

# Sustainability at Ports

**Presentation to  
AAPA  
Spring Conference**

**Matt Goldman, P.E.  
Weston Solutions, Inc.**



March 19, 2007  
Washington, DC



# Sustainability/Sustainable Development



- Starting to be recognized in the mainstream as a well-defined concept and potential objective
- Most widely used definition:  
*“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”*  
*Our Common Future (Brundtland Commission)*
- AAPA needs to create a framework that is meaningful for ports

# Presentation Outline



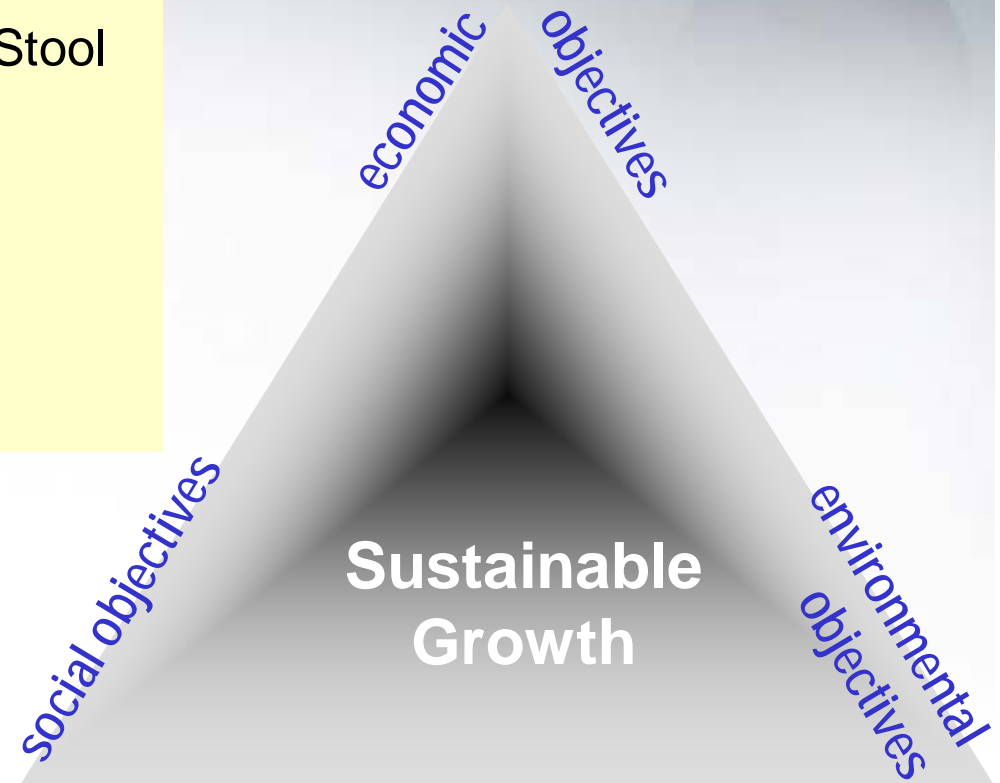
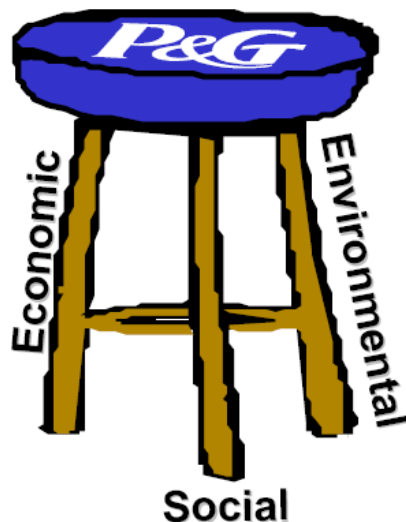
- Overview of sustainability concepts
- Business case for sustainability
- Key sustainability drivers and trends
- Public and private sector examples
- Using EMS as a tool for moving forward
- Conclusions



# Practical Interpretation of Sustainability



- Numerous conceptual frameworks
- Triple Bottom Line/Three-Legged Stool
  - Economics/profits
  - Environment/ecology
  - Social/community/people
- Key concept is to achieve balance between these three objectives



# Sustainability Principles Being Applied by Port Authorities



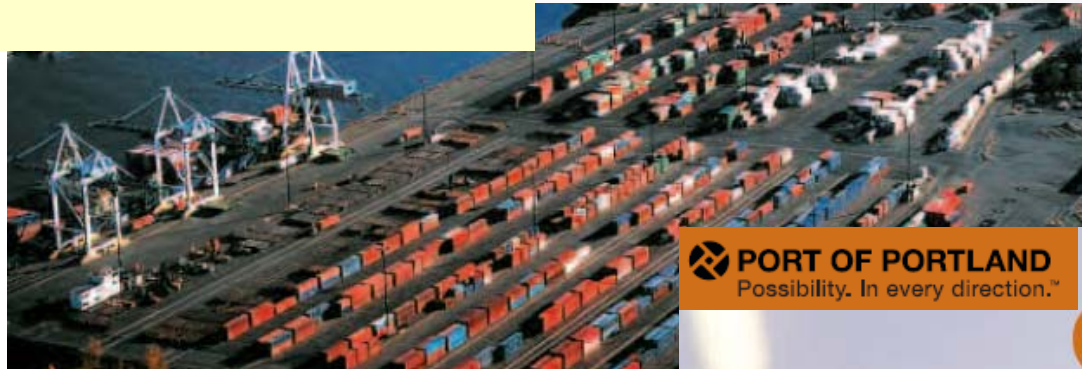
MASSPORT VISION - SUSTAINABILITY



ENVIRONMENTAL MANAGEMENT POLICY



ENVIRONMENTAL MANAGEMENT SYSTEM



 **PORT OF PORTLAND**  
Possibility. In every direction.™

Sky

Energy Conservation and  
Sustainable Electricity Purchases

# Business Case for Improved Sustainability



- Varies significantly from organization-to-organization
- Increased revenue
- Improved relationship with key stakeholders
- Reduced risk – financial and environmental
- Enhanced access to capital
- Enhanced long-term viability of operations
- Reduced costs for operations
- Improved employee productivity
- Enhanced brand image
- Improved recruitment and retention of employees





# Sustainability Encompasses a Wide Range of Issues



**Global Reporting Initiative**  
**Climate Change**  
**Product Stewardship**  
**LEED**  
**Recycling**  
**Stakeholder Engagement**  
**Renewable Energy**  
**Smart Growth**  
**Corporate Social Responsibility**  
**Sustainability Reporting**  
**Ecosystem Restoration**  
**Biofuels**

# Key Sustainability Drivers/Trends Applicable to Ports



- Stakeholder engagement
- Increased transparency
- Greenhouse gas/carbon management
- Resource efficiency
- Green buildings/facilities
- Environmentally preferable purchasing





# Stakeholder Engagement



- Increased stakeholder engagement is common to virtually all sustainability programs
- Engagement increases in quality (type of information exchanged) as well as quantity (number of stakeholders engaged)



# Stakeholder Engagement – Thames Water



- Example of more formal and extensive stakeholder engagement being done by public agencies overseas
- Engagement covers wide range of stakeholders
- Often one of the early steps in improving sustainability

Stake holder	Engagement processes
Government and Regulators	We are in regular contact with DEFRA and our regulators; OFWAT, Environment Agency, Drinking Water Inspectorate, English Nature and English Heritage on technical and strategic issues.
Customers – Domestic	Our customer call centre is open 24 hours a day, 7 days a week. Our staff are trained to respond to customers in a professional manner, and we have targets to measure the efficiency and effectiveness of our response. We also keep customers informed on operational issues, for example, by issuing notices of interruptions to supply and of restored supply.
Customers – Business	Key Account Managers are assigned to our larger business customers to act as the primary channel for communication and for ensuring our service meets the customer's needs.
Employees	Our employees are critical to the success of the business. Formal and informal mechanisms are in place to give employees the opportunity to engage in dialogue, from one to one meetings with line managers to roundtable meetings hosted by the Managing Director.
Unions	We work in partnership with the Unions, fostering an open and transparent culture. Business and Union representatives have been working together to deliver a Partnership in Progress initiative designed to embed the partnership ethos into the organisation.
Local Government and Local communities	Our catchment covers 94 local authorities and we work with them and the local communities on a wide range of strategic and operational issues such as streetworks, interruptions to supply and restored supply. We have a team of Local Government and Community Executives who are dedicated to engaging with local stakeholders and to identifying and resolving problems.  We also seek opportunities to improve the quality of life in our local communities through involvement in and sponsorship of community initiatives, and access and recreation on our land and reservoirs.
Non Governmental Organisations (NGOs)	We believe in establishing a dialogue with organisations that have a particular interest in our activities, such as the Wildlife Trusts and this has helped build constructive relationships.
Business Organisations	We are members of a number of business organisations for example London First and the CBI. We are also a member of Water UK, the trade association for the UK water industry.
Suppliers	We operate partnering trading agreements with the majority of our suppliers, the aim of which is to foster fair, longer term, stable business relationships.

# McDonald's Stakeholder Engagement



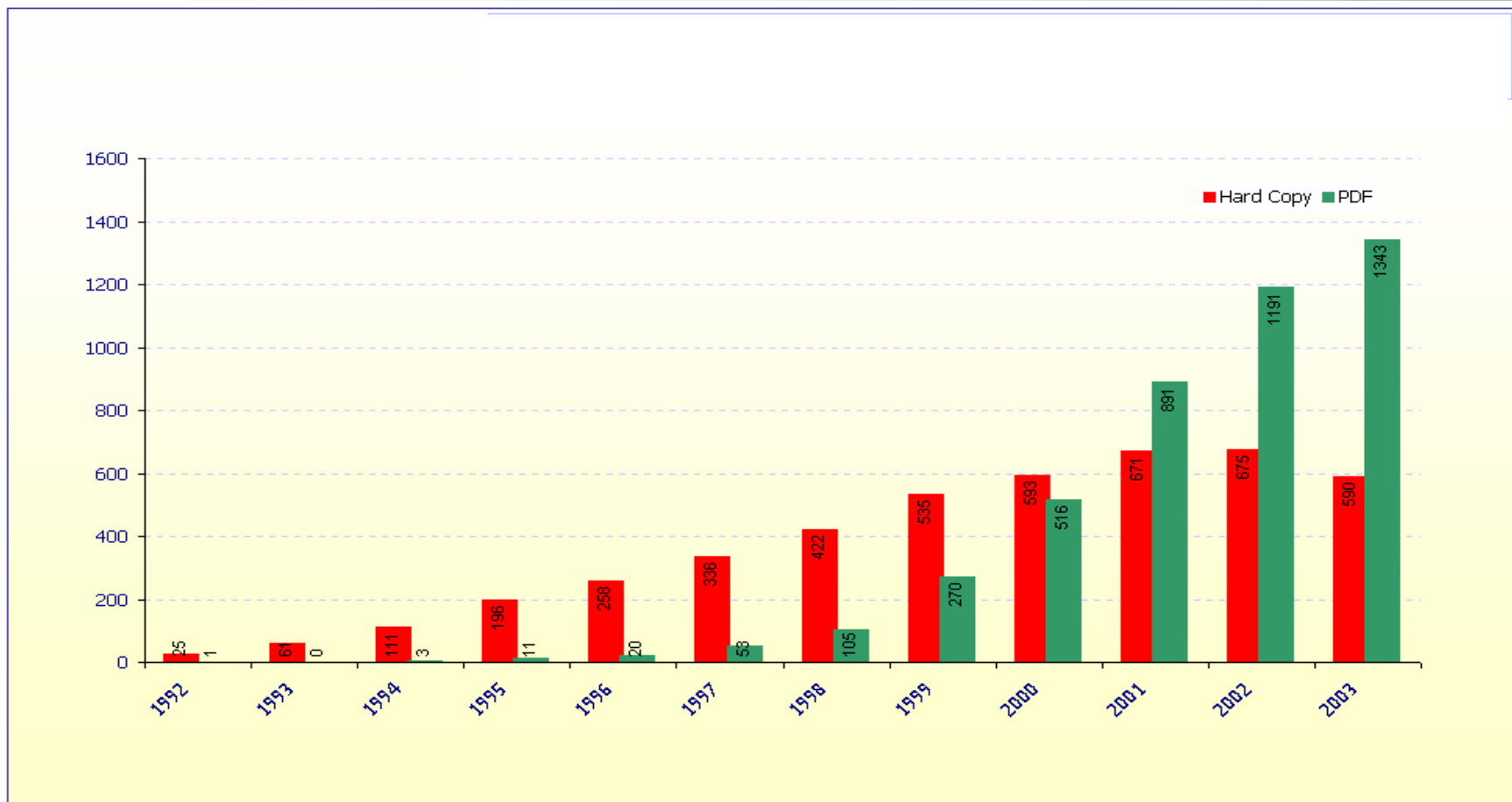
- Extensive partnering with NGO's – EDF, Greenpeace
- Started with solid waste, now covers every aspect of business
- Ban on beef and soy products from rainforest

# Increased Transparency



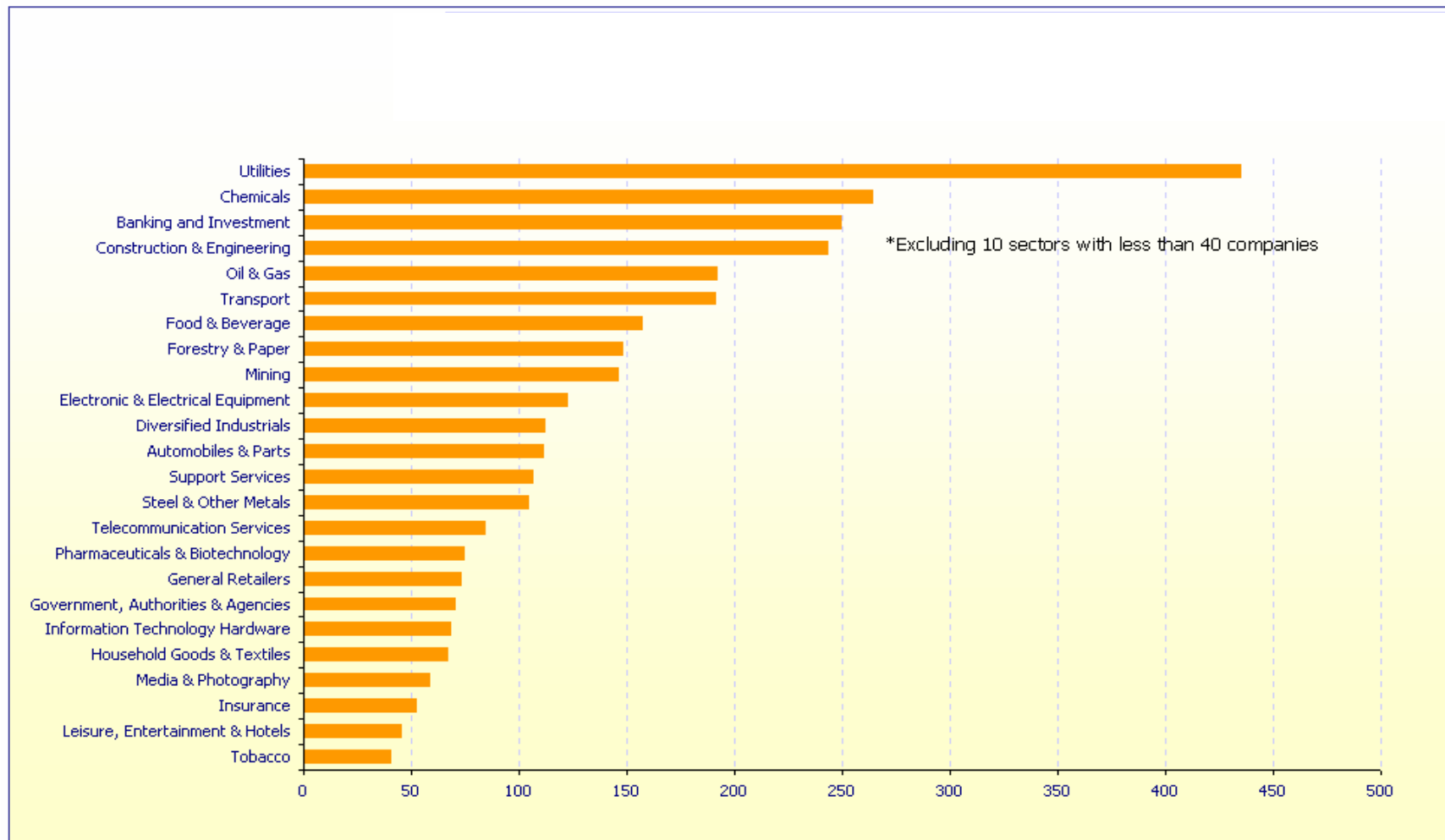
- Sustainability reports
  - Issued by an increasing fraction of Fortune 500 companies
  - Starting to be issued by public agencies
- Web-based reporting
  - Used to supplement or replace sustainability reports
  - Focus on key stakeholder issues

# Trend in Sustainability Reports Issued





# Sustainability Reports by Sector

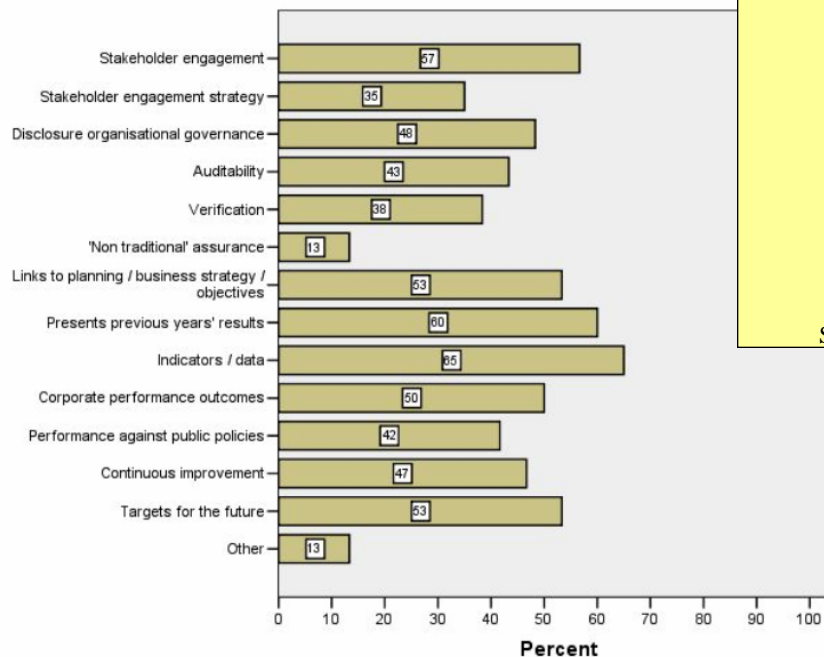




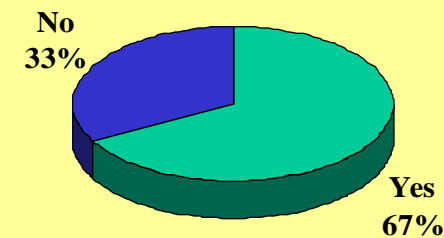
# Public Agency Sustainability Reporting



- Moving forward faster overseas
- Reporting emphasizes stakeholder engagement and strategy



**Percentage of Agencies Producing Sustainability Reports**  
(Primarily Australia)



Source: The Centre for Public Agency Sustainability Reporting

# Global Reporting Initiative



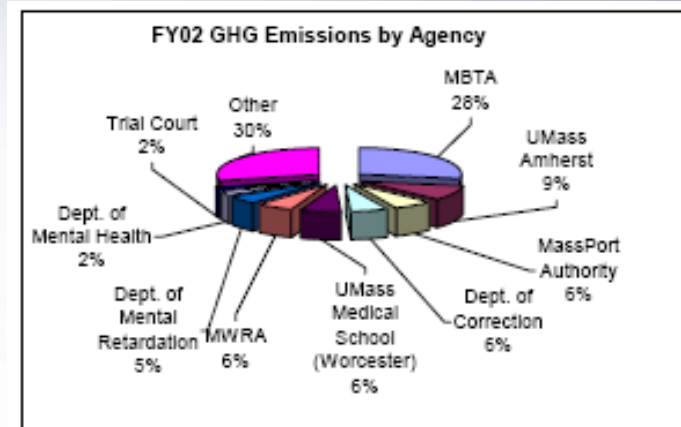
GRI seeks to harmonize and integrate



# Greenhouse Gas Emissions – Public Sector



- States are recognizing need to understand, manage and reduce greenhouse gas emissions associated with public sector
- Reporting is not as extensive as in private sector, but is expanding



# Greenhouse Gas Emissions – Private Sector



**Investor Network on Climate Risk**  
*Managing Climate Risk and Capturing Opportunities*

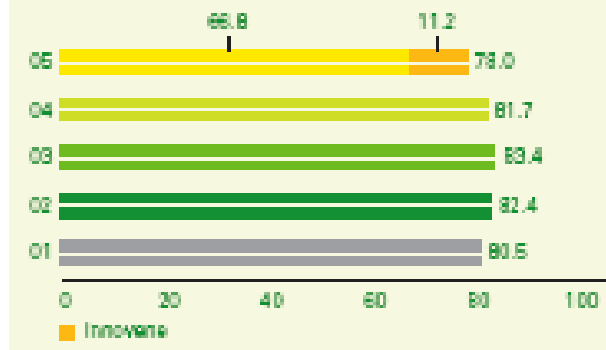


## Global Framework for Climate Risk Disclosure

A statement of investor expectations  
for comprehensive corporate disclosure

Significant pressure from investors to disclose greenhouse gas emissions and risks associated with climate change

**DIRECT GREENHOUSE GAS EMISSIONS<sup>a</sup>**  
(million tonnes CO<sub>2</sub> equivalent)



# Resource Efficiency



- Covers a wide range of topics and means different things to different organizations
- Three areas of significant activity:
  - Energy/water conservation
  - Alternative fuels
  - Renewable sources of energy

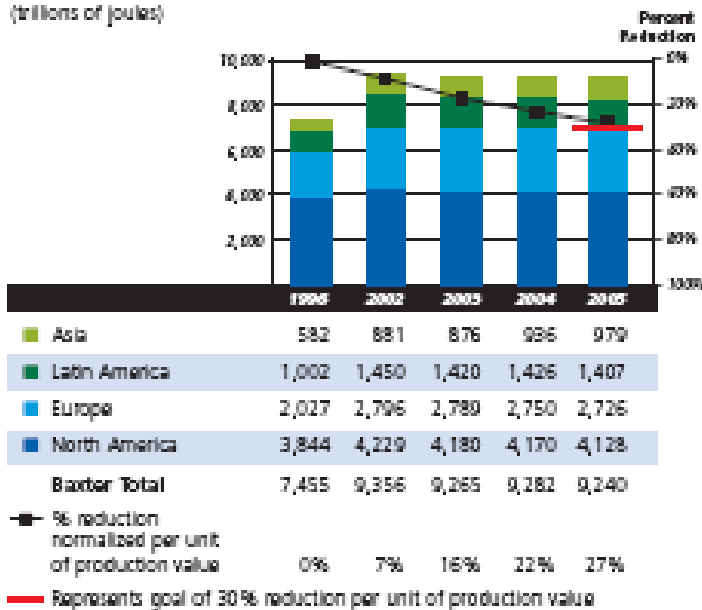


# Energy/Water Conservation – Private and Public Sector Examples



## Baxter Sustainability Report

Energy Usage from Baxter Operations<sup>1</sup>  
(trillions of joules)



## Port of Portland Annual Environmental Report

Conduct three building energy audits at Port facilities and implement viable energy conservation projects

### ● COMPLETED

Identified energy conservation opportunities through retrofit evaluations and incentives, and implemented projects. Lighting controls installed under the Concourse Connector, Oregon Market and security upgrade projects will result in a 31 percent annual energy use reduction in these areas. Continuing to evaluate potential energy savings for hanger retrofits at Troutdale Airport and exploring energy conservation incentives for PDX tenants.

- Amenable to highly quantitative goals
- Frequently included in sustainability reports
- Increasingly tied to greenhouse gas emission reduction goals



# Green Buildings/Facilities



- A subset of sustainability that is a world onto itself
- An area where public and private sectors are both advancing rapidly
- LEED certification most common demonstration of “greenness”, but there are other standards and approaches



# Ford's River Rouge Plant



- Largest green roof – 10.4 acres
- Photovoltaics
- Solar hot water
- Porous parking surfaces



Rebecca Cook



# Logan Airport Terminal A



- First LEED certified terminal
- Daylighting
- Recycled materials
- Water conservation
- Reflective roof



# Environmentally Preferable Purchasing

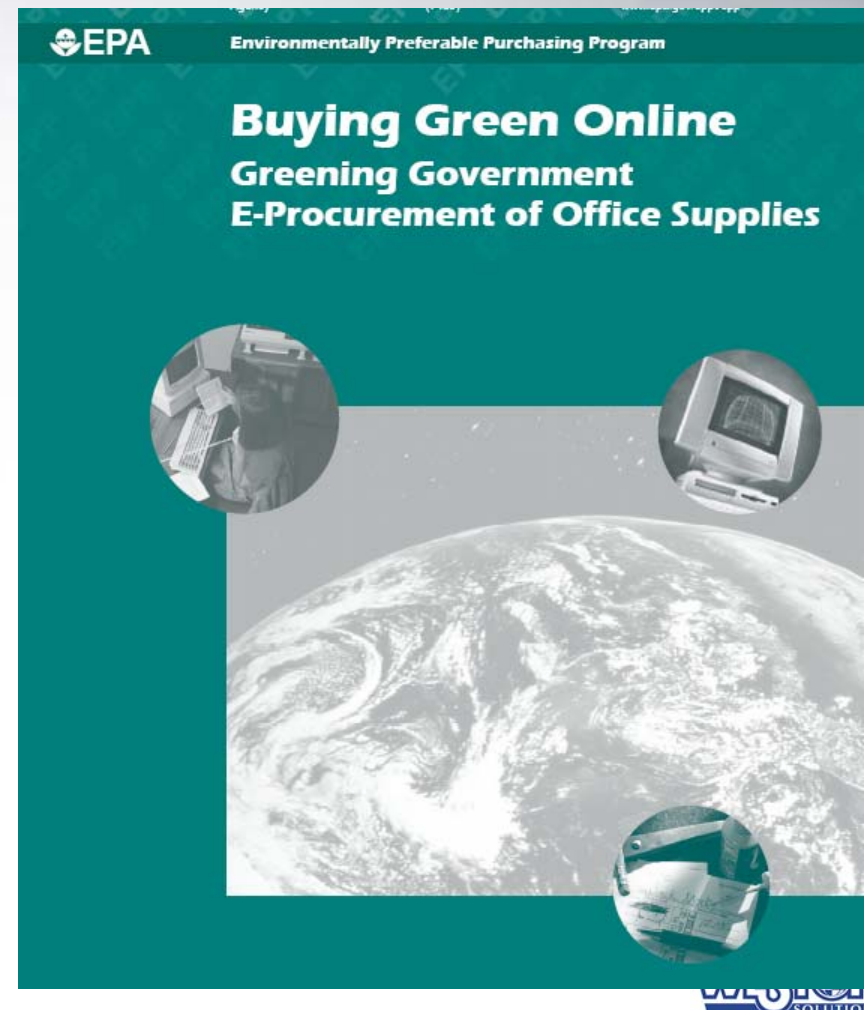


- Started with recycled content
- Expanded to consider all environmental impacts of products purchased
- Many programs in-place for years
- Public sector adopted earlier than private sector
- Used in private sector to push change through supply chain

# Federal EPP Program



- Virtually every federal agency participates to one degree or another
- Have attempted to integrate environmental criteria directly into purchasing process





# Environmental Purchasing Requirements – Automotive Industry



				Types of Requirements									
Company	Name of Specification	Reference Number	Date of Latest Revision	Material Restrictions	Material Prohibitions	Restricted Materials	Reporting of Total Composition	Reporting of Recycled Content	Reporting of Recycled Content Requirements	Recycled Content Analysis Required	Recyclability	Marking of Polymeric Parts	Notes/Comments
Ford	Engineering Material Specification: Restricted Substance Management Standard	WSS-M99P9999-A1	13-Feb-03	X	X	X	X	X				X	Applies to Jaguar, Aston Martin Lagonda, Volvo, Land Rover and Mazda
GM	Material Specification, General: Restricted and Reportable Substances for Parts	GMW3059	1-Aug-02	X	X	X	X				X		
DaimlerChrysler	Environmental, Health and Occupational Safety Requirements for Regulated Substances or Processes and Product Recycling Reporting Requirements	CS-9003	8/14/1999; Change E	X	X	X				X	X		Applies to suppliers and sub-suppliers for vehicles designed for Chrysler or its subsidiaries for North American production or export
DaimlerChrysler AG	Supply Specification Negative Substance List	DBL 8585	1-Apr-02	X	X	X							Applies to DaimlerChrysler AG
Nissan	Nissan Engineering Standard - Substance Use Restrictions	NES M0301	2002	X	X								
Volkswagen	Environmental Standard for Vehicles, Vehicle Parts, Materials, Operating Fluids	VW 911 00	1-Aug-99	X	X	X							
BMW	Prohibited and Declarable Substances in Materials and Compounds	GS 93008-1	1-Jul-02		X	X							References VDA 232-101 and VDA 231-106, which contain the lists of compounds and specific requirements.
BMW	Prohibited Substances in Materials and Components	GS 93008-3	1-Jul-02		X	X							Not clear the difference between this standard and GS 93008-01, except that this explicitly lists prohibited substances
Toyota	Control Rules for Substances of Environmental Concern	TSZ0001G	1-Jan-03	X	X	X							

- Shows range of issues considered
- Certain substances restricted
- Certain content preferred

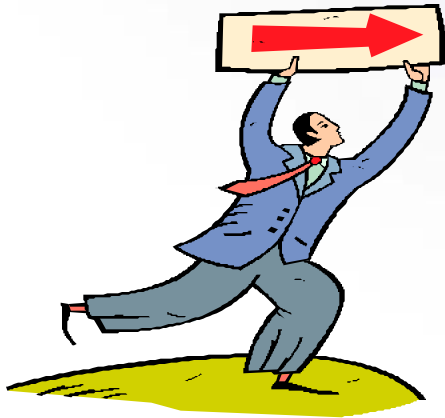


# Certain Sustainability Issues Apply Differently in Ports



- Level of control over operations
  - Many operational impacts are not directly controlled by port authorities
  - Leases and contracts become critical as tools for influencing operational impacts
- Globalization
  - Push for locally-sourced products can seem at odds with ports' role in facilitating global marketplace
  - Ports can play role in reducing transportation-related impacts of product

# How to Move Forward

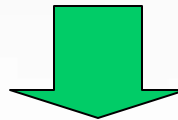


- Given the broad range of sustainability issues, it can be hard to prioritize how to move forward
- Environmental Management Systems can play a role in prioritizing issues and translating them into concrete goals and programs
- The cross-functional team approach used in EMS applies well to sustainability

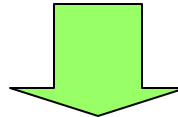
# Massport Vision and Role of EMS



MASSPORT VISION - SUSTAINABILITY



ENVIRONMENTAL MANAGEMENT POLICY



ENVIRONMENTAL MANAGEMENT SYSTEM

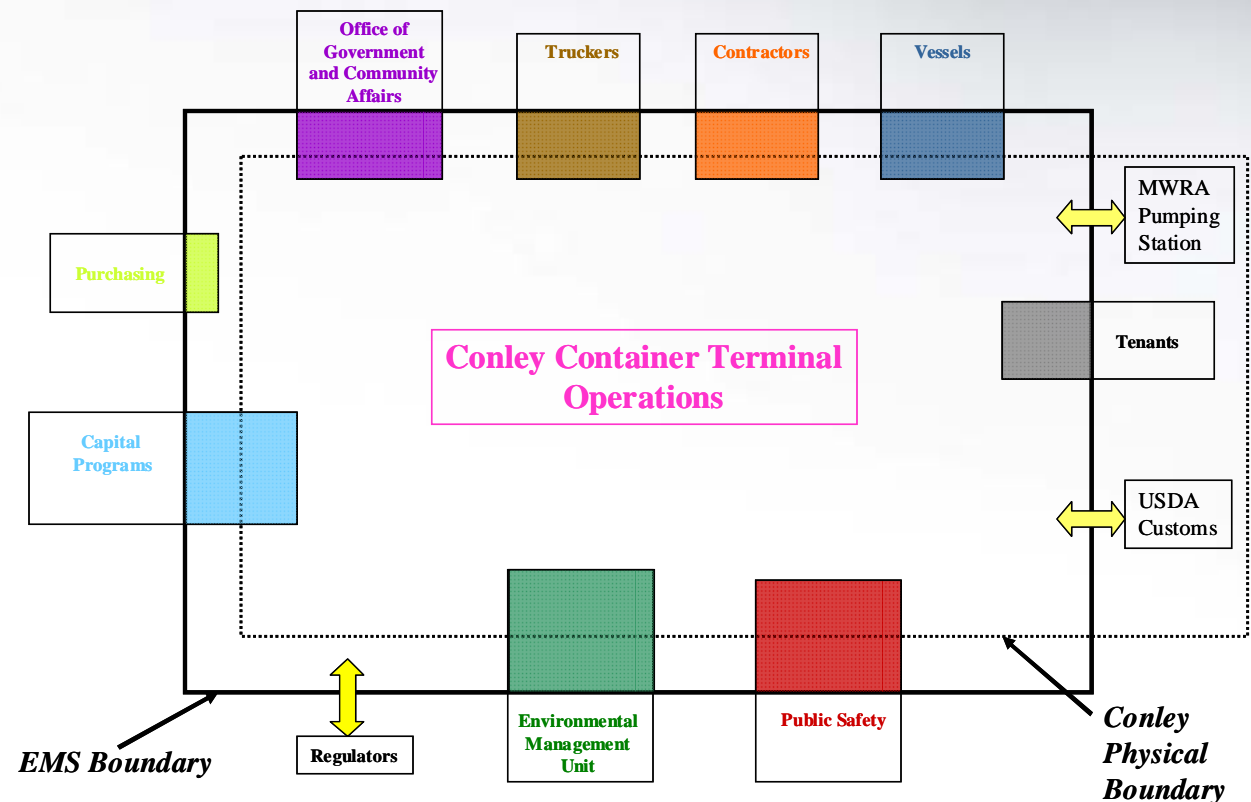
# Using EMS to Prioritize Sustainability Issues



# Using EMS to Analyze Tenant/Customer Operational Impacts



- EMS Boundary analysis can help identify areas where port can influence operational impacts
- Determine those areas of tenant and contractor operations that are outside control of port



# Conclusions



- Pressure to improve sustainability is increasing in both public and private sector
- Sustainability encompasses many topics, many of which you are already working on
- Many private-sector examples contain approaches applicable in port authorities
- Variability in ports means that even if a universal sustainability “framework” is adopted, programmatic results will vary from port-to-port
- EMS can serve as a tool to help prioritize and implement sustainability programs



# Conclusions



- The benefits available to ports through increased sustainability include:
  - Easier access to capital
  - Reduced financial and environmental risk
  - Improved public image
  - Enhanced ability to maintain “license to operate” in face of opposition
  - More efficient approval of regulatory permits

# Thoughts to Consider As AAPA Considers Sustainability



- What are you already doing that could fall within the umbrella concept of sustainability?
- How can sustainability be linked to existing strategic goals to increase its value and chances for success?
- What key stakeholders do you need to engage (internally and externally) to understand sustainability drivers that apply to your port?
- What will be your metrics for success?



# Contact Information



Matt Goldman, P.E.  
Weston Solutions, Inc.  
Matt.Goldman@westonsolutions.com  
617-484-1837