

Port of Baltimore Strategic Vision: Making a Business Case for Sustainability



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The MDOT Maryland Port Administration

Our mission:

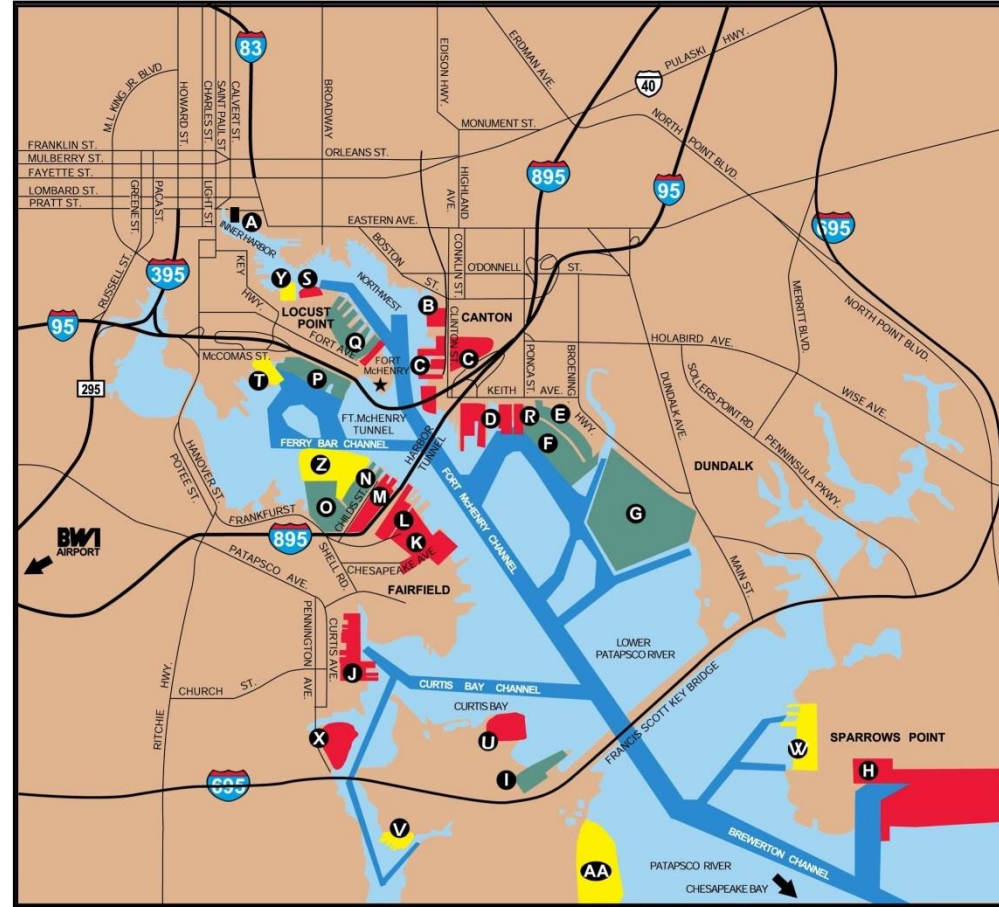
To increase the flow of waterborne commerce through the State of Maryland in a manner that benefits the citizens of the State.

To fulfill this mission, the MPA partners with a variety of stakeholders that help make the Port of Baltimore work, including our neighboring communities.

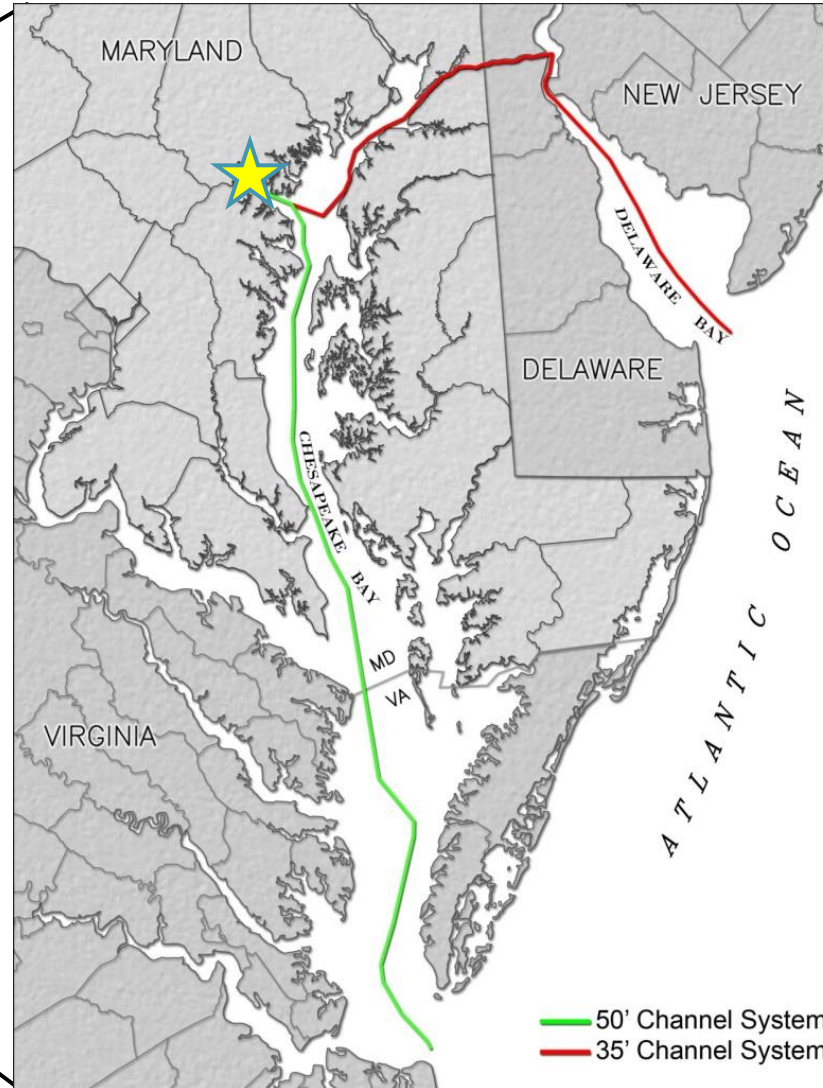


The Port of Baltimore is a complex mix of Private and Public terminals....

- 45 miles of waterfront facilities and industries.
- 23 private facilities handle nearly all of the bulk commodities.
- Six MPA public terminals handle over 90% of the general cargo.



Baltimore has a great maritime history due to its inland location, which brings advantages and disadvantages.



The Port of Baltimore is a growing, diverse, and nationally significant port.



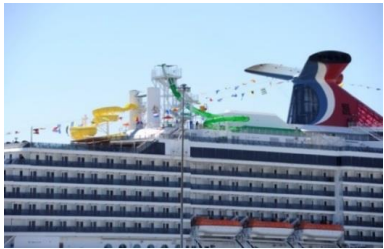
- #1 in Autos and Roll-on Roll-off Heavy Ag, Construction & Mining Equipment.
- #1 in imported Sugar and Gypsum
- #2 in exported Coal.
- #9 in the U.S. in the value of foreign cargo.
- #11 in the U.S. in foreign cargo tonnage.



The Port of Baltimore is a growing, diverse, and nationally significant port.

➤ **The Port generates over 37,000 jobs:**

- 15,330 direct jobs
- \$3.3 billion in wages and salaries,
- \$395 million in state and local tax revenues annually.
- The Port's average annual salary for direct job holders is 9.5% higher than the statewide average annual wage.

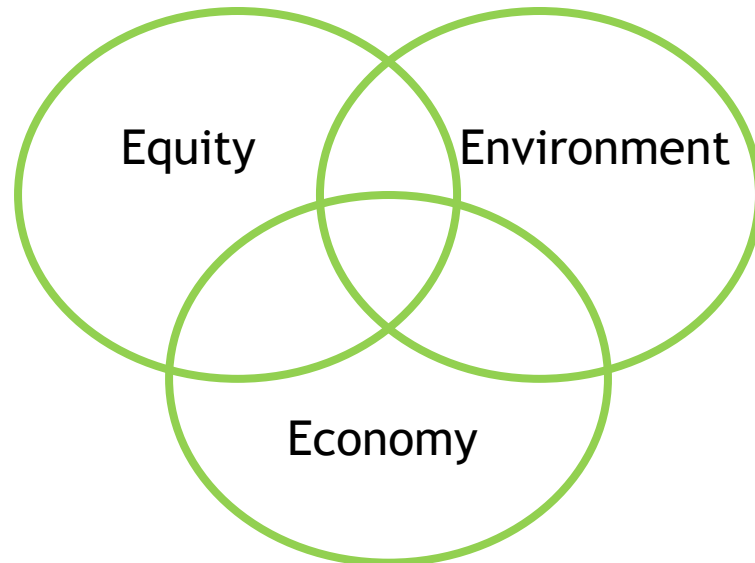


What do We mean by Port sustainability?

Sustainability has generally been defined as:

“Meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

(Report of the World Commission on Environment and Development, Jan 10, 2008)



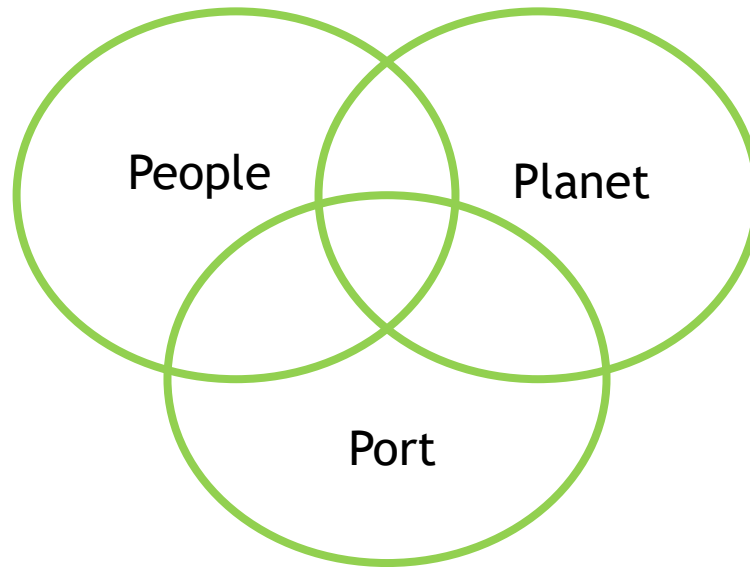
3 E's of Sustainability



What does sustainability mean for MPA?

Sustainability for the MPA is about preserving the future of the Port and the ability to accomplish our mission, without harming the environment, or the people who depend on what we do.

3 P's of Sustainability for MPA



Why Does Port Sustainability Matter?

Sustainability is where the world's industries are heading.

Maritime trade and logistics is no exception.

Global corporations, including all of our major customers, are recognizing the need to be more sustainable.

Sustainability is becoming increasingly important to communities and citizens.



Why Does Port Sustainability Matter?

Being sustainable is one of nine goals in MPA's Strategic Plan:

- ▶ Be a local and national leader in environmental stewardship and sustainability

Port Sustainability is also the foundation of several other goals in our Strategic Plan:

- ▶ Advocate for excellent inland access from all Port terminals to the national interstate and freight rail networks.
- ▶ Ensure safe, competitive and efficient navigation channels and adequate dredged material placement capacity.
- ▶ Preserve and enhance landside infrastructure necessary to increase cargo capacity.
- ▶ Be recognized as a “Good Neighbor” to adjacent communities and the region.



Why Does Port Sustainability Matter?

Being sustainable allows us to **maintain our efficient operations** (“license to operate”), serve our customers needs, and **creates “political capital”** necessary to expand and seek **additional funding** for key projects.



Why Does Port Sustainability Matter?

It matters to MDOT...

The MPA is not an independent authority, we are a transportation business unit under the umbrella of MDOT, and we compete for capital dollars with highways, transit and the airport.

In 2019, MDOT issued a draft sustainability policy:

Vision for a Sustainable Multimodal Transportation System

- ▶ A sustainable multimodal transportation system maximizes the efficacy of investments and supports current and future generations by enhancing community quality of life, improving environmental health, and enabling a robust economy. To advance sustainability, MDOT will integrate sustainability in business processes, implement a performance management approach, and leverage innovative resources.
- ▶ **Framework to Realize the Vision includes 5 pillars:**
 - ▶ Community Quality of Life (People)
 - ▶ Environmental Health (Planet)
 - ▶ Robust Economy (Port)



Making the Case for Why Sustainability Matters to Senior Executives and Decision Makers

How do we get port leaders to incorporate sustainability into their thinking and ultimately to their everyday work, and the work of their staff members?

Quarterly Strategic Thinking Sessions (STS)

- Annual Session on the State of the Economy from an outside economist

Other STS Topics:

- Sustainability
- Being a Good Neighbor
- Environmental Management System
- Competitive Ports
- Climate Change and Resilience

Future Topics:

- Technology, Digitalization, and Electrification at Ports
- Workforce Development



Why Does Port Sustainability Matter?

In 2018, PAC took delivery of 6 new RTGs from Kalmar at our container terminal.

At an STS, we showed this video of Kalmar's vision of the future of logistics in 2060



Why Does Port Sustainability Matter?

At first glance the future portrayed may seem like science fiction.

BUT Think about the technology featured in the video.

- Touch Screens
- Offshore Wind Power
- Wireless “Internet of Things”
- Data Integration
- Hyperloop
- Automated Terminal Equipment
- Automated container vessels
- Predictive Maintenance
- Artificial Intelligence
- 3-D Printing
- Drones
- Video Projection
- Video Conferencing
- Remote Equipment Monitoring
- Automated Inventory Positioning

All of the technology already exists... Today.



Why Does Port Sustainability Matter?

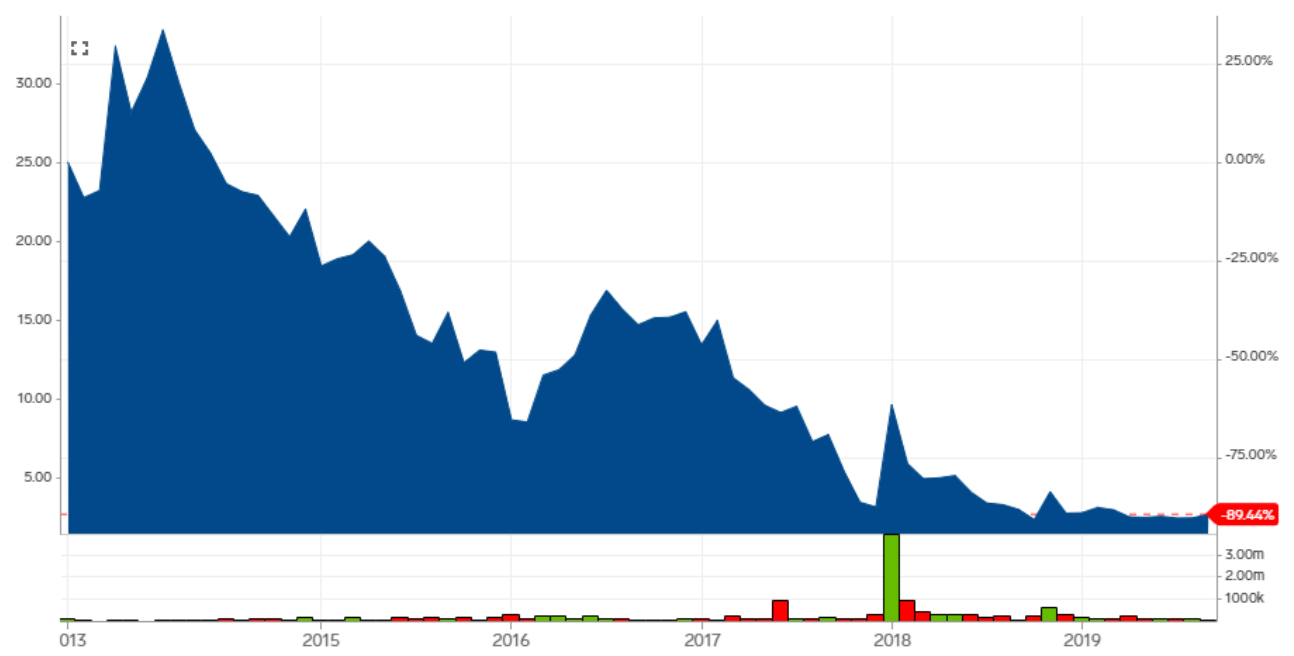
“When you’re talking to a bunch of corporate guys about 18-20 years in the future, when none of those guys will still be in the company, they don’t get too excited.”
Steven Sasson, 1978



2.55 USD 0.02 (0.79%) 02:55:15 PM EDT BTT

Prev. Close	2.53	Market Cap (USD)	109.85 M	Day Low	2.50	Day High	2.55	52 Week Low	1.89	52 Week High	4.41
Open	2.51	Volume (Qty.)	1,301								

INTRADAY 1W 1M 3M 6M YTD 1Y 3Y 5Y 10Y MAX INDICATORS CHART OPTIONS



GO IN-DEPTH ON EASTMAN KODAK STOCK



Why Does Port Sustainability Matter?

It matters to our customers and our communities.

For example, the following Companies are currently designing and testing automated and/or emission free cargo vessels and/or trucks:

- Mercedes
- Rolls Royce Holdings
- NYK
- Wilhelmsen
- Wartsila
- Kongsberg
- Tesla
- Uber
- Google

“This is happening. It’s not if, it’s when. This work supports the development of remote controlled and autonomous vessels and will enable proof of concept demonstration ... We will see a remote controlled ship in commercial use by the end of the decade,” said Oskar Levander, VP of innovation at Rolls-Royce Marine.



Why Does Port Sustainability Matter?

It is our responsibility today, to make sure we are doing everything possible to position the Port of Baltimore for survival over the next 20-30 years...

Sustainability is our legacy.



Why Does Port Sustainability Matter?

The Climate is Changing and Marine Terminals are water dependent. *They have to be located on the water to function, and are therefore vulnerable to the impacts of Climate Change and Sea Level Rise.*



~7.5 foot Storm Surge from Hurricane Isabel, 2003



Why Does Port Sustainability Matter?

Technology is rapidly changing our industry.

We need to think about the future, to compete and survive.

- Technological change is coming to the shipping industry.
- Data Analytics, Digitalization, Internet-of-Things, Automation, Electrification – these technologies and more will be a big part of that change.
- We need to start preparing for future technologies and change TODAY.

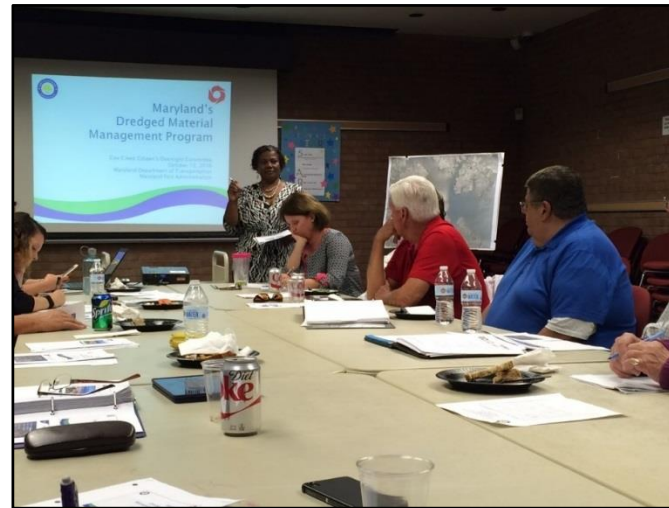


Why Does Port Sustainability Matter?

It matters to our customers and our communities.

The Port's long-term success is dependent on stakeholder engagement and support.

- The strong relationship between the Port and our neighbors is a product of years of relationship building.



- The Port has learned from past controversies that Stakeholder Engagement and Partnerships are crucial.



Why Does Port Sustainability Matter?

It matters to our customers and our communities.

Program Schedule – PORTCC x LAI Baltimore Annual Meetin x DHCD Framework Septembe x Homepage | Annual Meeting x Shipping Sustainability | Wal x

2wglobal.com/about-us/ww/sustainability/

Responsible Logistics

Ethics & Governance Environmental Frontrunner Responsible Employer Community Engagement


Sustainability

We practice Responsible Logistics. Our company history goes back centuries, and we plan to continue to contribute to the global logistics industry for centuries to come. We have a responsibility towards our customers, towards the communities in which we live, and towards one another in the company.

Responsible logistics


Environmental frontrunner

We believe the best way to reduce environmental risks and cost is to be an environmental forerunner. To remain true to this course, we have developed a 5-part strategic framework.




Ethics and governance

Wallenius Wilhelmsen is committed to fair competition and has a far-reaching Compliance Program.




Responsible employer

We provide employees with a safe.



Community engagement

Our business is global, and we engage

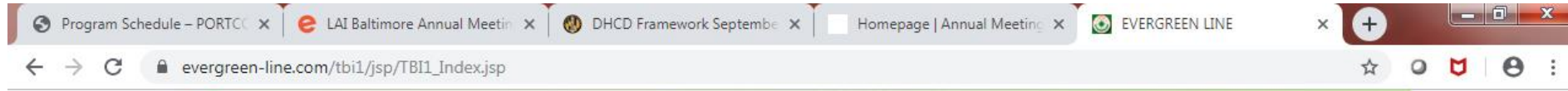


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Why Does Port Sustainability Matter?

It matters to our customers and our communities.



English | 繁體中文 | 简体中文

Industry Sustainability

- Philosophy
- Green Ships
- S-Type
- L-Type
- B-Type NEW
- Preserve Our Environment
- Future Development
- Our Awards and Press Release
- Membership in Green Organization
- Corporate Social Responsibility

CO2 & Environmental Statistics

- Environmental Project
- Shipboard Equipment
- Shoreside Facilities
- FAQs

Our Vision

"We will not wait for legislation to be introduced. We will use the latest technology as soon as it is available so as to minimize the impact of container shipping operations both on marine life, on port communities and on humanity worldwide."

Dr. Y. F. CHANG, FOUNDER OF EVERGREEN GROUP

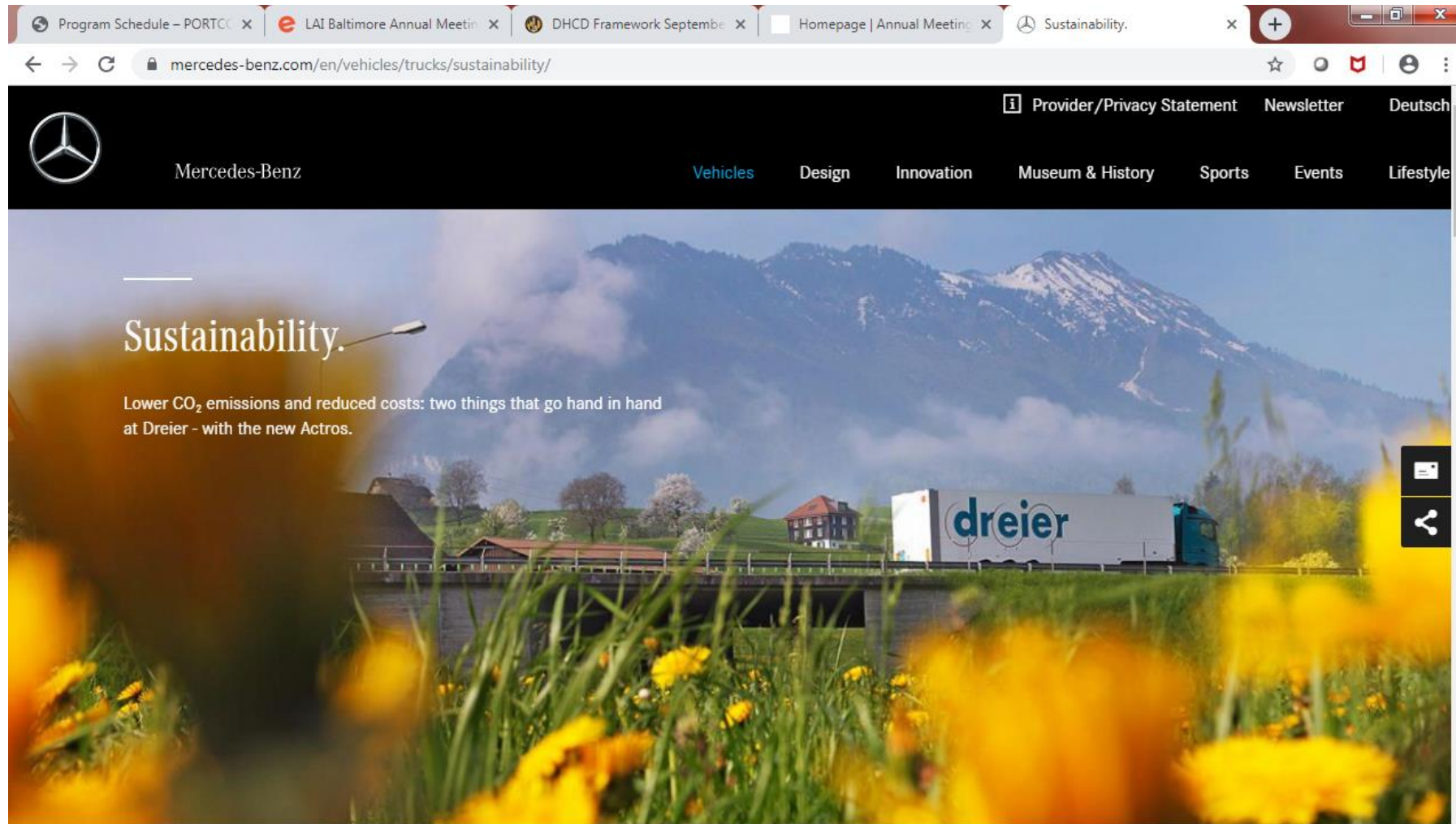
Evergreen has been in the forefront as the international trade and transportation industry works to develop the foundation for a sustainable global container transportation system – environmentally, socially, economically and commercially responsible and viable. We recognize the obligation to conduct affairs as a constructive corporate member of society and established an occupational Safety, Quality and Environmental Protection Management System for our cargo ships (Container Carriers) and our shore-based personnel.

It is estimated that every year more than 2 million sea birds and 100,000 marine mammals die from waste materials discarded by humans. Rain forests, home to many precious species, are shrinking at an alarming rate of 10 million hectare per year. In view of this depletion of natural resources and exploitation of the environment, governments and protection groups have been calling the world's attention to these serious problems. They are also trying to stop the worsening situation through binding agreements and regulations.



Why Does Port Sustainability Matter?

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Why Does Port Sustainability Matter?

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Being a Good Neighbor

▶ Investing in Communities Creates “Win-Wins” for MPA and our Stakeholders

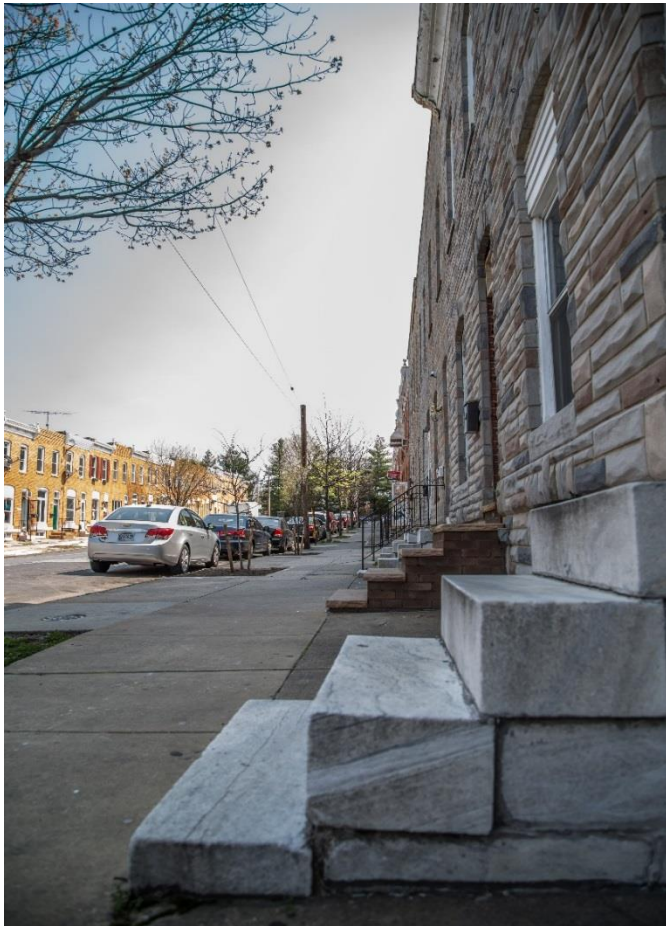
- ▶ Identify How we Can Help Each Other
- ▶ Create Partnerships that Support Mutual Priorities
- ▶ Mitigation Projects that benefit our Neighbors
- ▶ Community Cleanups and Volunteerism



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Urban Forestry Partnership



- Partnering with Blue Water Baltimore the MPA has planted over 1,000 trees throughout Baltimore City.



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Partnerships with Local Schools

Schoolyard Greening at Franklin Square Elementary



Schoolyard before asphalt removal



Green schoolyard with newly planted trees and garden

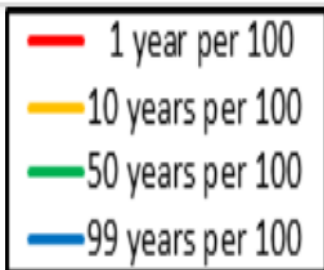
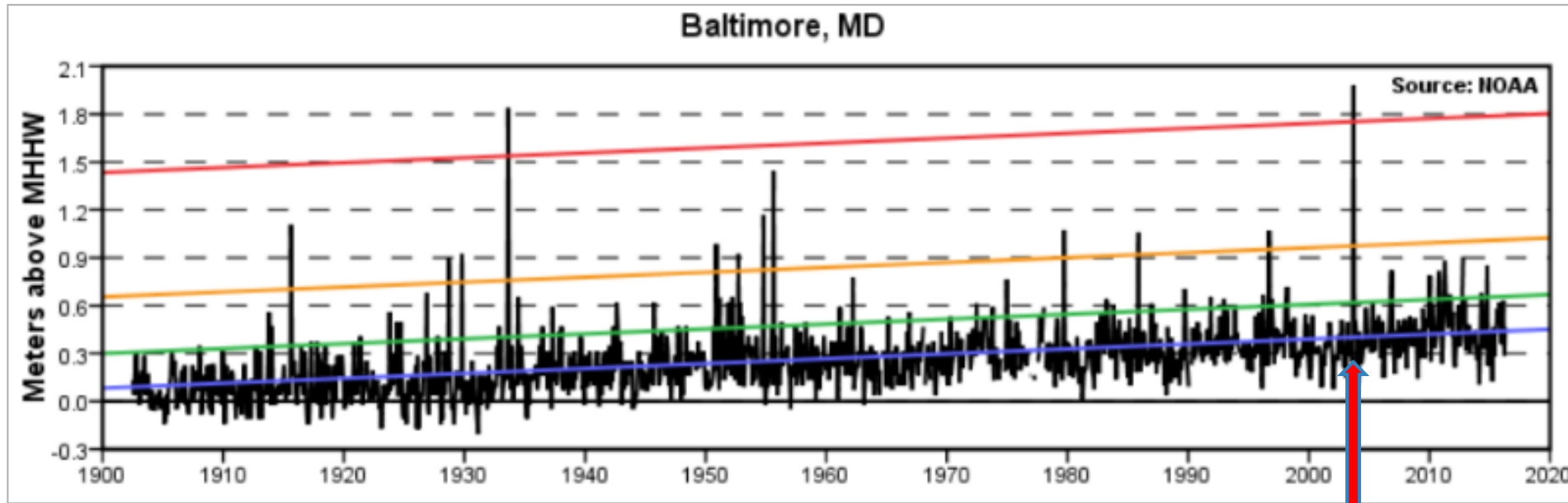


Volunteers from the Home Depot Corporation working in the Franklin Square Community



Climate Change Resilience is an important part of future Sustainability

To plan for future climate impacts we generally look at historical trends, climate change prediction models, and lessons learned from past events.



Historical Trends - High Water in Baltimore
1900 - 2017



Climate Change Resilience & Sustainability

Critical Vulnerability: Lessons from Hurricane Isabel

8 foot storm surge plus waves topped deck height at many of the Port's berths.

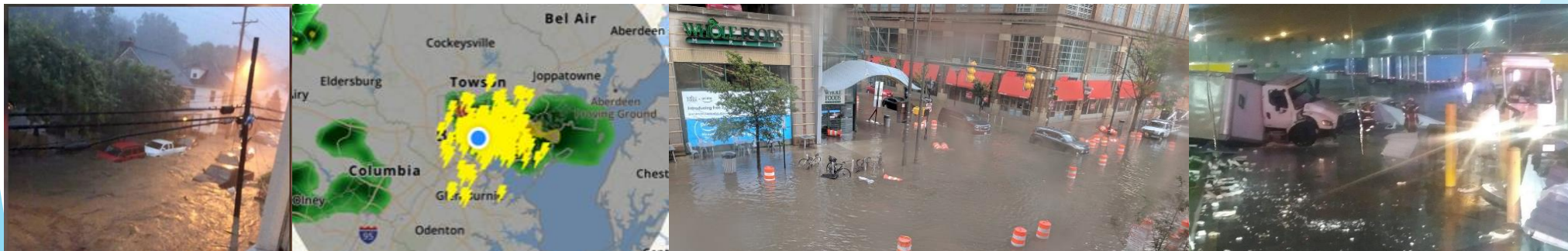


Climate Change Resilience & Sustainability

Climate Vulnerability: Flash Flooding & Extreme Rain Events

Old assumptions about climate and weather no longer hold... “new normal” is unpredictable and “not normal”

- Ellicott City Flooding; Two “1,000 year storms” in 2 years.
- August 2019 surprise thunderstorm with 65 mph winds dropped 5 in. of rain causing flash flooding, including the a Highway underpass leading to our largest Marine Terminals



Climate Change Resilience & Sustainability

MPA has prepared a Vulnerability Analysis and policy to prepare for Climate Change.

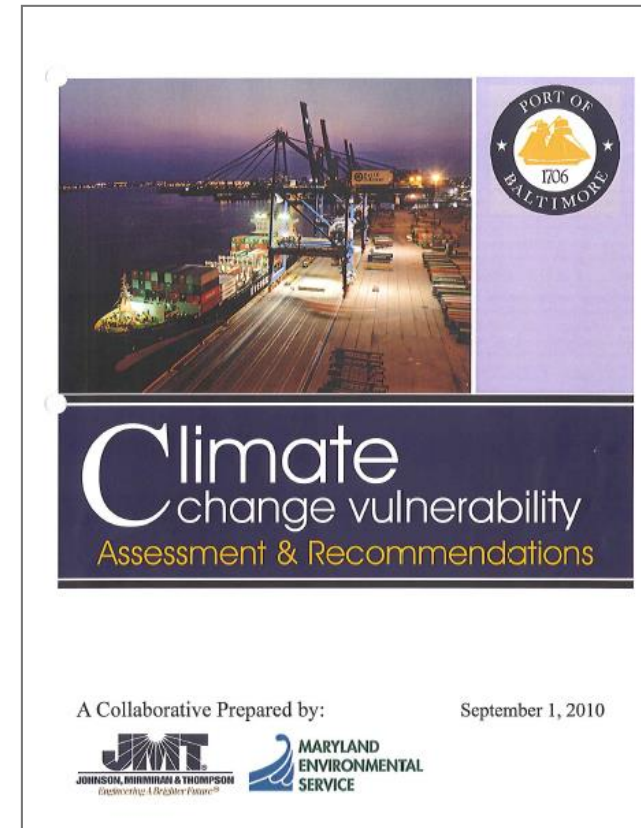
Strategic MEMO Approach:

Migrate (non-essential uses) out of flood prone areas;

Elevate new structures +2 feet;

Mitigate by strengthening essential uses in place; and

Operate with Climate Change plans, emergency management, and other contingencies.



Why Does Port Sustainability and Resilience Matter?

Discussion and Questions ...

- Will we be ready when the future arrives?
- How can Ports remain sustainable?
- What can we do today to start preparing for tomorrow?
- What do we need to do, to be ready to meet the future needs of our customers?



Discussion/Questions?



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