

Journey Toward Zero Emissions

Opportunities and Challenges for New, Cleaner Technologies

CMANC Fall Meeting
Oakland, CA



Matt Arms
Port of Long Beach
September 13, 2018

Green Port Policy



Adopted by the Long Beach Board of Harbor Commissioners in 2005

Air Quality



San Pedro Bay Clean Air Action Plan
Collaborative Effort
Adopted by both ports in 2006

CAAP Strategy Areas



Ocean-going Vessels

Harbor Craft

On-road Trucks

Terminal Equipment

Efficiency Improvements and Rail

Shore Power



Ships plug into electrical grid

Special demand tariff to remain cost-competitive

Compliance began in 2014

By 2020, 80% of container, reefer, and cruise ships must plug in

\$100M+ total cost

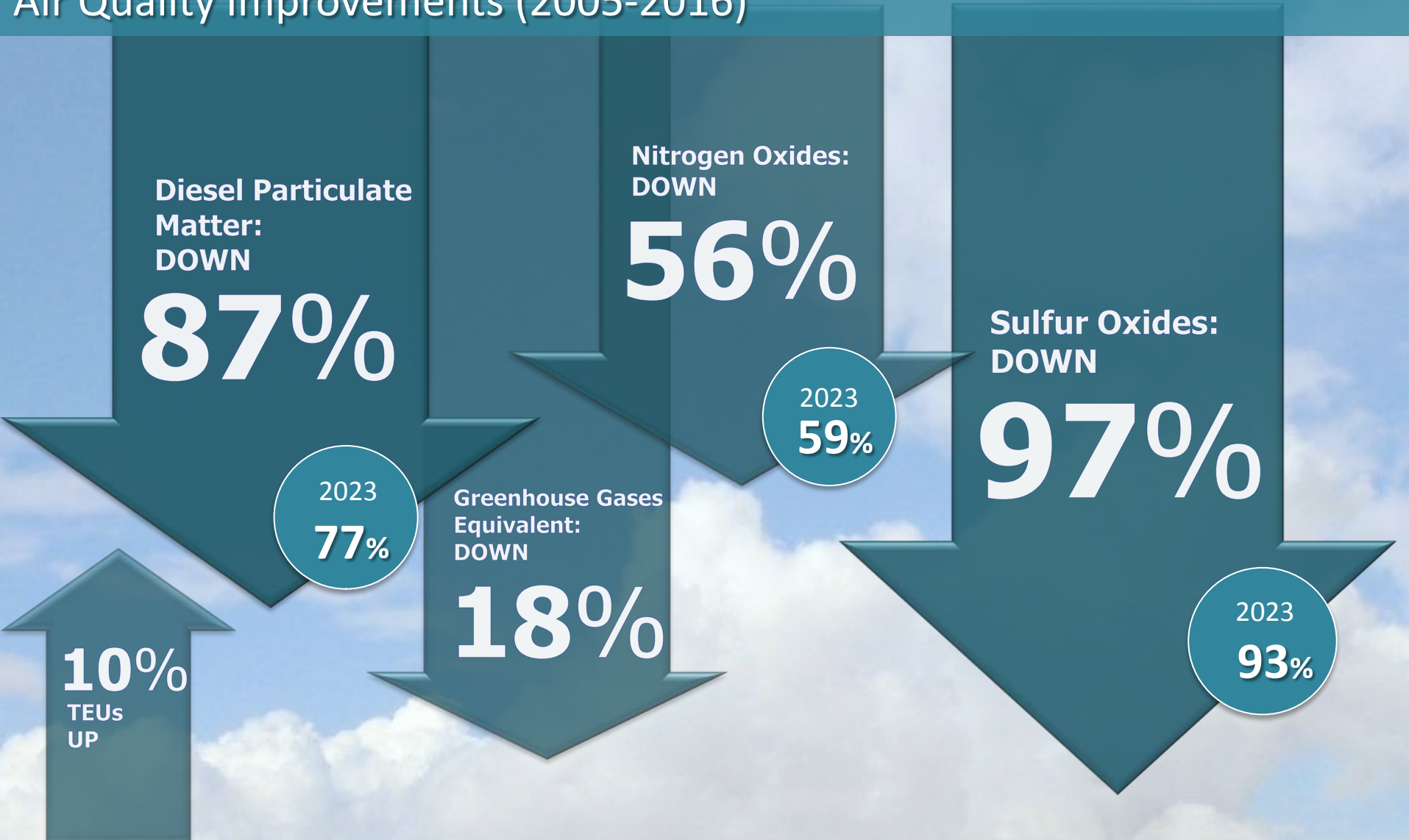
Electrified Terminal Operations



Middle Harbor - Long Beach Container Terminal
305 acres when complete
Electrified and automated terminal

San Pedro Bay Ports

Air Quality Improvements (2005-2016)



2017 CAAP Update

An aerial photograph of a port area, likely Los Angeles or Long Beach, showing a large body of water, numerous ships, and industrial facilities. A semi-transparent teal rectangle is overlaid in the center, containing a list of strategies. The background shows a dense urban area and a large body of water with many ships.

OCEAN-GOING VESSELS
HARBOR CRAFT
ON-ROAD TRUCKS
TERMINAL EQUIPMENT
EFFICIENCY IMPROVEMENTS

Overview of Strategies

Zero Emission Goals



Transition to zero-emission terminal equipment by 2030
Transition to zero-emission trucks by 2035

Challenges



Emerging technologies under tough operating conditions
Needed infrastructure with long lead times and high costs
Competing environmental and capital priorities

Strengths and Opportunities



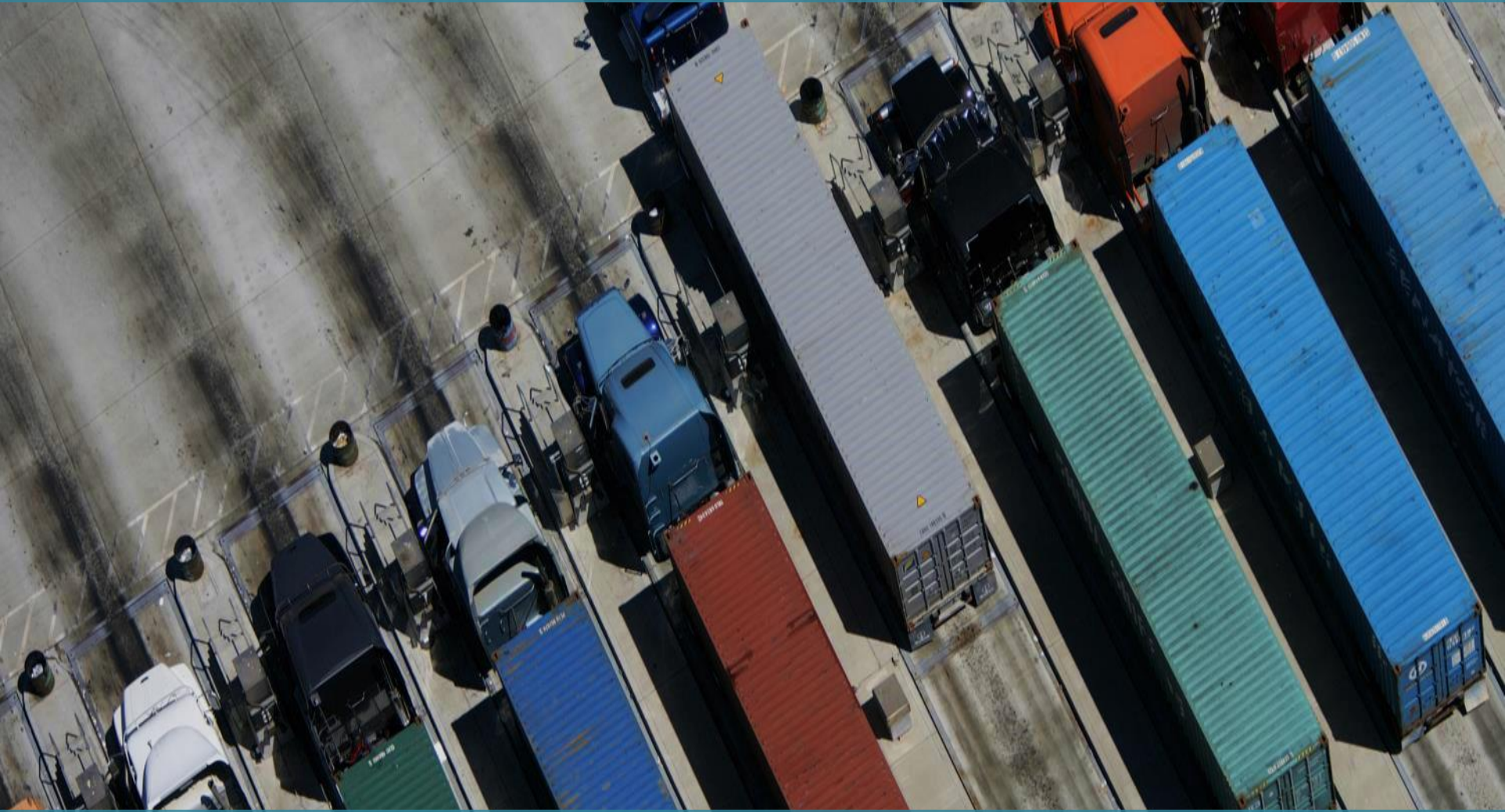
Established goals

Increase in interest and available dollars from funding sources

Many strong pilot/grant projects underway

Strong partnerships

Thank You!



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