

The Port of NY and NJ

Environmental Stewardship





Safeguarding our natural resources for today's generation and those to come.

The Port Authority of New York and New Jersey recognizes the importance of our bistate port as a resource for the region. The agency leads the way in creating a vibrant and engaging facility that not only enables efficient business operations at the East Coast's largest port, but also safeguards our natural resources for those who live and work in the region. The Port of New York and New Jersey connects our region to both the international marketplace and the nation's leading consumer markets. It provides businesses with access to millions of consumers and provides those consumers with competitively priced international goods.



Safeguarding our natural resources for today's generation and those to come.

The port is a vibrant economic engine; it drives job creation with good wages, improves quality of life, and provides substantial federal, state, and local tax revenues. At the same time, The Port Authority of New York and New Jersey ensures these economic benefits do not jeopardize the environment. The port goes above and beyond the minimum requirements set by local, state, and federal agencies in its efforts to safeguard our region's air, land, and water. It balances our economic development goals with ongoing goals for environmental enhancement.

All-Encompassing Environmental Stewardship

At the Port of NY and NJ, environmental stewardship is not just about addressing one aspect of our business operations; it's about addressing every aspect. The port considers environmental impact in every capital investment we make. For example, greater rail capacity at our port reduces transportation costs and roadway congestion, which in turn reduces truck idling emissions that affect air quality in local communities.

In 2004, the Port Authority implemented a comprehensive Environmental Management System at the port based on internationally recognized standards designed by the International Organization for Standards (ISO). In 2009, the port achieved ISO 14001 certification and maintained its certification status through its most recent recertification audit in 2012.

In October 2009, the Port Authority published a Clean Air Strategy for the Port of New York and New Jersey, which contains voluntary actions to reduce emissions from all port sources.

The agency also actively measures the success of its port-related environmental initiatives, including emissions from all port-related sources. These reports are available by visiting: <http://www.panynj.gov/about/port-initiatives.html>.

Transforming Business Practices

Through leadership, partnership, and investment, our port is transforming the way we do business. A unique blend of dialogue, investment, and incentives continually invites all members of our vast port system – terminal operators, ocean carriers, shippers, truckers, and rail operators – to incorporate environmental protection into their everyday thinking and actions.



John Posada
Independent Owner Operator



I am so thankful for my newer truck. I quickly realized that I had made the right decision going to the port's Truck Replacement Program. I was able to work independently and enjoy a better income and a better life as a result."

For environmental initiatives to succeed, we understand that they must make good business sense. That is why the Port of NY and NJ offers its industry partners inventive ways to reduce air emissions, decrease water pollutants, and protect natural resources. By helping businesses to embrace environmental issues, the port created a new paradigm in which industry readily incorporates new business practices that effectively address global environmental challenges and its impacts on human health and future generations, including climate change.

Far-reaching Results

The Port Authority allocated more than \$67 million to advance Clean Air Strategy actions, and several hundred million dollars to execute other sustainable development initiatives. In addition, the agency garnered significant additional support in the form of grants from federal agencies, some of which has been used to create financial incentives to promote voluntary participation in environmental programs.



Steve Krawczuk
Owner, Quality Transportation



My participation in the Truck Replacement Program has been an excellent investment for my company. I am thankful to be able to provide a better and healthier quality of work to my drivers, while being more environmentally friendly.”

The results have been far-reaching. The Port Authority has:

- Invested approximately \$600 million in a state-of-the-art, comprehensive on-dock rail system at our marine terminals in NY and NJ that has eliminated the need for numerous trucks on our roads;
- Implemented drayage truck phase out and replacement programs that have removed 1993 and older, high pollutant trucks from port service and replaced them with 2004 or newer, cleaner, and more fuel-efficient vehicles;
- Implemented a Fleet Modernization program that provides a financial incentive to replace old cargo handling equipment with new units that meet the latest emissions standards;
- Initiated a program to install shore power capability at our cruise terminal in Brooklyn;
- Instituted incentive programs to attract the cleanest ocean going vessels to our port, as well as to ensure that the cleanest harbor craft operate in our harbor; and
- Invested in innovative restoration initiatives that enhance our coastline habitats.

Environmental Stewardship in Action

The Port of New York and New Jersey and its partners have invested millions of dollars to improve the quality of air, land, and water within the port district and surrounding areas. The Port Authority took the lead in developing a Clean Air Strategy for the Port of NY and NJ; the strategy reduces port-related air pollutant and greenhouse gas emissions and helps the region to attain national ambient air quality standards. The strategy's overall goal is to ensure a decline in emissions despite any increase in port cargo. Specifically, the strategy seeks to decrease annual air pollutant emissions by three percent and greenhouse gas emissions by five percent, resulting in an 80 percent reduction by 2050.



Dredge materials were used to cap a brownfield before it was developed into a golf course.

Cleaner Ocean Going Vessels

- The \$6.36 million Ocean-going Vessel Low-Sulfur Fuel Incentive program reimburses ocean carriers 50 percent of the difference between conventional bunker fuel and low-sulfur fuel at 0.2 percent sulfur content. To qualify, ships must also participate in vessel speed reduction (VSR), limiting their speed to 10 knots on inbound and outbound transits.
- The Clean Vessel Incentive (CVI) Program is a \$4.875 million program designed to attract the cleanest ships to our port. CVI provides a financial incentive to ships based on the World Port Climate Initiative Environmental Ship Index (ESI) score they achieve. Vessels that participate in VSR earn an additional five points, and vessels with Tier 2 and Tier 3 engines receive additional financial rewards. The expected 600 participants will contribute to an annual emission reduction of 182.2 tons of nitrogen oxide, 38.3 tons of particulate matter, and 264.1 tons of sulfur dioxides.
- The \$19.3 million project to install shore power capability at the Port Authority's Brooklyn Cruise Terminal will enable cruise ships to shut down their diesel generators while at berth and plug into shore side electricity. When shore power goes on line in 2014, it is expected to result in annual emissions reductions of 1,500 tons of greenhouse gases, 95 tons of nitrogen oxide, 93 tons of sulfur dioxide, and 6.5 tons of particulate matter, all of which will result in roughly \$9 million in annual health effect benefits for local residents.

The Clean Vessel Incentive Program attracts the cleanest ships to our port.





Rubber Tired Gantry cranes operate with electrical power.

- Cleaner high-speed ferries now traverse the Hudson River. In partnership with New York City and the city's Department of Transportation, 36 private ferries are now equipped with diesel oxidation catalysts and one additional ferry has received a newer cleaner engine.

The Greening of Cargo Handling Equipment

- The port's \$2.24 million Cargo Handling Fleet Modernization program reduces emissions by replacing old equipment with new units that meet the latest emissions standards. The Port Authority provides 20 percent of the cost of the replaced equipment.
- A \$3 million program funded by the Port Authority, federal grants, and locomotive owners installs Generator Set technology on switcher locomotives (small railroad locomotives used to move railroad cars to assemble and disassemble trains), thereby replacing a single large older diesel engine generator with a set of three smaller clean-burning diesel generators. Clean Air Strategy partner, the NJ Department of Environmental Protection, has retrofitted three additional switcher locomotives to Generator Set technology.

A Newer Fleet of Trucks

- Our \$34 million Truck Replacement Program provided truck owners a financial incentive and, if needed, a low-interest loan to replace their trucks that have engines 2003 and older with newer vehicles. Results: Roughly \$8.6 million in federal grant funds have been awarded to replace 429 old trucks with newer, cleaner, and more fuel-efficient trucks. The old trucks are scrapped and permanently removed from the area's roadways.
- The port's Truck Loan and Retrofit Program provides zero percent interest financing for newer trucks that are equipped with diesel particulate filters. The filters are free. The program is funded by the Port Authority, ACCION USA, and a \$750,000 grant from the U.S. Environmental Protection Agency.
- The Truck Phase Out Plan restricts drayage trucks with engines older than 1993 from accessing Port Authority Marine Terminals. Effective January 1, 2017, only trucks equipped with 2007 emission compliant or newer engines will be granted access. A Radio Frequency Identification Device (RFID) tag and reader system ensures 100 percent compliance with Truck Phase Out Plan requirements.

The port works closely with its business partners to employ new ways to reduce its carbon footprint.





Newer, cleaner, more fuel-efficient trucks replace older ones.

Expanding Our Rail System

- The port's \$600 million on-dock ExpressRail system reduces trucks and congestion on the roads. At full capacity, ExpressRail can handle 1.1 million cargo containers annually. For every container placed on a rail car, 1.5 truck trips and the emissions they generate are eliminated.
- The Port Authority's \$80 million ExpressRail overpass and flyover construction projects eliminate truck congestion caused by trains moving cargo into and out of the port. To date, a rail overpass at the Elizabeth Port Authority Marine Terminal and a truck flyover in Port Newark have been completed.
- The \$100 million Enhanced Cross Harbor Rail Freight Program will reduce freight trucks on the George Washington Bridge. The program provides an enhanced corridor for the movement of goods between Port Jersey and Brooklyn via water rather than highways.

Better Roads

- In 2009, the Port Authority constructed a rail facility at Corbin Street to serve Port Newark Container Terminal (PNCT). In May 2013, the Port Authority completed construction of a bridge that will link the Port Newark Container Terminal with the Corbin Street facility, providing a dedicated conduit by which the PNCT operator can move containers to rail without stopping truck traffic.
- The Port Authority will invest \$400 million over the next 10 years to realign, widen, and improve key roadways at the port. These projects serve to reduce congestion and associated emissions.

Modernizing Terminals

- Port tenants continue to install electric cranes and electronic gates, while extending gate hours to reduce idle times. They also transitioned to ultra low-sulfur fuel for off-road equipment more than two years before such measures were required by federal regulations.
- The Port Authority purchased and is redeveloping Greenville Yards, a century-old rail yard in Jersey City, NJ. The new terminal will remove up to 360,000 trash trucks annually from trans-Hudson crossings and New Jersey highways by transporting New York City's sealed containerized solid waste and other commodities by barge and rail.

ExpressRail reduces trucks and congestions on regional roads.



Emissions Inventory Report

Despite record increases in cargo volume, the Port of New York and New Jersey continues to experience reductions in port-related air emissions due to its sustainable development initiatives and Clean Air Strategy programs. Emissions are monitored and reported on a bi-year basis in the agency's Multi-Facility Emissions Inventory, which began in 2006 (the inventory baseline).

The 2010 Multi-facility Emissions Inventory comprises a total of emissions from port-related sources, including ocean-going vessels and harbor craft, cargo handling equipment, trucks, and rails serving the Port Authority marine terminals. As shown in the table below, 2010 criteria air pollutant (CAP) emissions decreased across the full spectrum of pollutants when compared to those of 2006. Average decrease was 17 percent, despite a 4.2 percent increase in cargo volume at the port. Calculating CAP emissions per unit of cargo (TEU) based on these results indicates an average decrease of 20 percent between 2006 and 2010.

Total CAP emissions from drayage trucks serving Port Authority marine terminals also decreased an average of 14 percent between 2008 and 2010, while truck vehicle miles traveled increased 14 percent. In the same period, total drayage truck idling hours decreased 28 percent, which contributed to a 31 percentage average decrease in total truck idling emissions. These reductions occurred despite a cargo volume increase of 1.4 percent, between 2008 and 2010.

TOTAL PORT-RELATED EMISSIONS COMPARISON 2006 TO 2010

CRITERIA AIR POLLUTANT (CAP)	CHANGE %
NOx	12% decrease
PM10	19% decrease
PM 2.5	18% decrease
VOC	13% decrease
CO	14% decrease
SO2	25% decrease
CAP (Ave)	17% decrease
Cargo Volume (TEU)	4.2% increase
CAP/TEU (Ave)	20% decrease
Green House Gases (CO2 Eq)	7% decrease

Restoring and Renewing Our Lands

- The Port Authority's \$60 million Harbor Estuary Resources Program preserves, protects, and renews land in New York and New Jersey. Since it was started in 2001, eight properties in New York City and 10 in New Jersey, (totaling more than 340 acres), have been protected, providing wildlife with woodlands, reefs, and wetlands necessary for survival.
- The Port Authority spearheaded the effort to obtain a special authorization for the reuse of clean dredge material from the port's Harbor Deepening Project to restore regions along the harbor. As a result, several severely eroded marsh islands in Jamaica Bay, NY, have now been restored.
- The Port Authority is a key sponsor of U.S. Army Corps of Engineers' Hudson-Raritan Ecosystem Restoration Feasibility Study. The study identified restoration projects within the port region such as the Gowanus Bay and Canal, the Lower Passaic River, and various other wetlands and habitat sites.
- The Port Authority has provided financial support for research efforts, including the New York Academy of Science for its Industrial Ecology Study, the Contaminant Assessment and Reduction Program, the New Jersey Marine Science Consortium, and the Institute of Marine Coastal Sciences. These research efforts help to determine sources of contaminants in the estuary and ways to prevent them, as well as to provide key innovations needed to support marine industries and strengthen efforts to protect marine and coastal environments.

Our Commitment is Steadfast

Together with its partners, The Port Authority of New York and New Jersey has made significant gains in reducing air pollutant and greenhouse emissions while protecting land, water, and habitats on which our natural resources depend and thrive. Because of its steadfast commitment to the environment and the voluntary efforts of dedicated industry partners, the Port of NY and NJ is cleaner and more environmentally friendly than ever before.

The Port Matters

As the third largest port in the nation, the Port of New York and New Jersey is a major economic engine for regional growth and essential to the growing export of U.S. goods to the international market, as well as the delivery of goods from around the world to stores and homes. The port contributes:

■ **Jobs**

The port supports more than 279,200 jobs representing nearly \$12 billion in annual wages.

■ **Taxes**

The port generates more than \$5.2 billion in annual tax revenues to federal, state, and local governments.

■ **Goods**

From beverages and food, to apparel and furniture, to cars and the parts they need to operate, the region depends on the port to get these commodities into stores and homes.



*The brochure has been printed on recycled materials and certified by the Forest Stewardship Council.
The Port Authority of New York and New Jersey is committed to preserving the environment and reducing its environmental impact.
The Port Authority's green initiatives include promotion of clean air, alternative fuel vehicles, mass transit and energy conservation efforts.*

THE PORT AUTHORITY OF NY & NJ

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