



# **Proposed Amendments to the Commercial Harbor Craft Regulation**

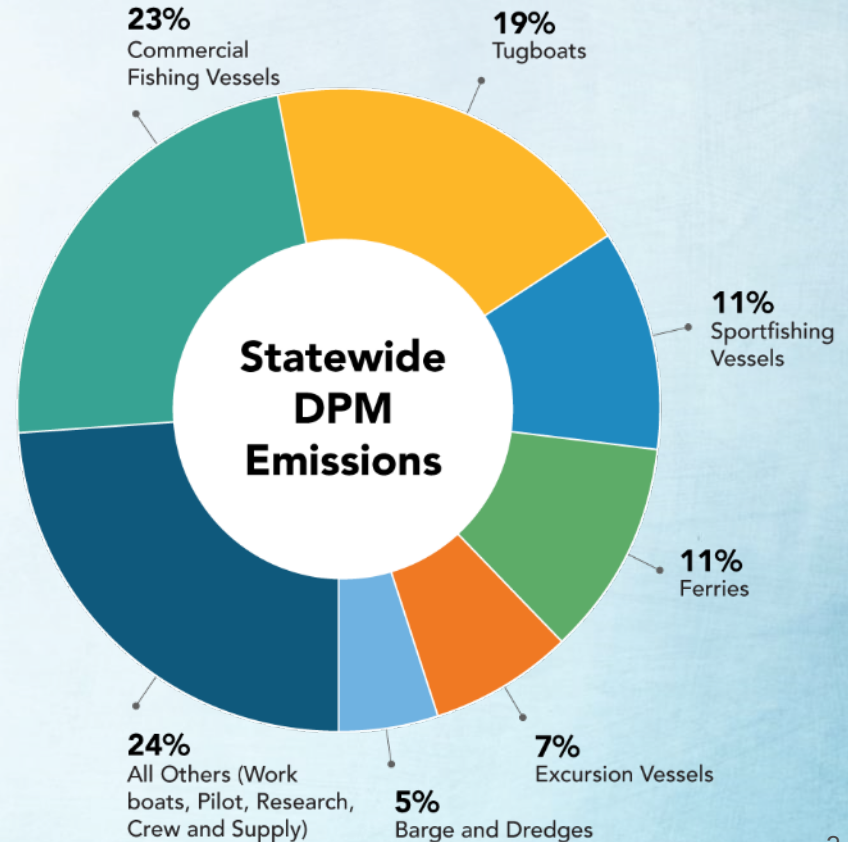
Hearing 2 of 2  
March 24, 2022

# Regulatory Background

- Focused on meeting clean air commitments and protecting communities
- Current Regulation: accelerated turnover to Tier 2 and 3 engines for select categories between 2009 and 2022
- Proposed amendments would require zero-emission where feasible, and cleaner combustion on all other vessel types
- Implementation would begin in 2023 and phase in through 2035

# Statewide Emissions in 2023

- Major category of diesel emissions at seaports:
  - Diesel particulate matter: **165 tons per year**
  - Oxides of nitrogen: **15.1 tons per day**
  - Near-source cancer risk: **>900 in a million**





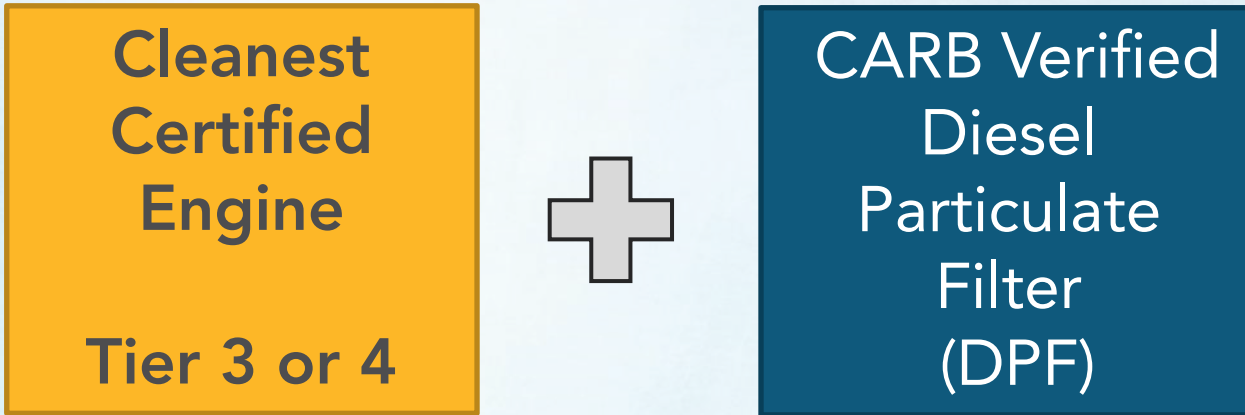
# Proposal: Zero-Emission Vessels



- 2025: zero-emission capable new excursion vessels
- 2026: zero-emission short run ferries (routes < 3 nm)
- 2035: additional deployment where feasible through alternative control of emissions

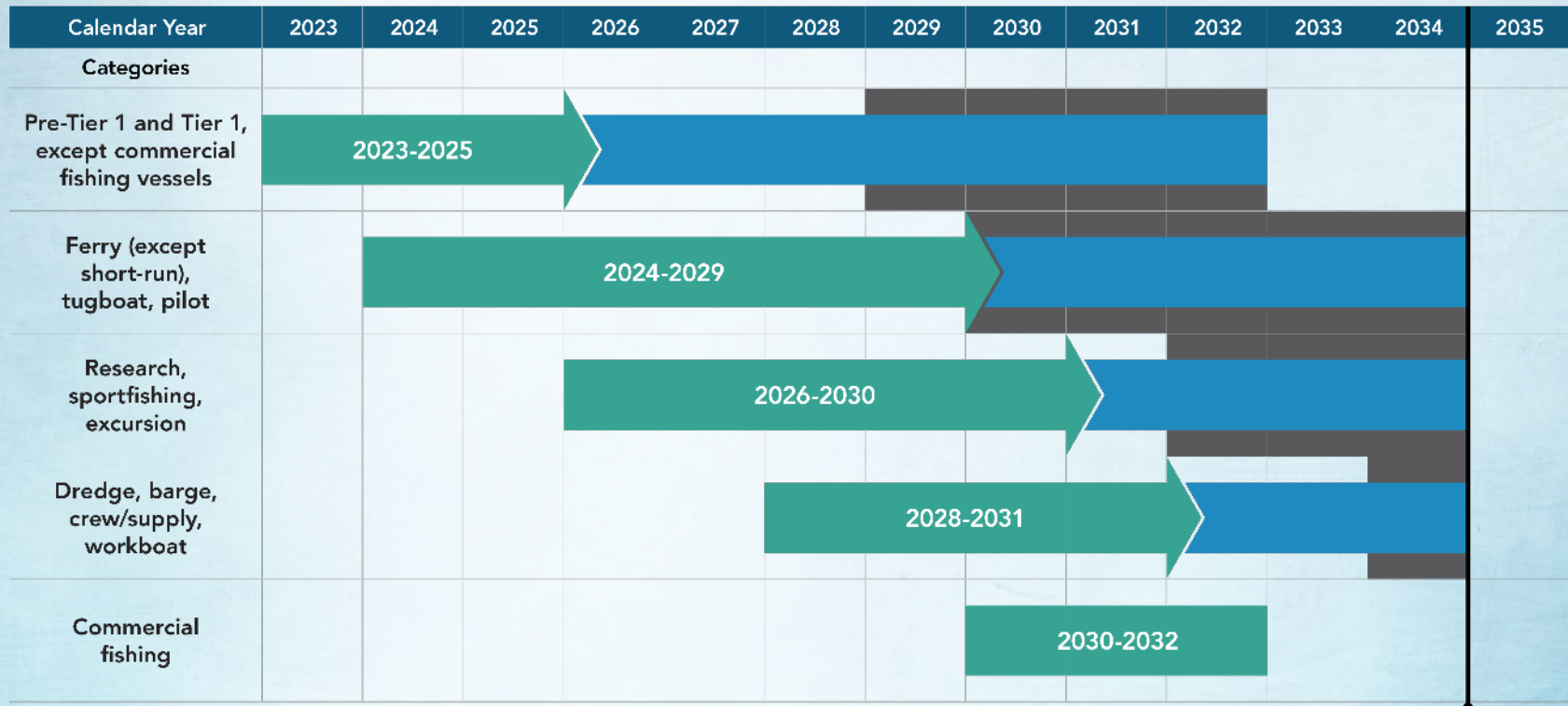


# Proposal: Transition to Cleaner Combustion



- Tier 4 engines required <600 kW if certified for duty cycle
- PM standard harmonizes with newest on-road engine standards

# Proposal: Compliance Schedule



Compliance Dates

Possible Extension Period  
(financial hardship & feasibility)

Vessel replacement dates after  
financial hardship extensions expire

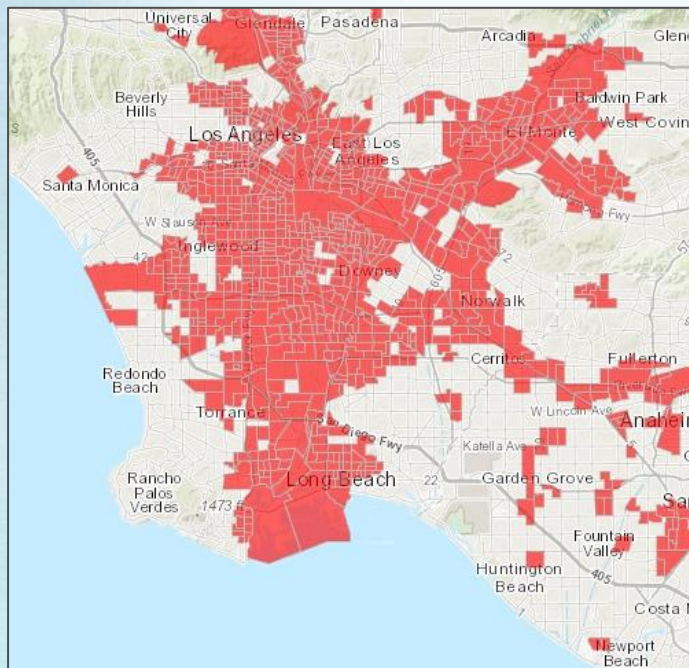
Extensions expire  
December 31, 2034



# Proposal: Flexibility through Alternative Compliance Options

- **Alternative Control of Emissions (ACE) plan**
  - Demonstration of equivalent emissions reductions
  - Examples: fleet-averaging, early action, zero-emission
- **Zero-Emission and Advanced Technology credit**
  - Zero-emission vessel deployment = additional compliance time on another vessel in fleet

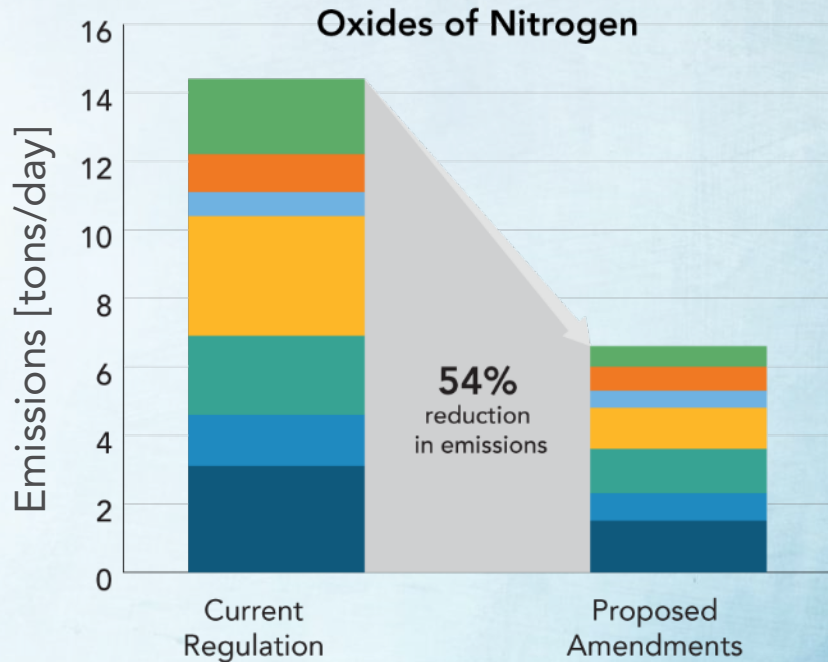
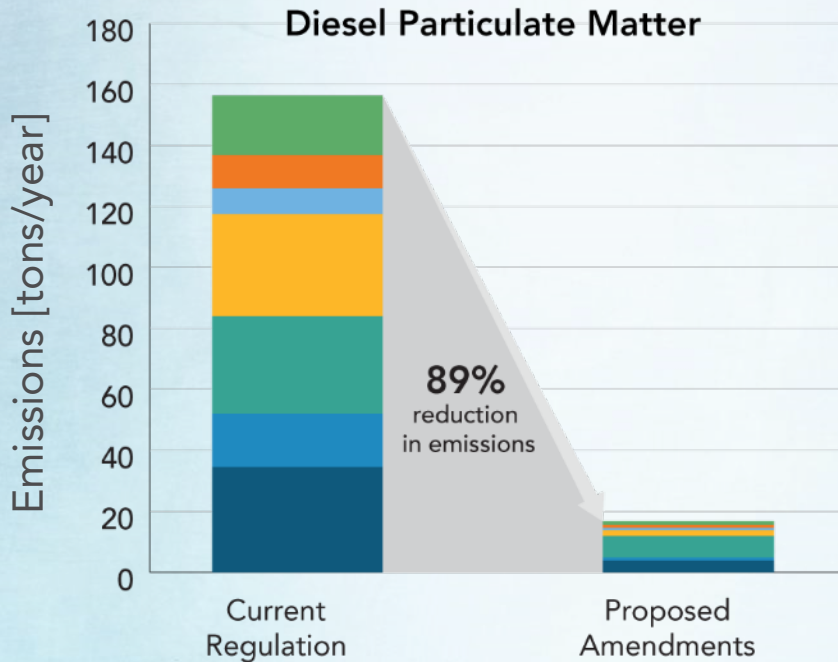
# Proposal: Additional Stringency for Vessels in Disadvantaged Communities



- 25% most impacted as defined by CalEnviroScreen
- More stringent low use compliance pathway
- Demonstration of no disproportionate impacts from alternative compliance plans and zero-emission credits



# Statewide Emission Benefits in 2035



Ferries

Barge and Dredges

Commercial Fishing Vessels

All Others (Workboats, Pilot, Research, Crew and Supply)

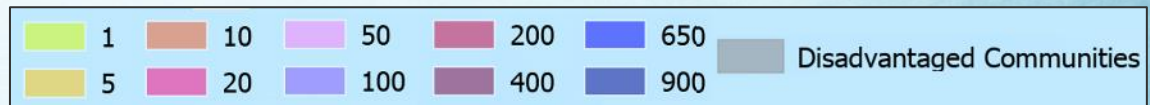
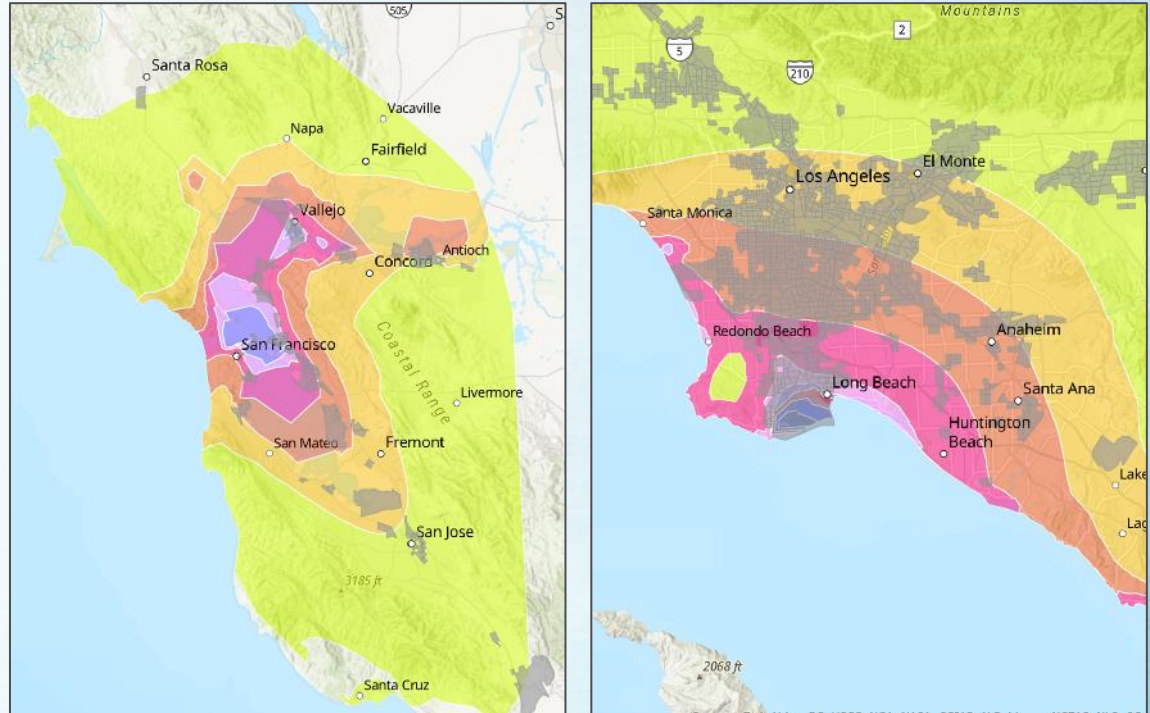
Excursion Vessels

Tugboats

Commercial Passenger Fishing Vessels

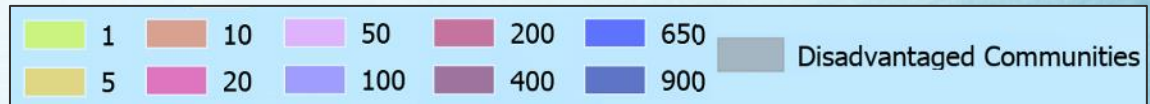
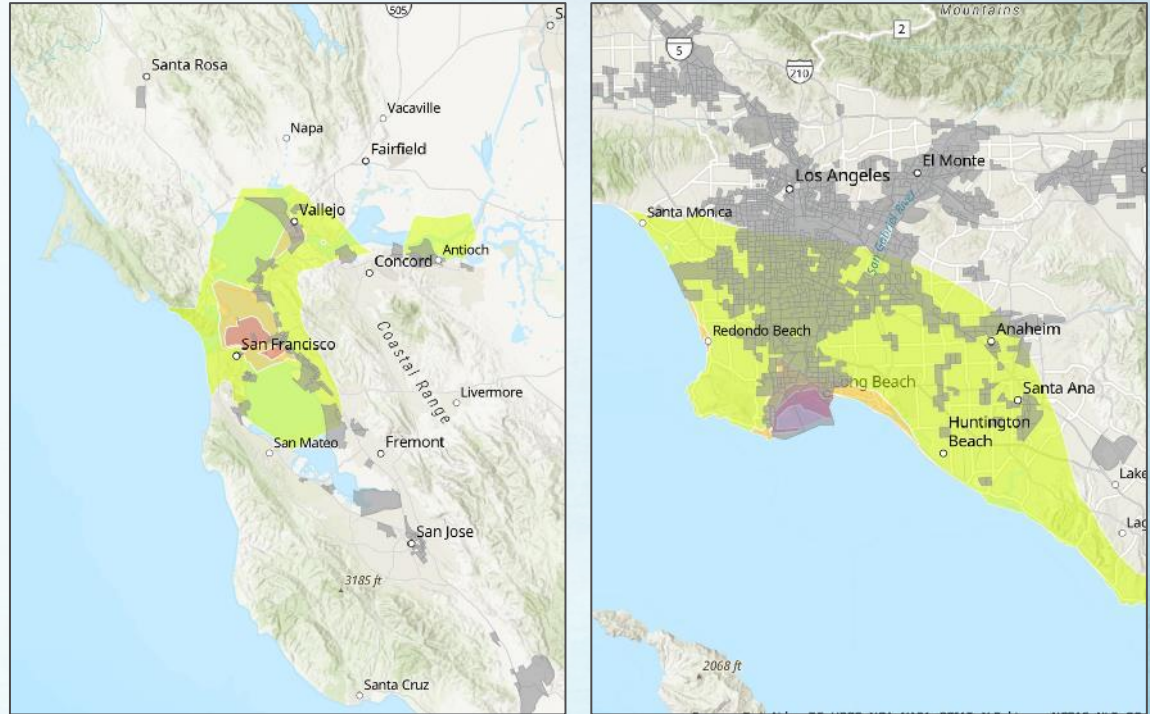
# Cancer Risk – Current Regulation in 2038

- Reduced cancer risk to over 22 million residents
- Population-weighted cancer risk reduced from >10 to 1 per million
- Amendments eliminate cancer risk >100 per million for 80,000 residents in study areas



# Cancer Risk – Amendments in 2038

- Reduced cancer risk to over 22 million residents
- Population-weighted cancer risk reduced from >10 to 1 per million
- Amendments eliminate cancer risk >100 per million for 80,000 residents in study areas





# Summary of Board Direction: November 2021

1. Continue outreach on funding opportunities
2. Streamline compliance extension process
3. Regularly evaluate the status of zero-emission and cleaner combustion technology
4. Evaluate opportunity for contingency measures supporting State Implementation Plans

# Extensive Stakeholder Outreach

## before November 2021

- 400+ meetings, site visits, calls, emails
- Draft cost materials and regulatory text
- 5 workshops

# Extensive Stakeholder Outreach

## before November 2021

- 400+ meetings, site visits, calls, emails
- Draft cost materials and regulatory text
- 5 workshops

## after November 2021

- 30+ virtual meetings
- 2 site visits and 1 webinar on funding and Board direction
- 80+ calls and email threads



# Extensive Stakeholder Outreach

## before November 2021

- 400+ meetings, site visits, calls, emails
- Draft cost materials and regulatory text
- 5 workshops

## after November 2021

- 30+ virtual meetings
- 2 site visits and 1 webinar on funding and Board direction
- 80+ calls and email threads

## Additional Materials Posted

- Emission inventory
- Final cost workbooks
- Informational fact sheets
- Health analysis methodology
- Air dispersion modeling



## Key Public Comment Topics



Feasibility



Affordability



Emissions  
Reductions

# Response to Comments (1 of 2)

## Performance

Mature technology, inspected by U.S. Coast Guard on vessels

## Affordability

Flexible compliance pathways to invest in clean technologies

## Incentives

Many opportunities, but none assumed in cost analysis



# Response to Comments (2 of 2)

CHC Population

Industry and multiple government database sources

ATB Category

Historically categorized as harbor craft

CPFV Category

Industry requests Tier 3 → Zero

# Recommendations for Sportfishing (CPFV)

- 15-Day Changes:
  - Option to meet Tier 3 by end of 2024 to get until end of 2034 to meet Tier 4 + DPF (or ZE)
  - Contingent upon reporting annually through 2035; no extension renewals every two years
- Resolution:
  - Directs collaboration with industry on zero-emission demonstration and Midterm Review by 2028

# 1. Outreach and Facilitating Funding

- Topic at January 2022 webinar – 4 funding programs – staff will continue to communicate opportunities
- Maximizing funding for harbor craft, especially zero-emission

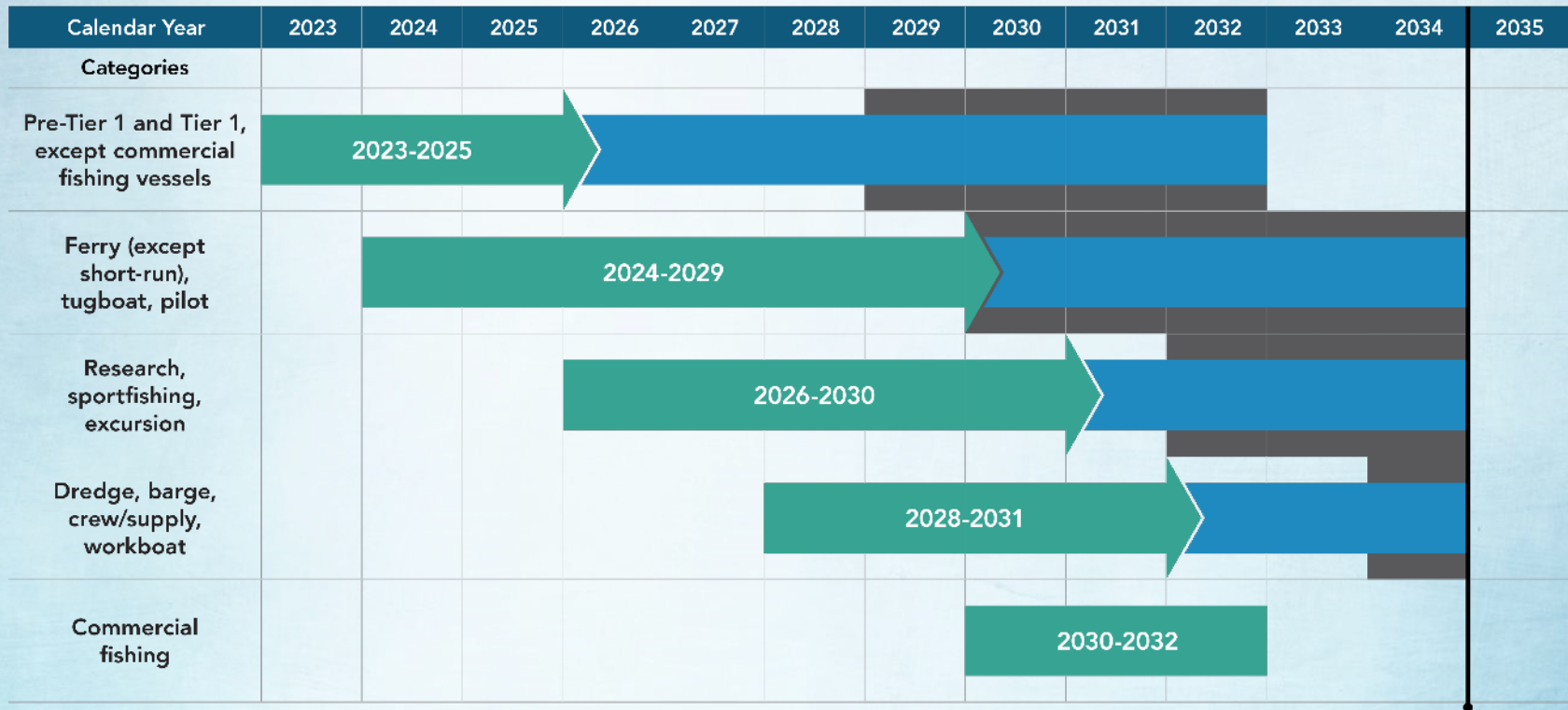
## January Workshop:

### Funding Programs for Harbor Craft

- Low Carbon Transportation (LCT) – demos and pilots
- Clean Off-Road Equipment (CORE) – vouchers
- Carl Moyer – repower and replace in-use fleet
- Other opportunities (Volkswagen, EPA DERA, LCTOP, TIRCP, Prop 1b)



## 2. Streamlining Extensions



Compliance Dates

Possible Extension Period  
(financial hardship & feasibility)

Vessel replacement dates after  
financial hardship extensions expire

Extensions expire  
December 31, 2034

## 2. Streamlining Compliance Extensions

- Extensions critical for flexibility
- Staff reevaluation to allow use of existing analyses



Evaluation of the Feasibility and Costs of Installing Tier 4 Engines and Retrofit Exhaust Aftertreatment on In-Use Commercial Harbor Craft

Report prepared for the California Air Resources Board by:

Keir Moorhead

Ryan Storz

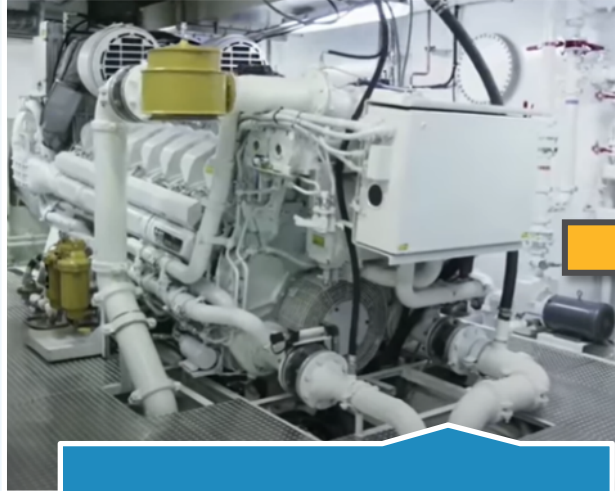
Dinesh Pinisetty

Of the California State University Maritime Academy

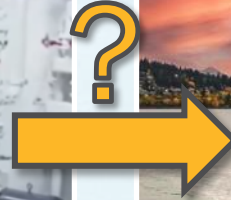
September 30, 2019

# 3. Technology Review

- Proposed biennially beginning 2024
- Would include a technical working group



Tier 4



Zero-Emission



## 4. Zero-Emission Contingency Measure

- ZE technology may advance in the marine sector
- Contingency measure would be explored for non-attainment areas

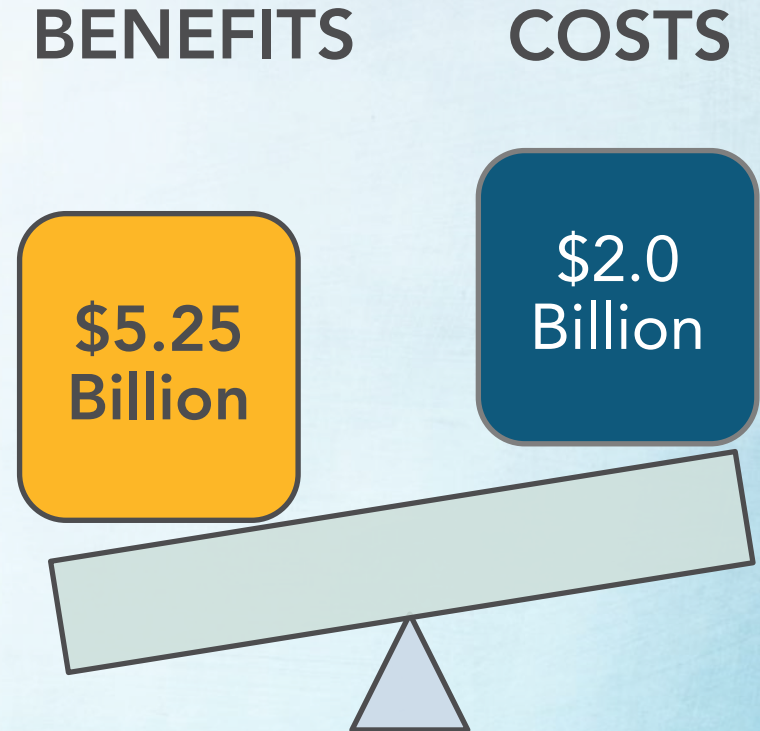


# Environmental Analysis

- Draft Environmental Analysis (EA) completed
  - Potentially significant impacts found for some resource areas
- Released for public comment
  - September 24, 2021– November 15, 2021
- CARB prepared the Final EA and written responses to comments received on the Draft EA
  - Released in March 2022

# Health Benefits & Valuation: 2023 to 2038

- **531** premature deaths avoided
- **161** avoided hospital admissions
- **236** avoided emergency room visits





# Staff Recommends Approval of Resolution 22-6, Which Includes (1 of 2):

- Approval of written responses to environmental comments
- Certification of the Final EA, and
- Making the required CEQA findings

*(continued on next slide)*

# Staff Recommends Approval of Resolution 22-6, Which Includes (2 of 2):

- Continued facilitation of incentive opportunities
- Streamlining compliance extensions
- Establishing a technical working group to advance zero-emission technology and release biennial review
- Continue collaboration with sportfishing industry and conduct Midterm Review by 2028
- Explore contingency measures for zero-emission

# Next Steps

- Board vote to approve Proposed Amendments with recommended changes
- Release 15-day change package
- Prepare written responses to public comments in the Final Statement of Reasons