

Maher Terminals - *A Sustainable Future*



– Northeast Diesel Collaborative –
Presented by Chuck Feinberg, Greener by Design, LLC
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Overlapping Stakeholder Interests - Requires Comprehensive Planning



NJ DEP, NY DEC, Army
Corps, Port Authority

City of Elizabeth, City of
Newark, Union County

**Maher
Terminals**

NJ BPU, PSE&G, SJ Gas

Environmental Justice
Communities in Elizabeth
and Newark, Bay Keeper,
Environmental Groups



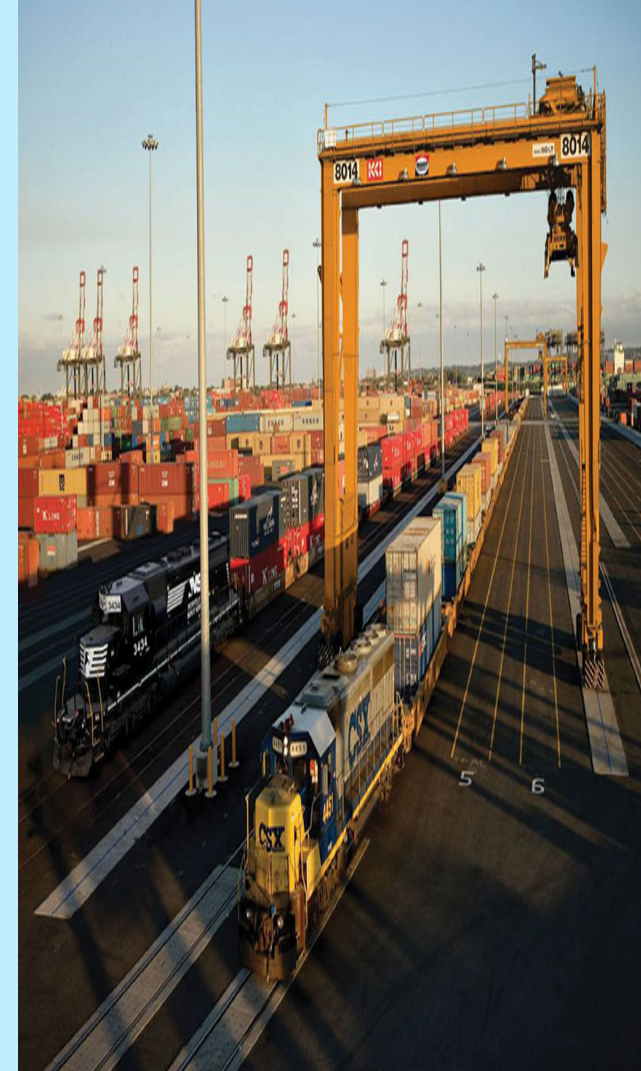
Sustainability and Resiliency

- Energy - 575kW Solar Array, over 1,000 SRECs produced
- Facility Energy Master Plan - Lighting, building controls, energy reduction technologies, and other improvements in place and planned into the facility.
- Transportation and Cargo Handling - Electric cranes, Hybrid Straddle Carriers, Electric Straddle Carrier Demo, Electric Charging Stations.
- Community - Working with Newark and Elizabeth communities on environmental enhancement and air quality improvement projects.
- Internal Green Team - Integrating various stakeholders to assist in defining and meeting sustainability objectives throughout the corporate chain.
- Participant in NJDEP's voluntary Environmental Stewardship Program

Reducing the Impact of Trucks



- Developed PONYNJ's first on-dock rail facility in 1989, serves all inland locations
- 18 tracks and over 44,000' of live track, handles 60% of all container rail cargo in PONYNJ
- In anticipation of increased cargo volumes, implemented operational efficiencies for truck movement.
- Extensive use of automation and innovative use of technology to create fast and consistent truck "turn times" and prevent peak hour back ups to greatly reduce truck queuing idling, on and off the terminal.



Cargo Handling Equipment - Straddle Carriers

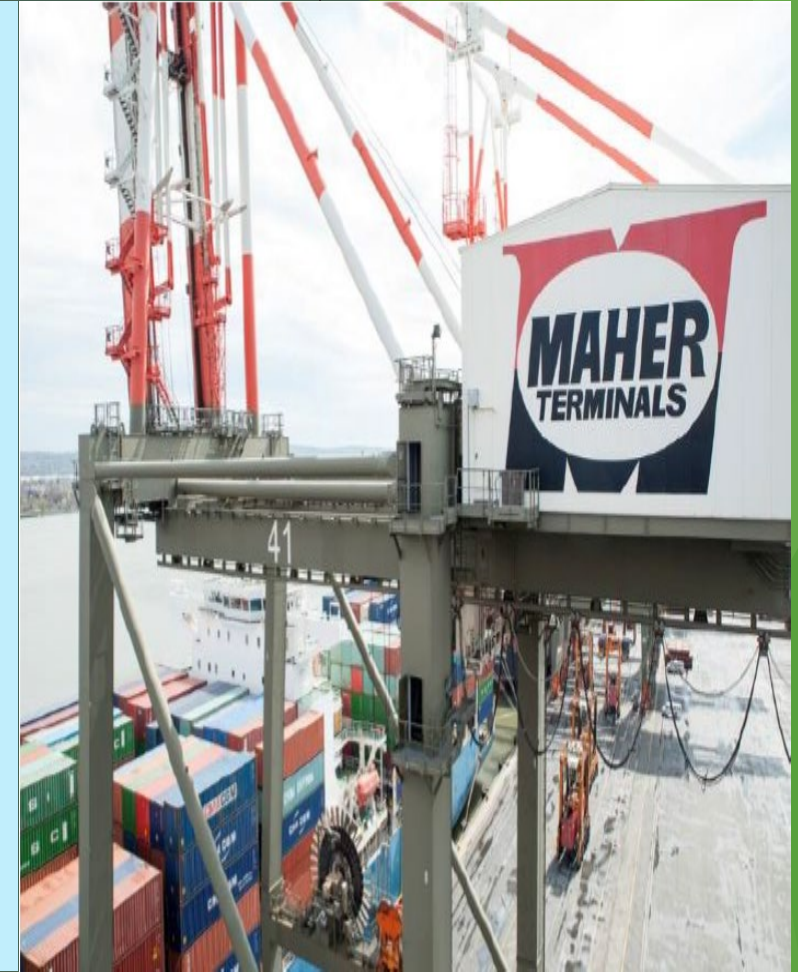
- Transitioning cargo handling fleet to Tier 4 diesel/electrics
- 15-20% more fuel efficient, significantly reduced emissions
- Voluntarily retiring older Tier 1 models
- Planning to pilot an all electric straddle carrier
- Will reduce greenhouse gases from the equivalent of 52 fewer passenger vehicles
- Charging infrastructure and operational concerns still need to be addressed.



Electrification



- Maher has replaced 17 diesel cranes with fully electric ones - 98+% of work is done by electric cranes, compared to 76% in 2010
- One remaining diesel wharf crane uses ultra low sulfur diesel fuel, serves a small vessel
- Implementing projects to increase the lift height of the container cranes from 120' of lift height to 165' to reach the higher stack heights of ULCV's
- Maher participates in NJDEP's **It Pay\$ to Plug In** program for EV chargers for employee use.



POTENTIAL FUTURE ENERGY & RESILIENCY PROJECTS

- Container Yard “Densification”
- LED Yard Lighting Replacement Project would reduce electric demand by an estimated 1 MW
- Electrical infrastructure upgrade and microgrid - provide site-wide energy resiliency through islandable and blackstart capability, and on-site energy generation and storage. Project would provide regional grid stability and security and **reduce down time**.
 - Would also enable resilient power to critical facilities including space occupied by US Customs and Border Protection and U.S. Fish and Wildlife Service Office of Law Enforcement.

