

Sustainability Programs, Innovation, and Strategy at the Port Authority of NY & NJ

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Port Authority of NY & NJ at a Glance



Port Authority Commitment to Environment

1993 - Environmental Policy Statement

2006 - Sustainable Design Guidelines

2008 - Sustainability Policy

2011 - Sustainable Infrastructure Guidelines

2015 - Design Guidelines for Climate Resilience



Core Principles – PANYNJ Sustainability

- **Reduce pollutants**
- **Integrate Climate Change Adaptation into Capital Projects, Operations, Emergency Management, Risk Assessments**
- **Reduce GHG emissions**
- **Environmental justice**
- **Regional environmental stewardship**
- **Coordinate with regional partners**
- **Support innovation in environment/energy-related technologies and products**

Sustainable Buildings and Infrastructure



Innovation at the World Trade Center

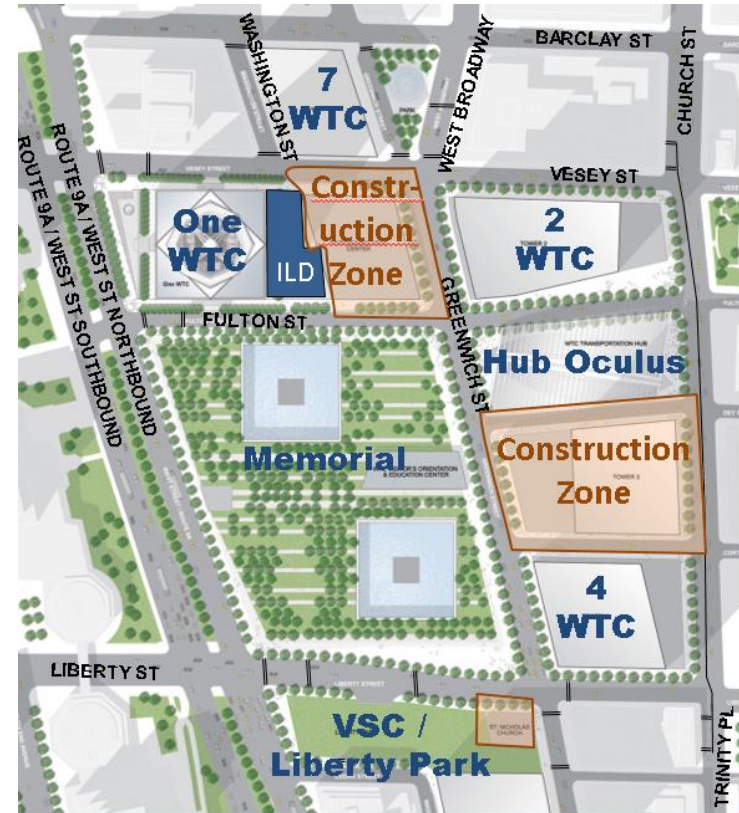
- LEED Gold Office Towers
- Wind energy, central chiller plant
- Memorial plaza serves as green roof for transportation hub and memorial
- Rainwater harvest and storage used for irrigation, office cooling towers, and flush fixtures
- LED retrofit for Oculus and other spaces currently under development
- Campus-wide green cleaning program
- Connection of 11 subway lines, PATH, and ferries



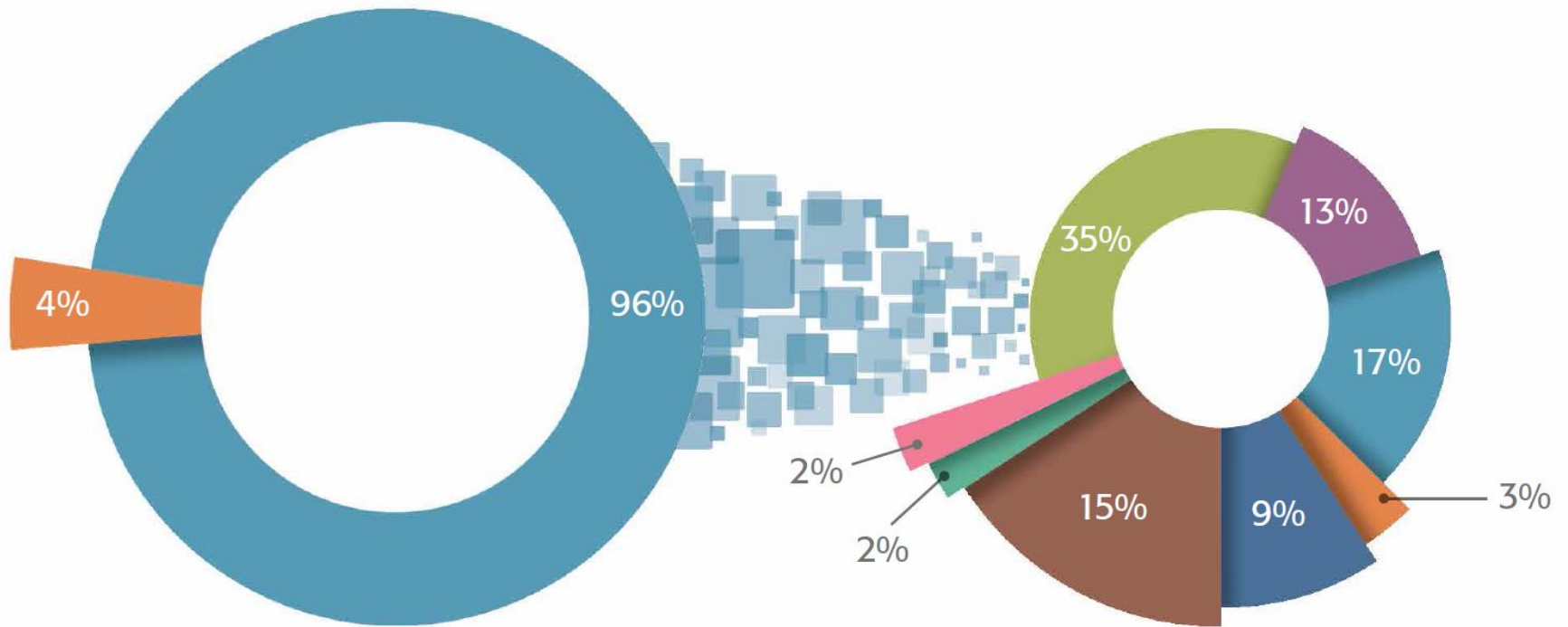
The Central Chiller Plant



Reflecting Pool at the 9/11 Memorial



2015 GHG Emissions at Port Authority Facilities



■ Emissions within PA control: buildings, fleet vehicles, PATH train system

■ Emissions outside PA operational control

■ Aircraft activity

■ Passenger travel to/from airports

■ Cargo trucks

■ Marine vessels

■ Automobile traffic on bridge and tunnel facilities

■ Buildings outside PA control

■ Port cargo handling equipment

■ Other

Highlights – Energy Management

- Energy efficiency projects: \$7 million in annual savings, an approximate 9% reduction in PA GHG
- Installation of solar arrays at Newark & Stewart Airports, and PATH maintenance facility
- Purchase approximately 41,000 MWh of wind energy attributes annually from upstate New York wind farms; contracted for an additional 163,000 MWh from biomass energy near PA Stewart Airport
- Electric vehicle charging infrastructure installed at JFK, LGA, EWR airports, PABT; support equipment electrification for airport and port partners
- Shore power at Brooklyn Cruise Terminal
- Cogeneration and grid support at JFK



PANYNJ Utility Management Platform

Utilities generate energy invoices



System provides data and reports supporting:

- identification of conservation opportunities
- energy/water benchmarking
- sophisticated rate structures

PANYNJ generates invoices for tenants and partners



Manual & AMI Smart Meters record energy consumption



Next Steps: Looking to the Future

- Analyze available rooftop space at Port Authority facilities to develop comprehensive solar feasibility assessment
- Develop comprehensive emissions reduction needs assessment to determine barriers to achieving 2050 goal
- Positioning existing and future energy assets to be Distributed Energy Resources insofar as on-site generation yields resiliency benefits to our facilities, benefits to the regional electric grid, and financial savings or revenues to the Port Authority.
- Support tenant sustainability initiatives, such as vehicle electrification, biofuels adoption, and truck replacement