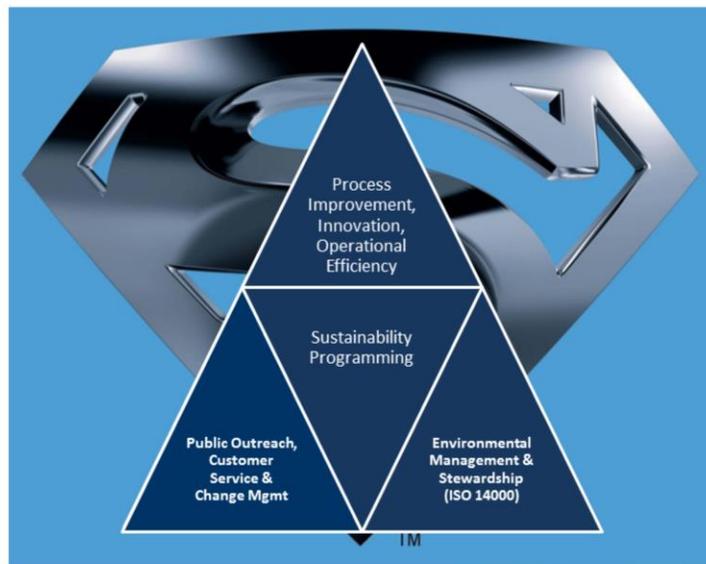




U.S. Ports have has a rich history of leading by example in the area of environmental stewardship. As stewards of tomorrow, Ports look not only to conform to the laws and regulations that govern their industry, but to reach beyond compliance to seize opportunities that build better communities, improve the safety of their facilities and improve operational processes. Armed with that strategy and a drive for continual improvement, Ports are looking to take are taking sustainability and environmental stewardship to new levels.

Sustainability means more than reducing environmental impacts. It means putting innovative programs and processes in place that collaboratively advance our vision into the future, marked by excellence in operations, fiscal responsibility, and steady growth. This presentation will focus on scalable strategies and innovative thoughts on how to structure a sustainability program and begin to create a culture of sustainability and stewardship in your organization.

Sustainability and Ports



Kennedy/Jenks Consultants

- What is Sustainability? Financial Resiliency, Social Responsibility, and Environmental Stewardship
- Sustainability identified and proposed in its FY15 goals to use the BOS/ISO framework and the existing management systems to develop the structure of the sustainability program
- What is a business operating system?
 - A system for managing resources, administration, and change using a process improvement and planning approach.
 - Serves as the foundation for sustainability program
 - Memorializes a system of planning, implementation, re-evaluation, and continuous improvement
 - Combines the existing EMS, re-builds and expands the QMS, and combines

the two systems with the objective of ensuring that system for continual process improvement and management of change are in place throughout the organization, and that sustainability elements are infused into all departments and at all levels.



In large port cities, not only do ports exist along some of the most prime waterfront real estate, ports are the gatekeepers to this sensitive environment. We can use this asset to educate and influence port operators, customers, and tenants to be better stewards of the environment we represent, such as through storm water management practices or air quality improvements. When it comes to pollution prevention, port authorities may not directly regulate the environmental performance of goods movement, but we do have a critical role to play in convening, influencing, and educating those stakeholders and partners toward more sustainable growth and progress.



**AUTOMATION
and
OPERATIONAL
EFFICIENCY**



Kennedy/Jenks Consultants



SHORE POWER/COLD IRONING & VESSEL EXHAUST TREATMENT SYSTEMS

Kennedy/Jenks Consultants

Port of Long Beach – Shore Power



Pasha Stevedoring and the Port of Los Angeles are launching the Green Omni Terminal Demonstration Project, a full-scale, real-time demonstration of zero and near-zero emission technologies at a working marine terminal. The Pasha Green Omini Terminal is a 40-acre mixed cargo handling terminal.

Total Cost of the project = \$14.5M CARB Grant / \$11M from Pasha – Implementation June-2016 through the end of the year.

- Electric Yard Tractors (new & retrofitted)
- Electric Top Handlers (new & retrofitted)
- Solar Power Microgrid and Battery Storage
- Electric Dray Trucks
- Vessel Exhaust Treatment Systems

Project implementation will start in June with the final design and construction of the solar-powered microgrid. Components include a 1.03 megawatt photovoltaic rooftop array, a 2.6 megawatt-hour battery storage system, “bi-directional” charging equipment that can receive as well as supply power, and an energy management control system.



LEED AND MULTI-USE...CONNECTING PEOPLE WITH THE PORT

Kennedy/Jenks Consultants

MANAGEMENT of CHANGE, COMPLIANCE, & OWNERSHIP



Kennedy/Jenks Consultants

STEWARDSHIP, COMMUNITY, OUTREACH



Kennedy/Jenks Consultants



Innovation, Stewardship, Workforce
Automation & Operational Efficiency
Management of Change
Stewardship, Community, Outreach



Sustainability Programming - Opportunities at U.S. Ports

June 1, 2016

Heather L. Wood

Ports & Maritime Market Sector Leader

Kennedy/Jenks Consultants