, a 5 percent increase in operating hours, and a 25 percent growth in the total number of containers handled at the port over the same period. When considered on a per container move basis, these reductions are even greater, ranging from 45 to 48 percent.

## **REDEVELOPMENT OF BROWNFIELDS**

In 2000, with the goal of transforming an abandoned industrial site into a productive maritime facility, the Port Authority purchased the historically contaminated Procter and Gamble Site located near the Howland Hook Marine Terminal facility in Staten Island. Before the demolition of the property's many buildings, the Port Authority removed debris and conducted lead and asbestos abatement. Initial voluntary remedial actions undertaken by the Port Authority included the removal of thousands of cubic yards of chemical and petroleum contaminated soil and waste material. The Port Authority then entered into a voluntary cleanup agreement with the NY State Department of Environmental Conservation so that it can continue to perform the necessary environmental investigations and remedial measures to protect the health and safety of workers that will occupy this terminal.

# Improving Ocean Access Through Harbor Deepening

*The Port of New York and New Jersey*

The Port of New York and New Jersey is a river port with rapidly shifting sediments and some naturally shallow areas. Therefore, deepening and regular maintenance dredging is required to keep existing shipping channels and berths viable. Additionally, as shipping activity continues to rise, selected channels need to be dug to even deeper levels to accommodate the larger drafts of the latest generation of container vessels. The Harbor Deepening Project, which will deepen our channels to 50 feet, is designed to meet that need.



## **BENEFICIAL USE OF DREDGED MATERIAL**

Nearly all of the more than 49 million cubic yards of dredged material from the Harbor Deepening Project (HDP) is slated for beneficial reuse. If the material is suitable for ocean placement, it will be used to cap the Historic Area Remediation Site (HARS). If unsuitable for this purpose, the Port Authority plans to have it cleaned and used in support of brownfield remediation, mine reclamation or landfill closure. The Port Authority has already worked with private firms to use treated dredged material in capping a brownfield in Elizabeth, NJ, a former landfill, which was then developed into the Jersey Gardens Mall. Treated dredge material also has been used in the development of a golf course in Bayonne, NJ, that sits on a former brownfield site. Rock excavated during the harbor deepening will be used to help create an artificial reef and fish habitat.

Other environmental measures the Port Authority plans to undertake as part of the Harbor Deepening Project include wetlands mitigation, noise reduction, and the offsetting of air emissions. For example, dredging contractors will insulate their equipment and orient it away from residential areas to reduce the noise impact to local communities.

## **RETROFITTING ALL STATEN ISLAND FERRIES**

The Port Authority is offsetting air emissions from the dredging equipment well beyond the duration of the dredging project through funding the re-powering of tugboats and the retrofitting of Staten Island Ferries. The repowering of 2 tugs operating in the Kill Van Kull is expected to reduce emissions of nitrogen oxide by 50 tons per year for the next 10 years. The Port Authority is planning the repowering of another 6 to 8 tugs to offset the emissions from the Harbor Deepening Project.

The Port Authority has provided \$65 million each to New Jersey and New York as part of a bistate fund to support dredging related projects, including sediment testing, development of contaminant identification technology, dredge material management initiatives, pollution prevention and navigation studies.

### **CONTAMINANT ASSESSMENT REDUCTION PROGRAM**

Initiatives that help keep our waters clean go hand-in-hand with dredging. That's why the Port Authority is investing a portion of the bistate dredging fund in the Contaminant Assessment and Reduction Program (CARP). Under this initiative, our agency is assessing all sources of contaminants of concern in water, sediment and biota within the NY and NJ Harbor Estuary. Through data collection, sampling, testing and modeling we will be able to assess the level of contaminants in the harbor. Modeling results will then be used to predict the movement of contaminants through the harbor and develop strategies for their reduction.



# A Model Green Port

*The Port of New York and New Jersey*

The Port Authority's proactive commitment to a better environment can be seen through continuing partnerships and advanced business practices. As part of this effort, the Port Authority is working with government agencies, non-profit and private organizations to identify and implement practices that minimize or eliminate environmental impacts of day-to-day port activities. In an effort to establish a model green port, the Port Authority has embarked on a voluntary Green Port Program with actions that go beyond what is required by environmental law and regulation.

These include:

- ▶ Establishing an environmental management system
- ▶ Conducting environmental training for on-port businesses
- ▶ Forming a voluntary green practices task force
- ▶ Recycling office and other wastes
- ▶ Utilizing alternatively-fueled vehicles for cleaner air and conserving energy
- ▶ Participating in a ballast water initiative

## **ENVIRONMENTAL MANAGEMENT SYSTEM**

One of the ways to advance the goal of becoming a model Green Port is to implement an Environmental Management System (EMS) – a systematic process to align organizational and environmental objectives throughout the organization using ISO 14001 Standard as the guide. This comprehensive approach to managing the significant environmental aspects of an organization's activities will enable our port facilities to find and fix root causes of potential problems, prevent pollution, conserve



energy and resources and position the port to be proactive on environmental issues. In early 2004, the port began EMS implementation at our public berths and maintenance shops at port facilities in NY and NJ as well as dredging operations in the harbor. A key first step was development of an environmental policy, which appears in the final section of this brochure. Plans are to complete implementation, including ISO Certification, within the next two years.

## **VOLUNTARY TENANT ENVIRONMENTAL AWARENESS TRAINING**

The Port Authority's Green Port Program aims to set a standard now and for future generations. One such measure is the Voluntary Tenant Environmental Awareness Training, which earned the American Association of Port Authorities' Environmental Improvement Award. The awareness training covers environmental management practices and green terminal design and construction practices.



### **GREEN PRACTICES TASK FORCE**

A second element of the Green Ports Program involves the establishment of a Green Practices Task Force composed of tenants and Port Authority staff in New York and New Jersey to identify initiatives addressing air and water quality, waste minimization and energy conservation. As a result, tenants have voluntarily increased their use of floor drain and catch basin inserts that trap contaminants from runoff and rainwater, and they have expanded recycling efforts. Tenants also conserve fuel while significantly improving air quality through their cargo handling equipment modernization efforts that were mentioned previously and earned a second environmental improvement award from the American Association of Port Authorities in 2005. Also, the Port Authority recognizes the importance of alternative fueled vehicles across all of its facilities, deploying over 350 of them in its fleet.

### **BALLAST WATER INITIATIVE**

To supplement our Green Port initiatives, the Port Authority, in collaboration with New Jersey Sea Grant, published a “Ballast Water” brochure to educate port tenants and the general maritime community about the impacts of the introduction of invasive species into local ports and harbors via ballast water. Much like the quarantine of fruits and vegetables by US Customs and Border Protection on land, care should be taken from introducing saltwater species to fresh water. Environmentally protective measures include ballast water exchange at sea before entering the port, along with a host of other precautions that reduce the toxic introduction of foreign species.

# Harbor Restoration Initiatives

*The Port of New York and New Jersey*

Protecting and supporting life in our coastal waterways represent one way the Port Authority is helping offset the environmental impacts of economic development. Many initiatives are under way to improve and restore our region's wetlands and natural estuary resources. The Port Authority participates in and funds various regional environmental programs and studies as part of its Harbor Restoration Initiatives.



## **HARBOR ROUNDTABLE**

The Port Authority also participates in the recently formed Harbor Roundtable along with the states of NY and NJ, NY City, various Federal agencies and environmental interest groups. The Roundtable's goal is to develop an environmental agenda for the harbor, including restoration priorities and objectives to achieve a World Class Estuary, and advocate for the resources to accomplish it.

## **HUDSON-RARITAN ESTUARY STUDY**

Acting as the local sponsor responsible for 50 percent of the total cost of the US Army Corps of Engineers \$19.5 million Hudson-Raritan Estuary Environmental Restoration Study, the Port Authority helps determine restoration opportunities in the estuary, such as the Gowanus Bay and Canal, the Lower Passaic River, and various other wetlands and habitat sites.

## **HUDSON-RARITAN ESTUARY RESOURCES PROGRAM**

In July 2001, the Port Authority committed \$30 million each to the States of New Jersey and New York to create the Hudson-Raritan Estuary Resources Program, whose goal

is the purchase of property for public use and natural resource preservation. The first property purchased, the 10-acre Blissenbach Marina on Staten Island, was then turned over to New York City Department of Parks & Recreation.

In early 2005, the Port Authority and NJ Meadowlands Commission concluded a memorandum of understanding to identify appropriate sites for acquisition for public access and preservation in the Hackensack Meadowlands – the largest remaining tract of tidal wetlands in the harbor estuary. The partnership hopes to preserve the natural landscape of this geographical feature.

## **SUPPORTING RESEARCH ON HARBOR RESTORATION**

The Port Authority also provides financial support for research efforts, including the New York Academy of Sciences (NYAS) for its Industrial Ecology Study, the New Jersey Marine Science Consortium and the Institute of Marine Coastal Sciences. These research efforts will help to determine sources of contaminants in the estuary and ways to prevent them from polluting the estuary as well as provide key innovations needed to support marine industries and strengthen efforts to protect marine and coastal environments.

# Future Promise

*The Port of New York and New Jersey*

The Port Authority of New York and New Jersey is steadfast and committed to safeguarding the land, water, air, natural resources, flora, fauna, people and their interrelation for future generations within our neighboring port communities. Protecting the environment while providing economic benefits to the region is an essential component to our port planning and development. By being environmentally responsible in our daily work, our vision for an economically and environmentally thriving harbor — a place for worldwide shipping, boating, swimming, fishing, scenery, natural beauty and biological diversity is being realized.



## **THE COMPREHENSIVE PORT IMPROVEMENT PLAN**

The Comprehensive Port Improvement Plan (CPIP), which is funded by the bistate dredging fund, represents the first-ever multi-agency effort to develop a long-term port development plan that is both economically efficient and environmentally sustainable. The Port Authority, US Environmental Protection Agency, the Army Corps of Engineers, the Federal Highways Administration, the States of New York and New Jersey, and the City of New York are collaborating to define specific, long-term improvements in the harbor, marine terminals and associated landside transportation infrastructure needed to accommodate growing cargo demand. The CPIP plan and the accompanying CPIP Environmental Assessment will provide a framework for the consideration and evaluation of future regional port improvement projects.

## **ENVIRONMENTAL POLICY**

The Port Authority, Port Commerce Department (PCD) holds as a basic value a commitment to the communities in which it operates and to the society at large. This commitment includes safeguarding the land, water, air, natural resources, flora, fauna, people and their interrelation. To that end, the Port Commerce Department has adopted environmental stewardship as one of its key business objectives to protect the environment while providing economic benefits to the region.

### **Environmental Stewardship**

- PCD will operate and maintain its facilities within a fence line that includes public berths, maintenance shops in New York and New Jersey and its dredging operations in ways that prevent pollution, conserve natural resources and energy, reduce the use of hazardous substances, minimize wastes and have the least adverse impact on the environment.
- PCD will evaluate and continually improve the total environmental effect of its operations and activities. PCD will encourage its tenants to take similar responsibility for environmental protection.
- PCD will encourage the use of recycled materials through its facilities and will promote recycling of waste materials.

### **Compliance**

- PCD is committed to complying with all applicable environmental laws and regulations and having a tracking system in place to ensure compliance with standards. PCD's top management will implement a system to review and assess its operations to ensure these standards are met.
- PCD, in coordination with Port Authority executive management, will cooperate with regulatory agencies, environmental organizations and its stakeholders in the development of environmental policy and programs.

### **Communication**

- PCD will foster openness with its employees, the community and regulatory agencies and will be responsive to concerns about the environmental effects of its operations, activities and wastes.
- PCD will communicate its commitment to environmental responsibility to employees, customers, suppliers stakeholders and the community.

*The Port of New York and New Jersey is overseen by The Port Authority of New York and New Jersey, a comprehensive transportation network committed to the well being of the region. The Port Authority of New York and New Jersey manages the operation of six cargo terminals in the New York-New Jersey region: Port Newark, Elizabeth-Port Authority Marine Terminal, Howland Hook, the Auto Marine Terminal, Brooklyn-Port Authority Marine Terminal and Red Hook Terminal. Combined with the privately owned and operated Global Marine Terminal in NJ, and the South Brooklyn Marine Terminal, operated by the City of New York, these facilities make up the Port of New York and New Jersey. Together, these ports move the largest volume of container traffic on the East Coast of North America every year.*

# *The Environment*

*The Port of New York and New Jersey*

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