



Proposed Advanced Clean Fleets (ACF) Regulation Board Meeting

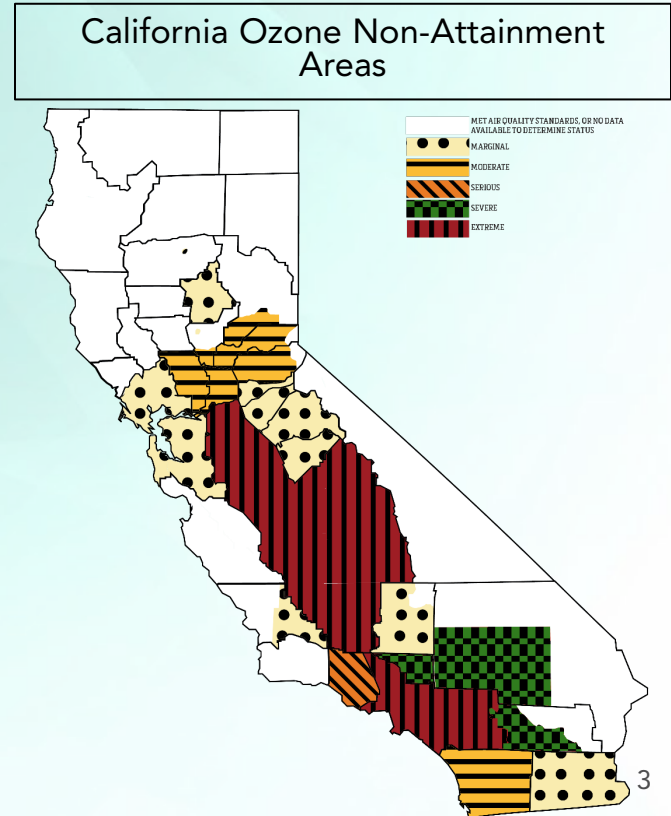
Sacramento, California
October 27, 2022

Today's Outline

- Introduction
- Regulation components
 - 100 percent zero-emission vehicle (ZEV) sales in 2040
 - Drayage trucks
 - State and local government fleets
 - High priority and federal fleets
- Next steps

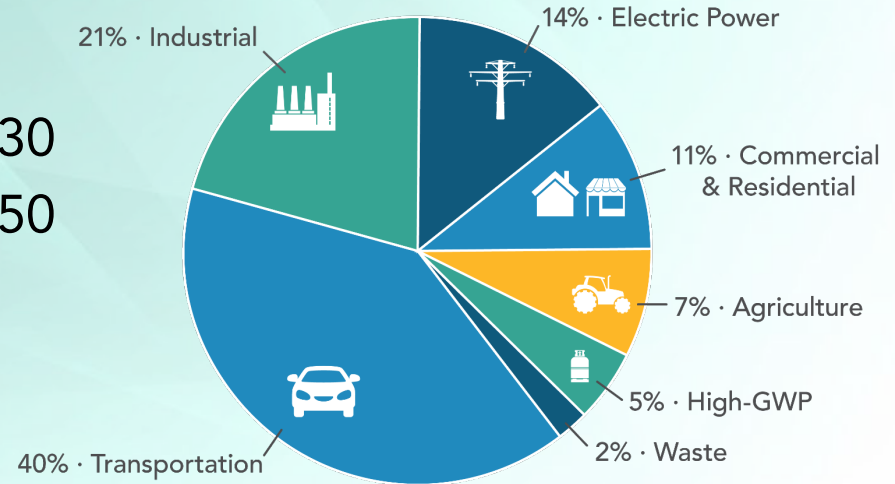
Major Oxides of Nitrogen (NO_x) and Fine Particulate Matter (PM_{2.5}) Emissions Reductions Needed

- California has the worst air quality in the nation
- Unique challenges in San Joaquin Valley and South Coast
- Heavy-duty trucks and federal sources* remain largest contributors
- More reductions needed to meet 2031 and 2037 attainment
 - Nearly all heavy-duty trucks to have 2010 model year engines by 2023



Greenhouse Gas (GHGs) Goals

- California's climate change targets
 - 40% below 1990 levels by 2030
 - 80% below 1990 levels by 2050
 - Carbon neutrality by 2045
- Clean electricity
 - 33% renewable by 2020
 - 60% renewable by 2030
 - Zero-carbon by 2045



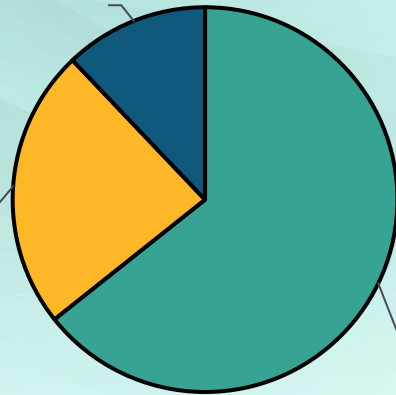
418.2 MMT CO₂e
2019 TOTAL CA EMISSIONS

Biggest Trucks Have Highest Emissions

Daily Truck Population



Class 7-8 Tractors
219,000 (12%)



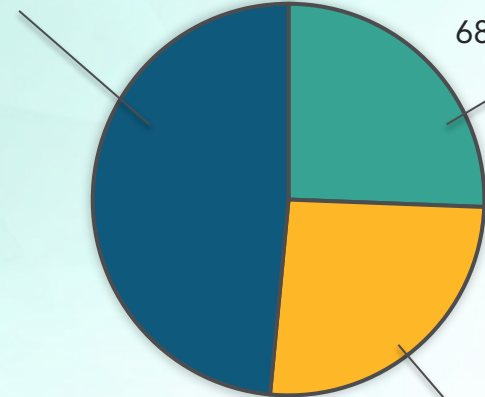
Class 4-8 Straight
Trucks and Buses
427,000 (24%)



Class 2b-3 Trucks
and Vans
1,164,000 (64%)

Daily NOx Emission

Class 7-8
Tractors
129.7 tpd (48%)



Class 2b-3
Trucks and
Vans
68.5 tpd (26%)

Class 4-8
Straight
Trucks and
Buses
69.3 tpd
(26%)

Source: California Air Resources Board (CARB) Emissions Inventory EMFAC2021, (<https://arb.ca.gov/emfac/>)
Calendar Year 2021, including California International Registration Plan (IRP) and out-of-state IRP trucks;
excludes motor homes, transit buses, and school buses.

Cleaning Up Trucks & Transitioning to Zero-Emission



Enhanced
Inspections &
Maintenance



Sales
Mandates



Fleet Phase-in
Requirements



Incentives
& Recognition



Cleaner Fuels
& Engines

Governor's goal - 100% zero-emission
transportation by 2045 where feasible

Measures to Clean Up Heavy-Duty Vehicles



2018
Innovative Clean
Transit



2020
Advanced
Clean Trucks



2021
Heavy-Duty
Inspection and
Maintenance



Future
Zero-Emission
Truck Measure



2019
Zero Emission Airport
Shuttle Bus



2020
Heavy-Duty
Omnibus

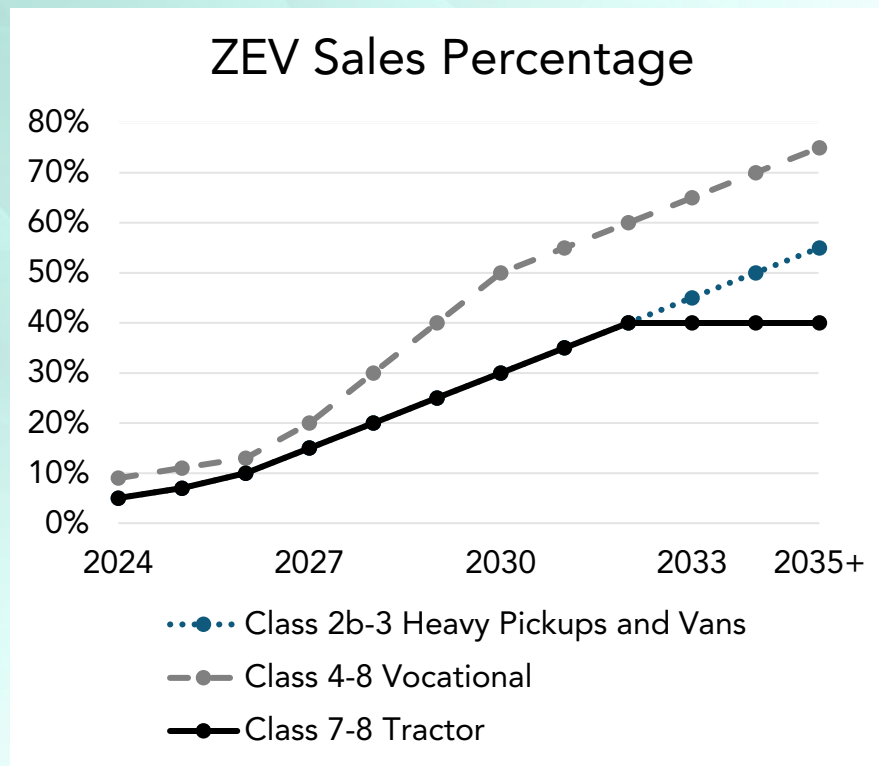


2022
Advanced
Clean Fleets

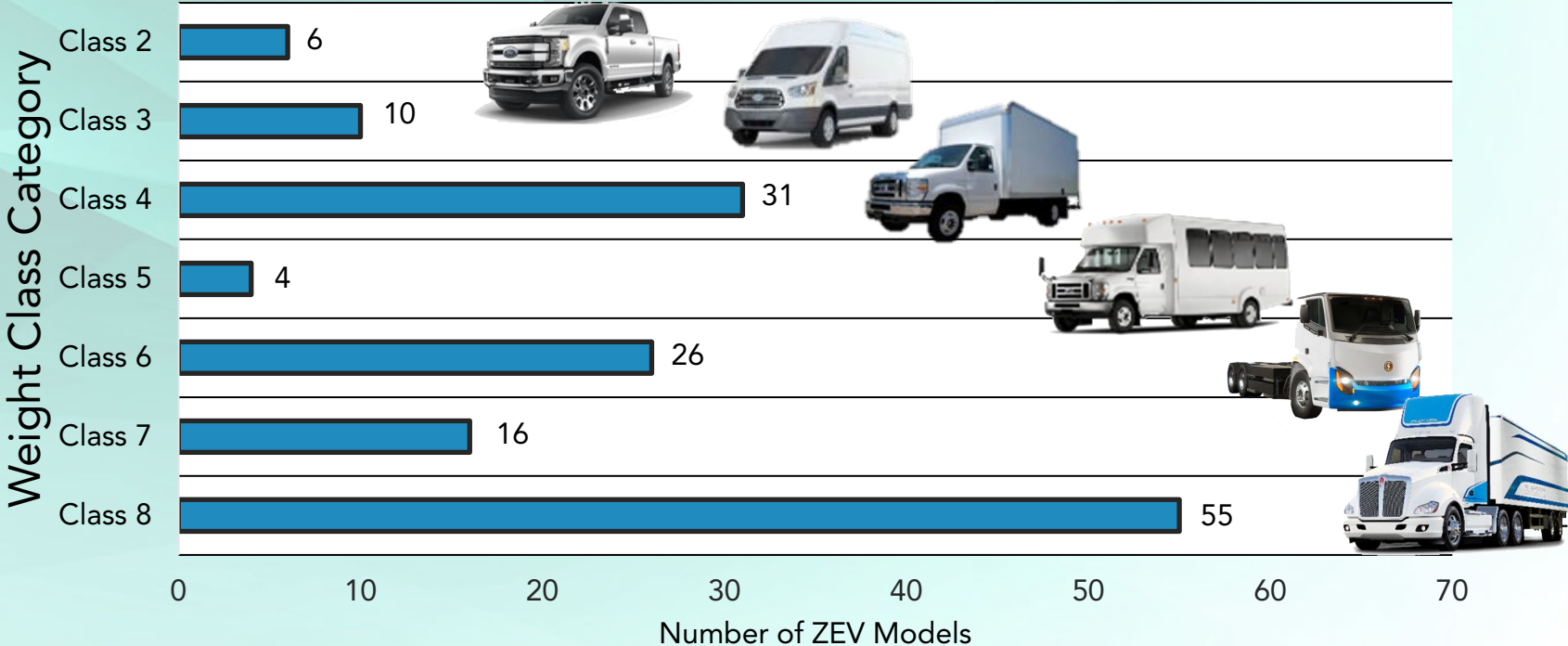


Advanced Clean Trucks Regulation

- Manufacturers to sell ZEVs in all vehicle classes as a percentage of total sales*
- Credit for pre-2024 sales
- 320,000 ZE trucks to California by 2035
- Board resolution setting 2035, 2040, and 2045 fleet goals



ZEV Models in US

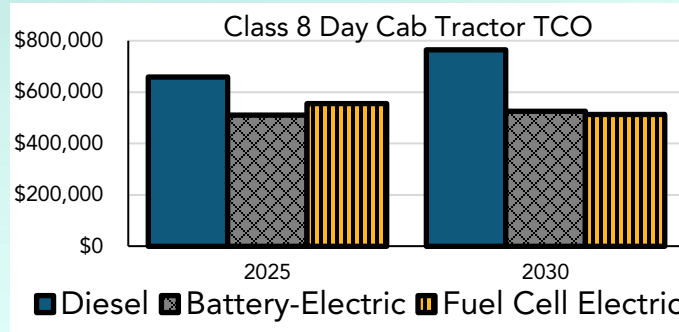
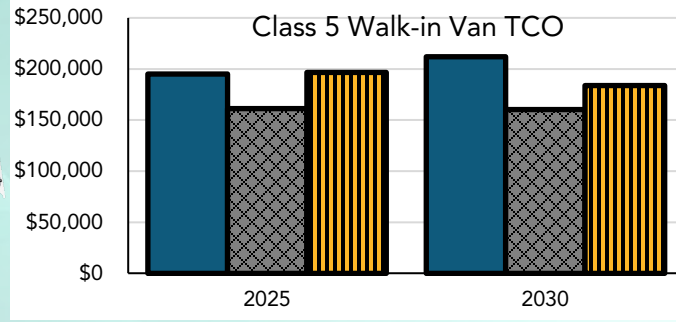
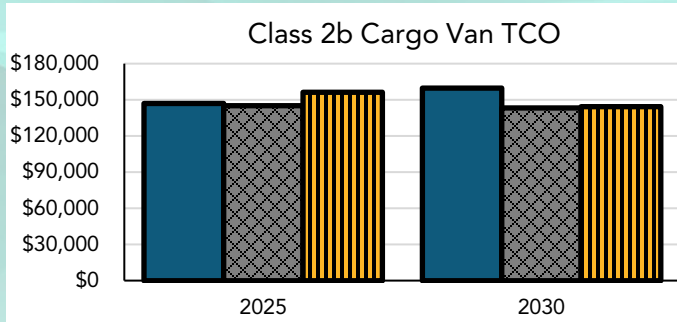


135 models already delivered to fleets

148 different models available to be ordered/pre-ordered

More that 500 ZEV models available worldwide

Favorable Total Cost of Ownership



Infrastructure Coordination



Development of the Proposal

Engagement

- 24 Public Events
- 15 on regulation
 - 6 on infrastructure
 - 3 community listening sessions

350+ individual stakeholder meetings

Outreach

Webpages and Factsheets

Social Media and Blog Posts

Radio Interviews

Regulatory Training to Over 800 Attendees

Letters to over 11,000 Large Entities and Fleets

Postcards to over 273,000 Vehicle Owners

Emails to ~100,000 Recipients



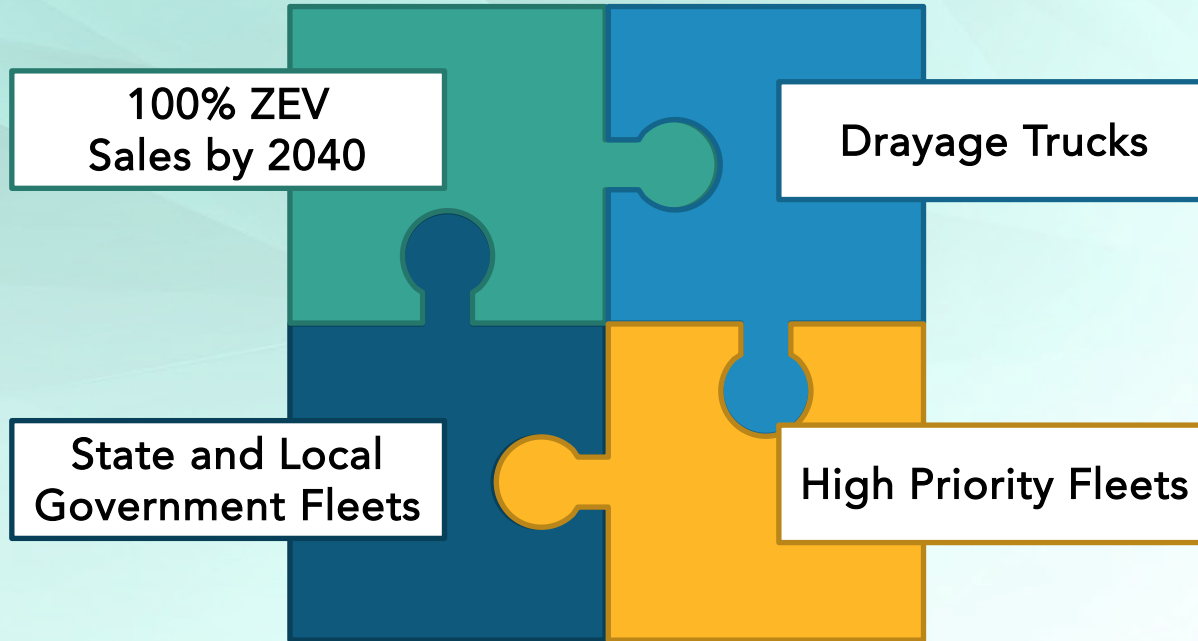
Statutory Useful Life Requirements

New regulations or amendments must be consistent with Senate Bill (SB) 1 useful life requirements (HSC § 43021):

Minimum Useful Life is defined as:

- Later of 800,000 vehicle miles or 18 years from engine certification
- No less than 13 years

Regulation Components



100% ZEV Sales by 2040

Starting 2040, all Class 2b-8 vehicles sold into California must be ZEVs

- Provides certainty to the market and supply chain for manufacturers, fleets, infrastructure providers, service technicians, sister agencies, local government
- Expands market choice

Drayage Trucks Requirements

Applies to class 7-8 on-road trucks operating at California's seaports and intermodal railyards

December 31, 2023

Registration required
for legacy trucks

January 1, 2024

Newly added
drayage trucks
must be ZEVs

January 1, 2025

Must annually
report mileage
for trucks over
12 years

January 1, 2035

All drayage
trucks must be
ZEVs

Legacy Trucks:

- May operate until the end of their useful life
- Must visit a regulated seaport or railyard at least once a year

Drayage Truck Compliance Extensions

Vehicle Delivery Delay

Compliance extension for when manufacturer delays delivery

Infrastructure Delay

Compliance extension for when ZEV delivery is delayed due to infrastructure construction delay



State and Local Government Requirements

2024-2026

January 1, 2027

50 percent of additions to the fleet must be ZEV

All additions must be ZEV

- Agencies in designated counties exempt until 2027



State and Local Government Exemptions

ZEV Unavailability

If listed on CARB website, may purchase internal combustion engine (ICE). Submit info to CARB for listing consideration.

Daily Usage

If ZEVs cannot meet daily needs, may purchase ICE

Infrastructure Delay

Can postpone ZEV delivery one year due to construction delay

Backup Vehicle

Can buy ICE if operated <1,000 miles per year

Mutual Aid

Reserve 25% of fleet for use in mutual aid agreements

High Priority and Federal Fleets

Affected businesses

Fleets with 50+ vehicles, including common ownership and control

Fleets with >\$50 million in annual revenue

Federal government fleets

Entities that hire or dispatch fleets

Affected vehicles

Class 2b-8 vehicles

Off-road yard tractors

Light-duty delivery vehicles



Common Ownership and Control

- Equal treatment for fleets operated under different ownership models
- Controlling party is responsible for compliance and reporting all trucks in the fleet
- Common ownership and control examples
 - Use the same logo
 - Use the same motor carrier number
 - Other factors



Model Year Schedule Requirements

January 2024

Registration required
for legacy trucks

January 1, 2024

Newly added
trucks must be
ZEVs

February 1, 2024

Must annually
report mileage
for trucks over
12 years

Legacy Trucks:

- May operate until the end of their useful life
- May use certain exemptions or extensions



Optional ZEV Milestone Phase-in

- Meet ZEV milestones as a percent of total fleet
- Phase-in based on vehicle type
- Flexibility to meet with any vehicle type

Zero-Emission Fleet Percentage	10%	25%	50%	75%	100%
Box trucks, vans, two-axle buses, yard trucks, light-duty package delivery vehicles	2025	2028	2031	2033	2035
Work trucks, day cab tractors, three-axle buses	2027	2030	2033	2036	2039
Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042

High Priority Fleet Exemptions

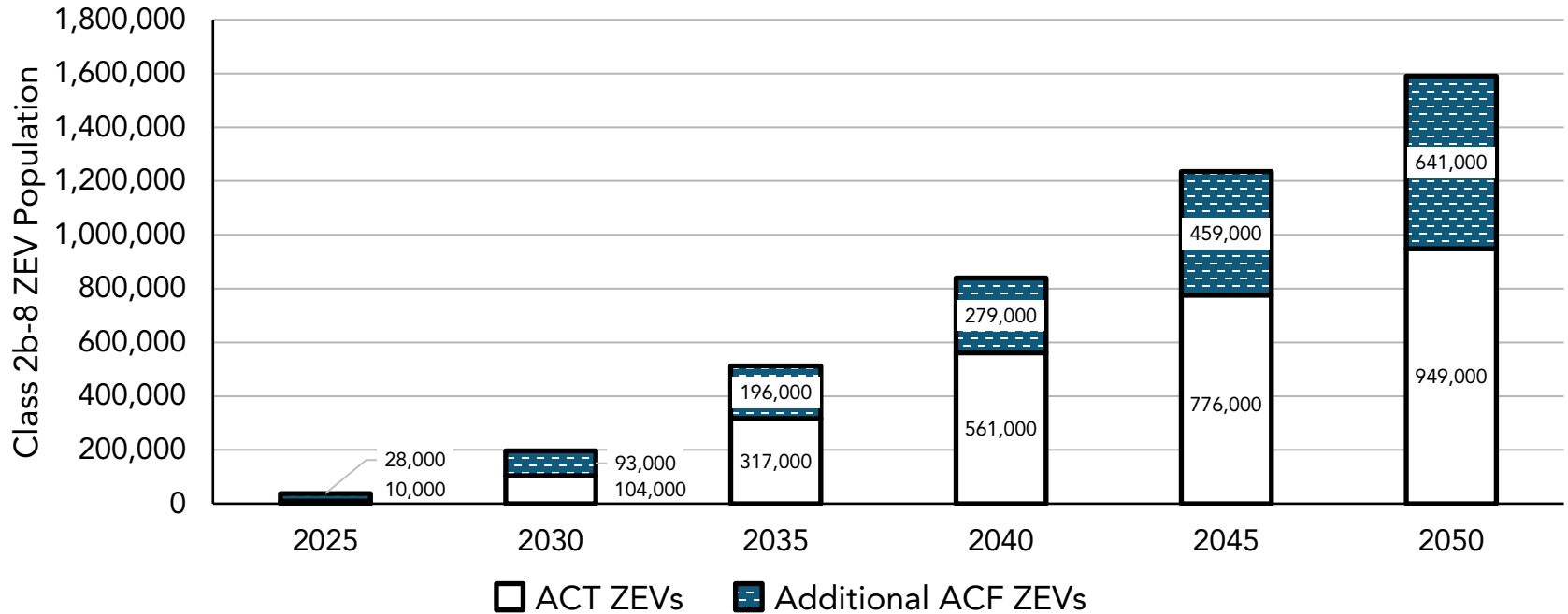
ZEV Unavailability	If listed on CARB website may purchase ICE. Submit info to CARB for listing consideration.
Daily Usage	If ZEVs cannot meet daily needs, may purchase ICE
Vehicle Delivery Delay	Compliance extension if vehicle delivery is delayed >1 year
Infrastructure Delay	Can postpone ZEV delivery one year due to construction delay
Backup Vehicle	Exclude vehicle operated <1,000 miles per year
Mutual Aid	Reserve 25% of fleet for use in mutual aid agreements
Rental Vehicles	Flexibility option to address transient rental fleet

Excluded From Fleet Requirements

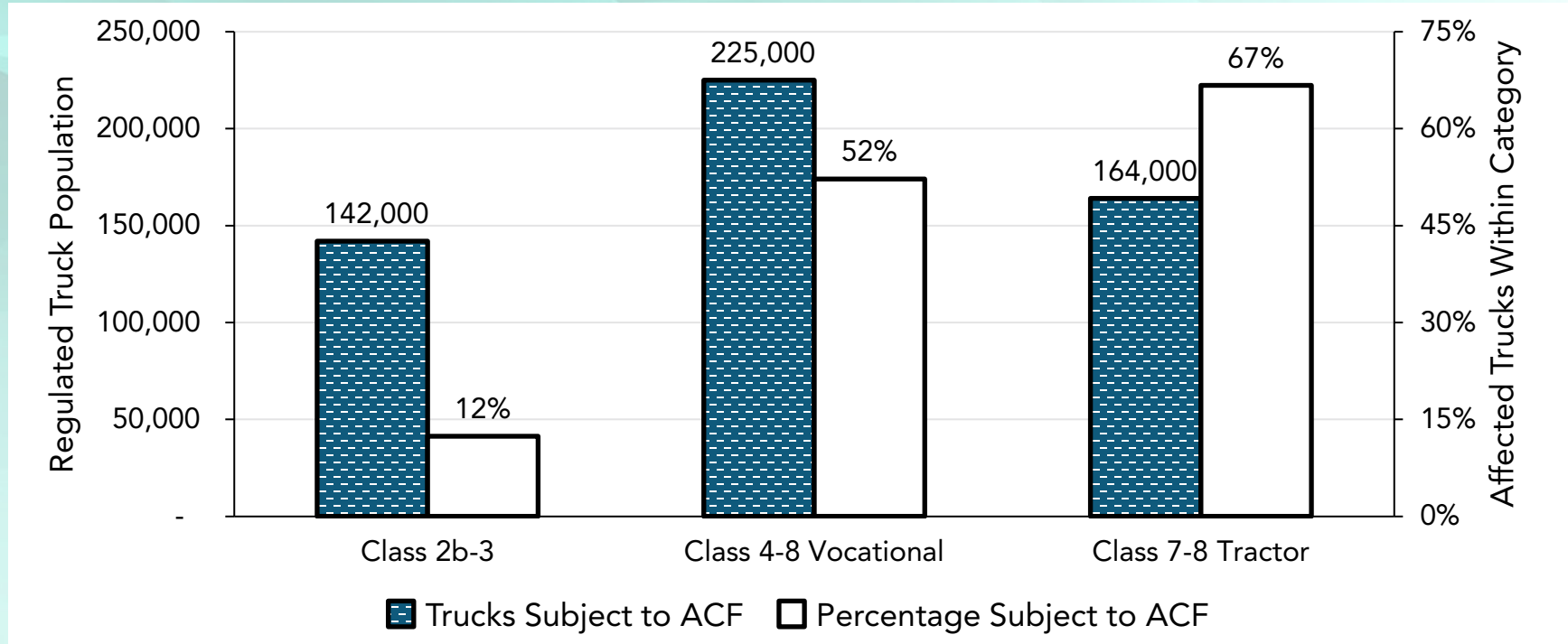
- School buses
- Transit buses
- Military tactical vehicles
- Vehicles awaiting sale
- Emergency vehicles*
- Dedicated snow removal vehicles
- Historical vehicles
- Heavy cranes
- Two-engine trucks and workover rigs
- Vehicles subject to Mobile Cargo Handling Equipment regulation



Significant Increase in Medium- and Heavy-Duty ZEVs Expected

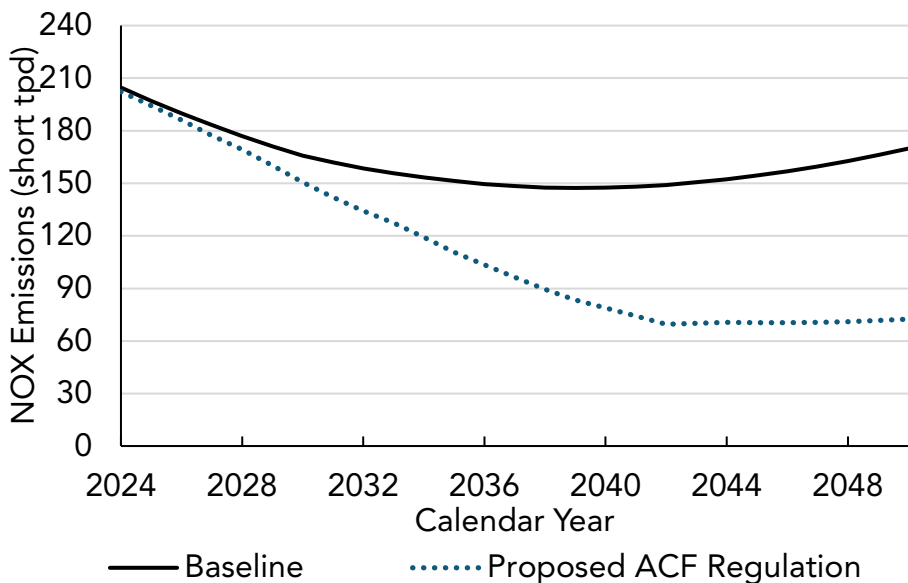


Most Polluting Trucks are Prioritized

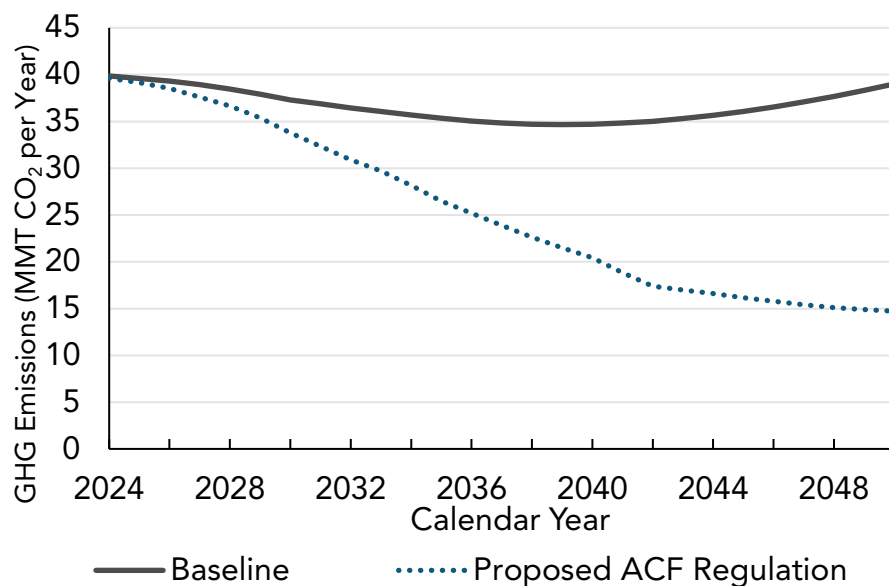


Emission Results

NOx Emissions Drop 35% by 2037



GHG Emissions Drop 41% by 2040



Extraordinary Benefits

\$57 billion in health savings

Avoided premature mortality, emergency room visits, lost workdays, and hospitalizations

\$22 billion in reduced direct costs to fleets

Lower fuel and maintenance costs, and LCFS revenue

Decreased exposure in disadvantaged communities adjacent to freight hubs

ZEV Incentives and Investments

- State budget includes \$10 billion over 6 years
 - \$1 billion for zero-emission drayage trucks and infrastructure
 - Over \$5 billion for zero-emission trucks, buses, off-road equipment, ports, and supporting infrastructure
 - 2R Initiative aims to double the number of zero-emission refuse trucks in California
- Federal Infrastructure Investment and Jobs Act and Inflation Reduction Act
 - Up to \$40,000 per ZEV
 - \$1 billion for ZE Trucks
 - \$3 billion for the postal service
 - \$3 billion for ZE manufacturing



Proposed Changes

- More time for infrastructure exemptions to address potential utility delays
- Added flexibility for public fleets to use same compliance options as commercial fleets
 - More time for smallest public fleets
- More flexibility for SB 1383 fleets
- Enhance criteria used for determining ZEV unavailability
- Improve access to mutual aid exemption
- Allow for temporary use of transient trucks in the state

CEQA Environmental Analysis

- Draft Environmental Analysis (EA) completed and released for 45-day public comment period
 - September 2, 2022 – October 17, 2022
- Next Steps
 - Prepare written responses to comments on Draft EA
 - Present Final Environmental Analysis and written responses to comments on Draft EA to the Board

Recommendation and Next Steps

Direct staff to return with final proposed Advanced Clean Fleets regulations for adoption



Proposed modifications released for public comment Winter 2023



Second hearing in Spring 2023

