

Port Stakeholders Summit



Charting the Course:

Sustainable Emission Reduction Strategies at the Port of Long Beach

Rick Cameron, Managing Director of Environmental
Affairs and Planning
Port of Long Beach



Port of Long Beach

Premier gateway for U.S-Asia
trade, major Southern California
economic engine

The background of the slide features several green banners with white environmental graphics, including stylized leaves and arrows. One banner prominently displays the word "Environment" in white text. Another banner partially visible on the left shows the letters "En".

The Green Port

Long Beach leads the way in reducing impacts of Port operations with Green Port Policy and Clean Air Action Plan

Clean Air Action Plan



The Port of Long Beach Green Ship Award Program Fact Sheet

The Port of Long Beach  **LONG BEACH**
The Green Port

The Port's Green Ship Award Program rewards vessel operators for deploying today's greenest ships to the Port of Long Beach and accelerating the use of tomorrow's greenest ships.

The program is very simple. Vessel operators only need to register for the program to receive incentives. Eligibility and payments are determined based on ship data the Port already collects.

Vessels with main engines meeting Tier 2 or Tier 3 standards established by the International Maritime Organization (IMO) will be eligible for incentives ranging from \$1,500 to \$5,000 per ship call.

The Green Ship program's goal is to have, by 2015, 50 percent of all ship calls at the Port of Long Beach led from Tier 2 vessels and 40 percent from Tier 3, which will reduce NOx emissions from ships by 2,500 tons a year.

The Port will recognize the top performing shipping lines with a Green Ship Award acknowledging their commitments to environmental stewardship.

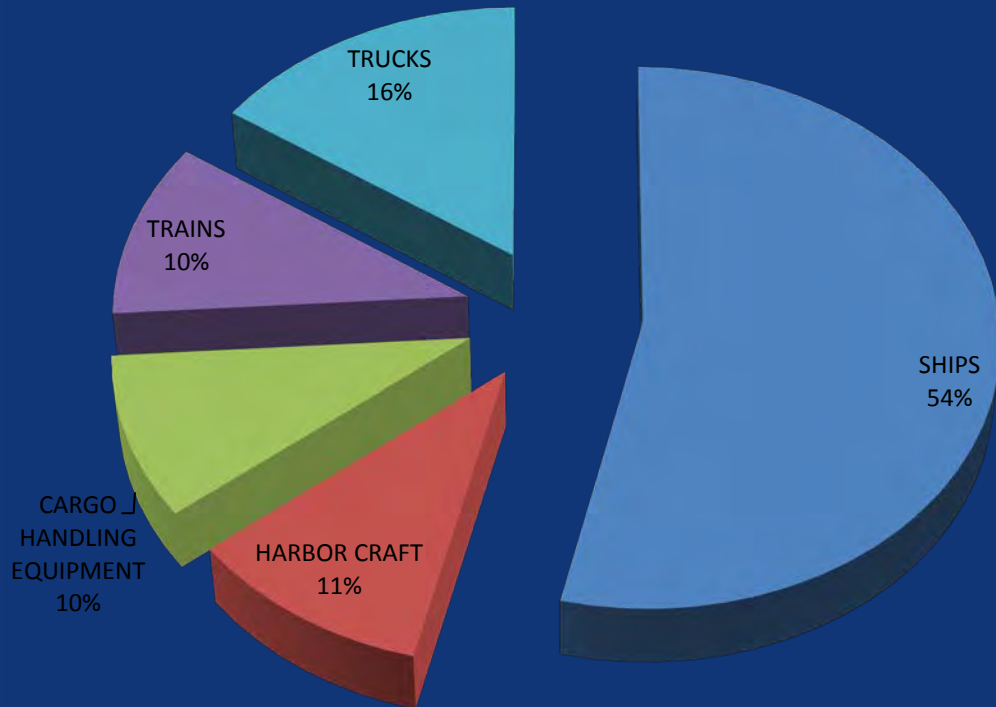
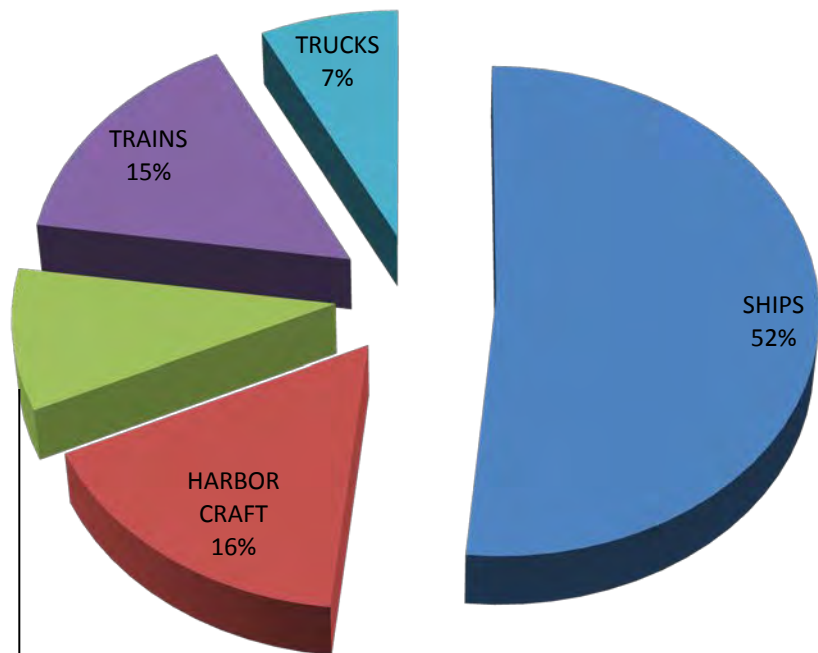
For registration and more information, visit www.polb.com/greenship. For questions, email greenship@polb.com.

The Port of Long Beach greatly appreciates the participation of its shipping lines in this important air quality program.

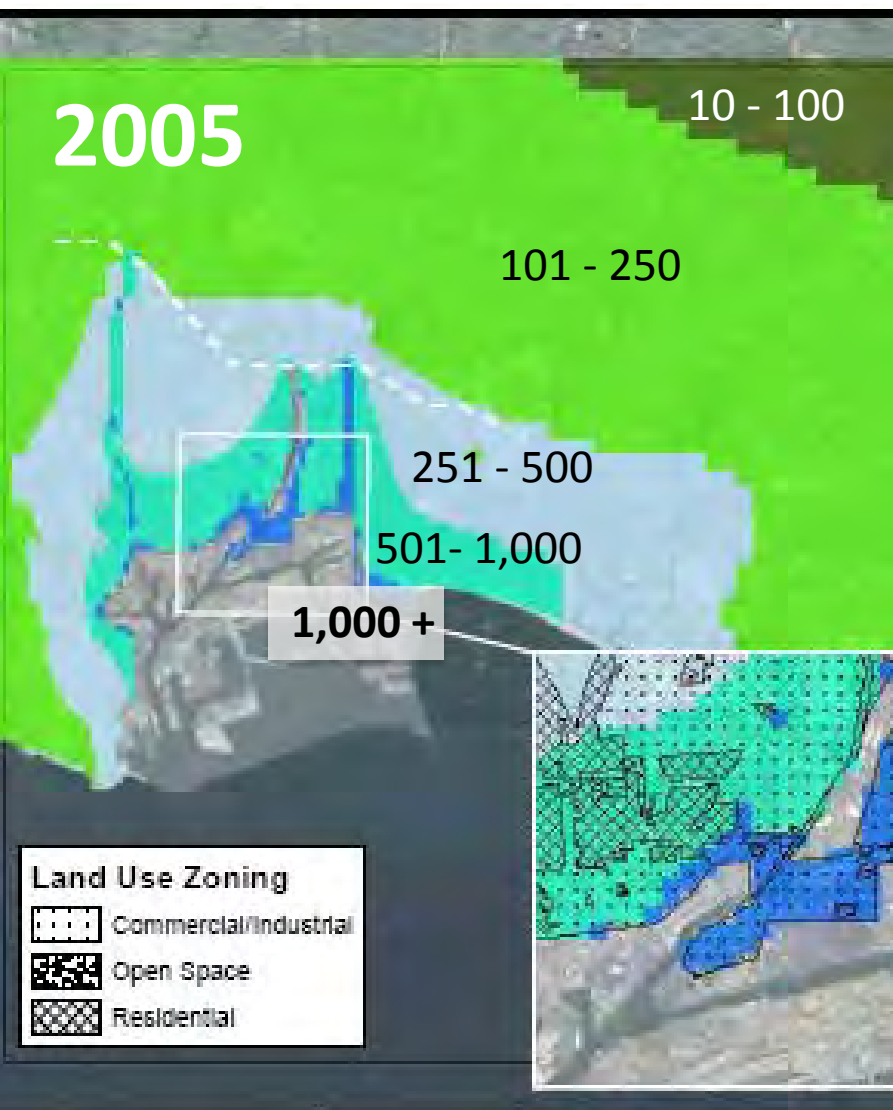
www.polb.com



2012 POLB/POLA NOx and DPM Emissions



Cutting the health risk



Diesel Particulate Matter:

Down

81%

Nitrogen Oxides:

Down

54%

Down

TEUs⁹:

10%

Green House Gases:

Down

24%

Sulfur Oxides:

Down


88%

2012 Emissions Inventory

Sustainable Strategies

- Collaboration
- Tailored approaches
- Requirements and incentives



An aerial photograph of a coastal city and port area. In the background, there are blue mountains under a clear sky. The middle ground shows a city with various buildings and a marina filled with boats. In the foreground, a large port facility is visible with several large gantry cranes and stacks of colorful shipping containers. A semi-transparent blue box is overlaid on the port area, containing white text.

Strategies:
Coordination Between Users
Economies of scale.
Improved resiliency.
Stakeholder outreach.
Federal and state financial support.
Technical expertise.
Legislative advocacy.



Clean Trucks

Port program replaced 11,000 vehicles, reducing truck emissions by 90%.



Slower Ships

The Vessel Speed Reduction Program prevents more than 1,000 tons a year of air pollution.

Green Ships

The Port gives financial incentives for ships with the cleanest engines.

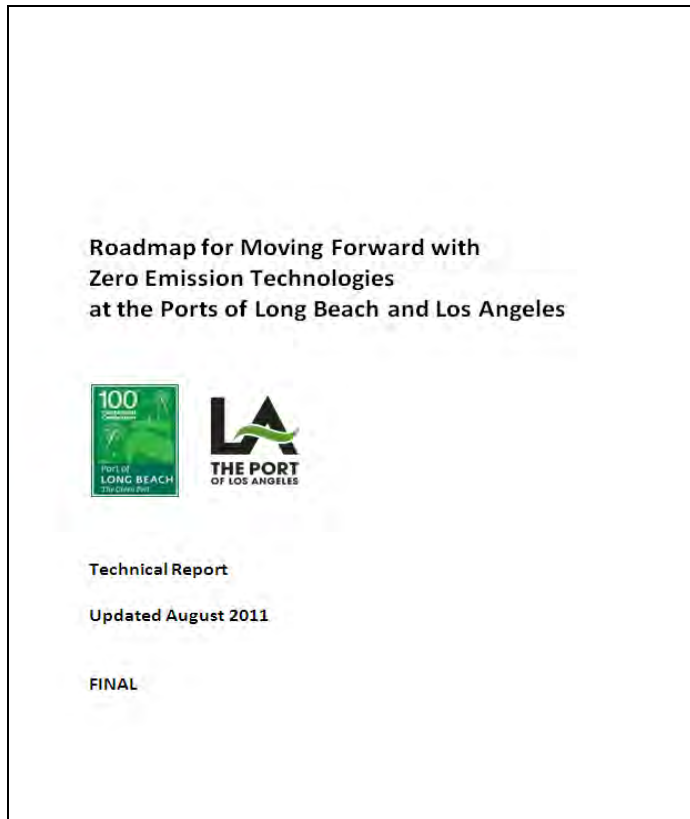


An aerial photograph showing three workers in orange safety gear and hard hats on the deck of a ship. They are working with a large black cable that runs from the ship's deck towards a yellow shore power connector on the pier. The pier has a metal railing and a yellow safety line. The scene is brightly lit, suggesting daytime.

Plugging In

Beginning in 2014, half of the container ships will plug in for shore power while at berth.

Zero Emissions Roadmap



- Presented at July 2010 Joint Board Meeting
- Focus on near-term technology development
- Local (Port) and regional focus
- Flexibility for the future
- Scalability to the region
- Success requires collaboration

Technology Advancement Program (TAP)

\$1.5 million in port funding available each year

23 projects, including exhaust scrubbers for ships and fuel valve studies

\$3.5 million committed by POLB to date



Focus on the community



Schools



Health Care



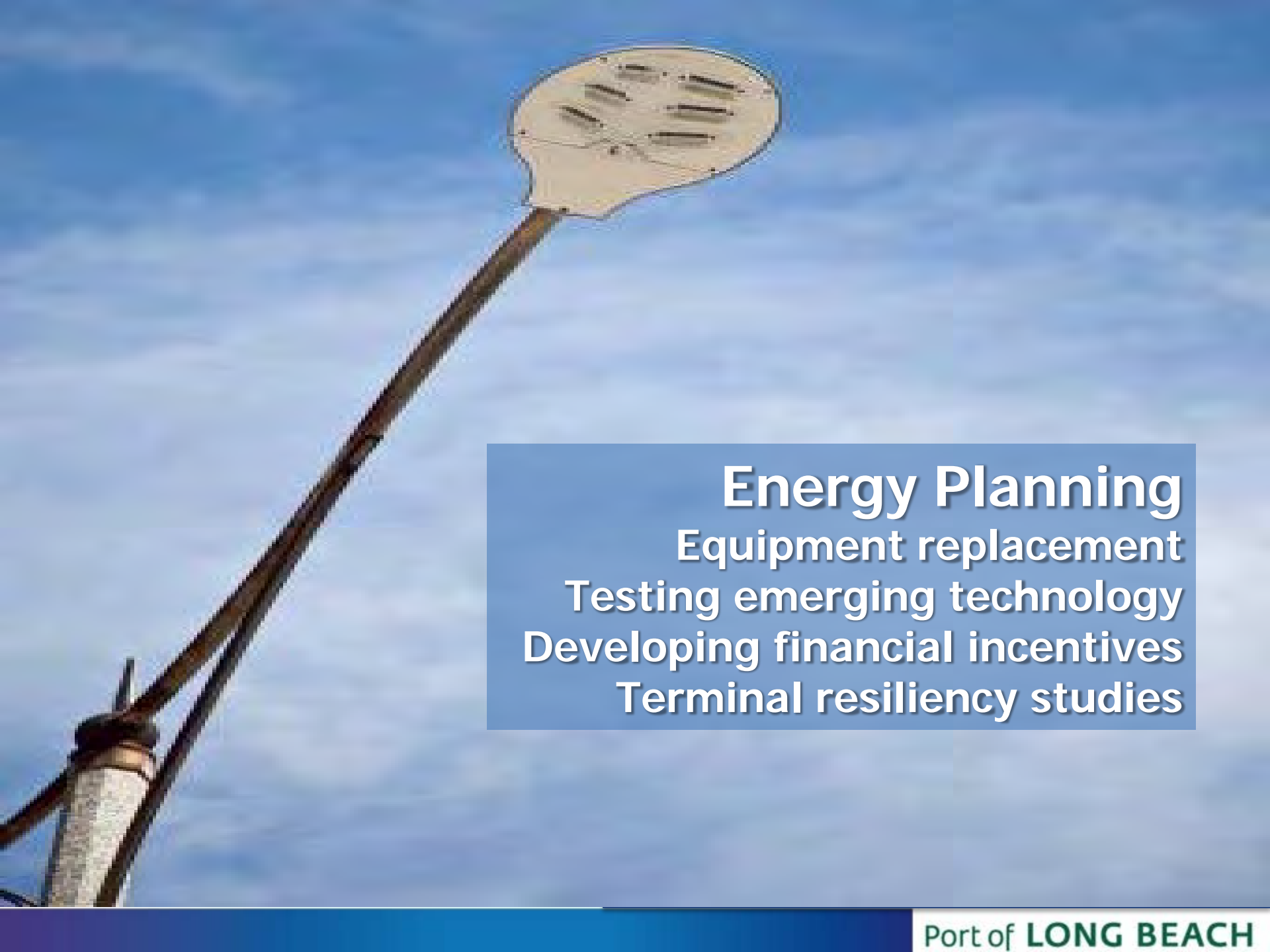
Greenhouse Gas

reduce indoor air pollution
by at least **90** percent

capture **30** to **80** percent
of ultrafine diesel particles
and **reduce** noise

decrease hospital visits,
reduce absences, **improve**
quality of life with asthma





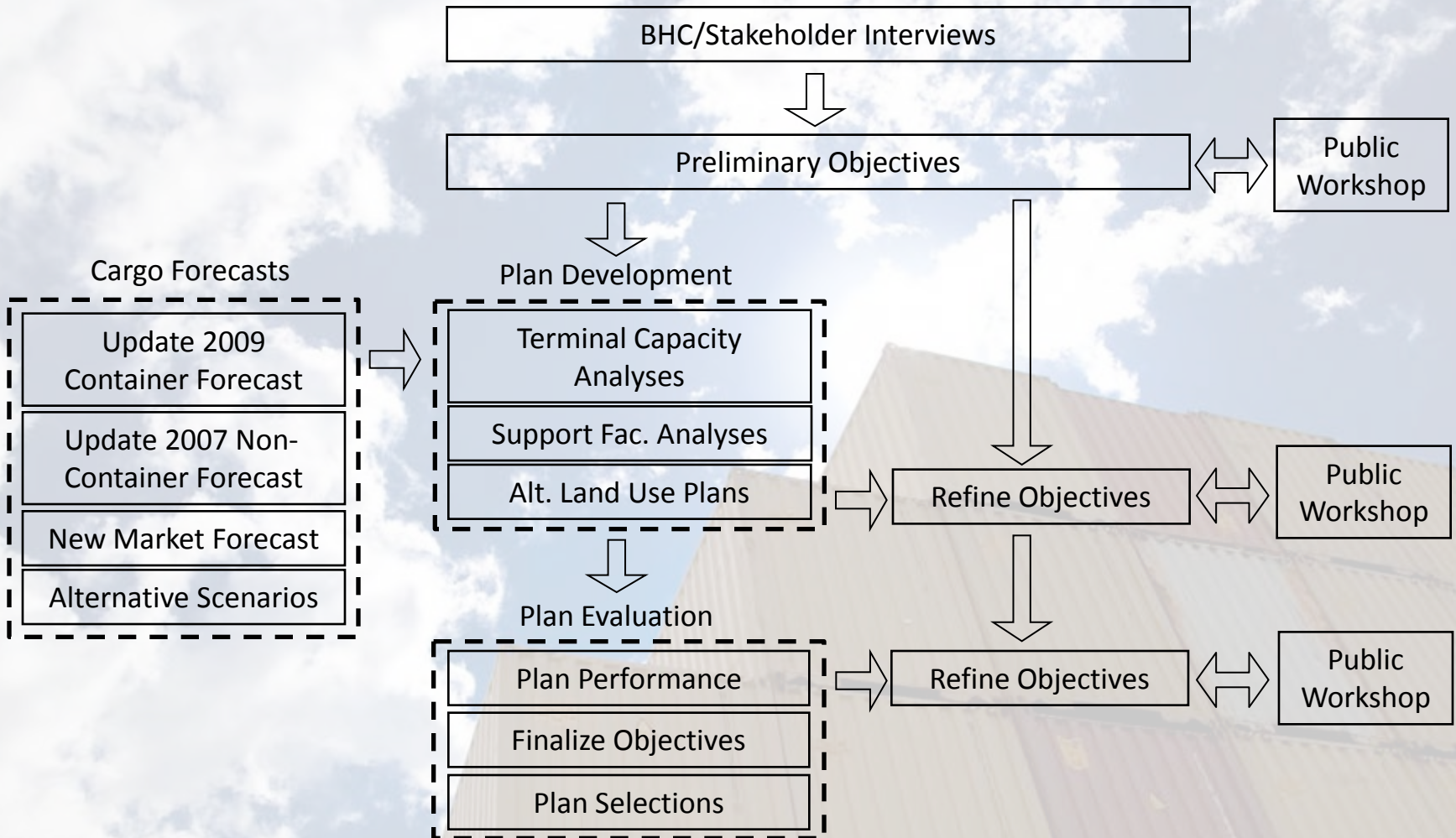
Energy Planning
Equipment replacement
Testing emerging technology
Developing financial incentives
Terminal resiliency studies



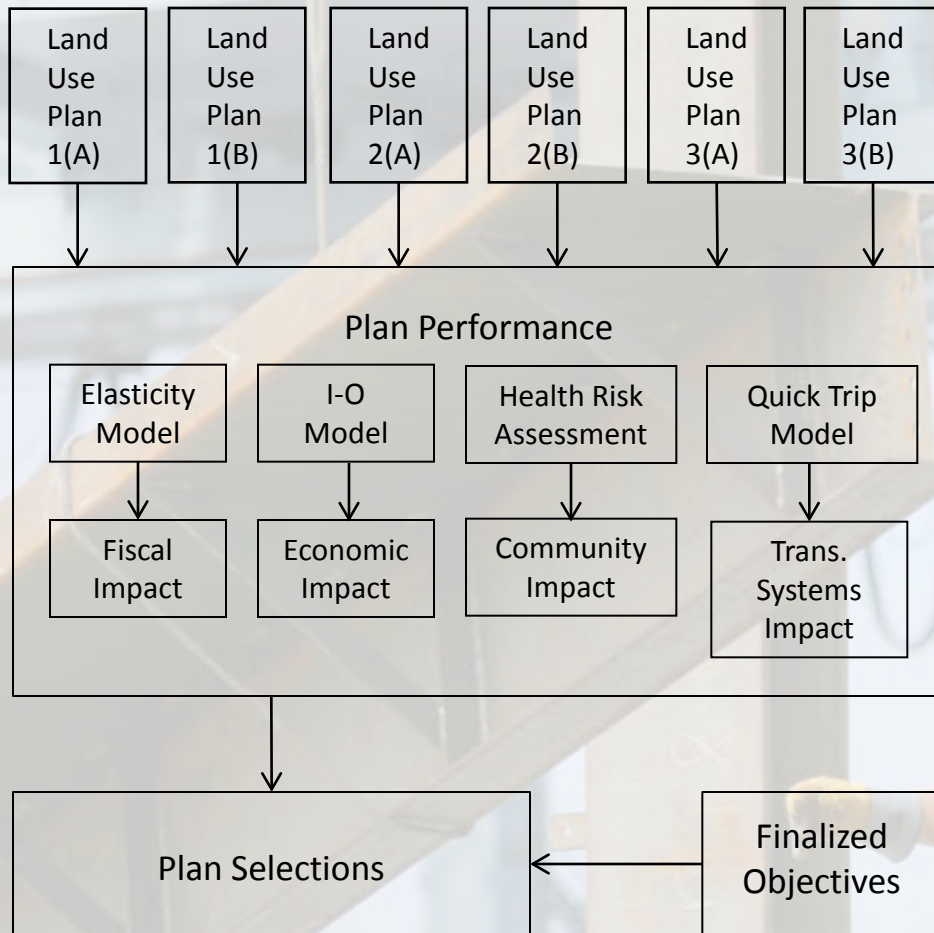
Sustainable Development Initiatives

- POLB Sustainable Design and Construction Guidelines
- West Coast Ports Collaborative for Sustainable Project Guidelines
- Procurement

Proposed Land Use Plan Process Overview



Sustainable Plan Evaluation Component



❖ Possible plan performance measures:

- Port revenues and costs
- Local and regional job creation, business sales, value added and state/local revenues
- Community health/quality of life impacts
- Impacts on the road and rail infrastructure serving the Port.

❖ Possible analytical tools (not exhaustive):

- Leachman's cost elasticity model for containers
- Port's Input-Output model (Rutgers)
- HRA model (in progress)
- Port's quick-trip model

Continue Progress

- Multiple pathways of action – no “one” solution!
- Strong collaborations and regional partnerships
- Flexibility – near term vs. long term
- Technically Feasible/Economically Viable
- Maintain Port Sustainability – need for balance

Thank You



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