



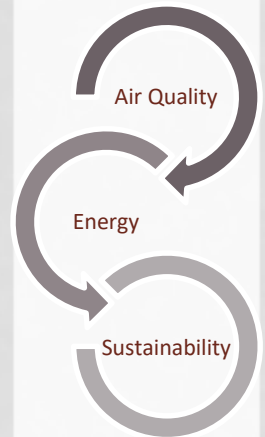
STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION



DIVISION OF AIR QUALITY AIR QUALITY, ENERGY, AND SUSTAINABILITY

CALIFORNIA ZERO EMISSION FLEETS REGULATION

BUREAU OF MOBILE SOURCES



Stakeholder Meeting - September 10th, 2020

ACRONYMS

- CARB – California Air Resources Board
- NOx – Nitrogen oxides
- PM – Particulate matter
- GHG – Greenhouse gas
- ZEV – Zero emission vehicle
- ZE – Zero emission
- OEM – Original equipment manufacturer
- MY – Model year
- CY – Calendar year
- MD – Medium duty
- HD – Heavy duty
- CNG – Compressed natural gas
- LNG – Liquified natural gas
- LPG – Liquified petroleum gas
- DAC – Disadvantaged communities (CA's term for environmentally overburdened areas)
- NZEV – Near zero emission vehicle
- BEV – Battery electric vehicle
- FCEV – Fuel cell electric vehicle

CARB STRATEGIES FOR MEDIUM AND HEAVY VEHICLES

1. Advanced Clean Truck (ACT) regulation– requires OEMs to sell ZEVs.
2. Heavy-Duty Engine and Vehicle Omnibus regulation – establishes more stringent NOx emissions standards for new engines.
3. Zero Emission Fleets – requires fleet owners to purchase ZEVs.
4. Drayage Trucks at Seaports and Railyards – directs a transition to zero emission operations at ports.

OVERVIEW

1. What strategies are we considering?
2. What is the Zero Emission Fleets regulation?
3. Questions and discussion.

REGULATORY CONCEPT

- California is developing a strategy to require electrification of fleet vehicles.
 - They are only in the initial, pre-proposal, stage of this regulatory concept.
 - Public workshop - February 12, 2020
 - Public workshop – September 18, 2020
- New Jersey could consider adoption by reference of relevant sections of the California Code of Regulations once finalized.

Zero-Emission Regulatory Concepts

- Phase-in ZEV purchases
- EMA Proposal - 100% ZEV purchases by truck segment
- ZE fleet standards
- Green contracting
- ZE zones
- Facility requirements
- ZE miles standard

Phase-in ZEV Purchases

- Ramp up ZEVs as a percent of normal purchases by calendar year
 - No accelerated replacements
- Questions to consider
 - How to maximize ZEVs for different vehicle/fleet types
 - Level playing field, match fleet needs, infrastructure
 - When/how to set 100% ZEV purchase requirement for simplicity
 - How to benefit DACs
 - How to guard against pre-buys or delayed purchases

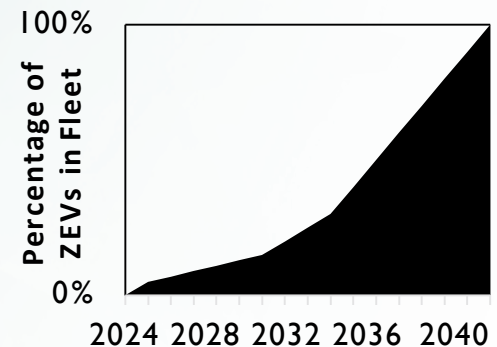
Model Year Requirements - EMA Proposal

- Require 100% ZE sales/purchases in market segments by model year
 - 2023 – School buses and municipal stepvans
 - 2024 – Public utility vehicles and yard tractors
 - 2025 – All stepvans, airport service vehicles, non-airport shuttle buses
 - 2026 – All refuse trucks
 - 2027 – Concept continues for other segments
- Questions to consider
 - How do you maximize ZEV deployments
 - How do you address segments not yet ready for 100% sales
 - How do you ensure benefits in DACs (tractors or other)
 - How to guard against pre-buys or delayed purchases

EMA Proposal: <https://www.arb.ca.gov/lists/com-attach/142-act2019-WjAAYIAIAAwEbwdm.pdf>

ZE Fleet Standard

- ZEVs must make up percentage of fleet by milestone dates
 - Report body type and fuel type annually
- Questions to consider
 - How to set goals to maximize ZEVs for different fleets, vehicle types or market segments
 - What fleet definition for level playing field
 - How to ensure benefits in DACs
 - Any unintended consequences



Green Truck Contracting

- Requires large entities to hire fleets that meet a voluntary ZE Fleet Standard
 - May include retailers, wholesalers, public agencies, brokers, terminal operators, motor carriers...
 - Certified fleets would be listed on CARB webpage
- Questions to consider
 - Will demand for ZE fleets maximize ZEV deployments
 - How do you achieve benefit in DACs
 - How to track and audit contract agreements for enforcement
 - Leaves door open for funding fleets if needed
 - Are there unintended consequences

Maximize ZEVs, benefit DACs, simplicity, match fleet needs, expand infrastructure access, level playing field, unintended consequences.

Zero-Emission Zones

- Geographic boundaries surrounding targeted areas
- Only ZEVs or fleets meeting the ZE Fleet Standard may enter ZE zone
 - Ports, rail yards, warehouse hubs, city boundaries, disadvantaged communities, air basin, or other
- Questions to consider
 - How and when to transition to a pure ZE zone
 - How to determine locations and boundaries to benefit DACs
 - How to ensure feasibility for all fleets (small and large)
 - How to address differences for drayage vs long-haul tractors
 - How to ensure compliance and enforcement during transition
 - Any unintended consequences

Facility Requirements

- Facilities that receive trucks must install infrastructure for ZEVs
 - Install H2 stations or chargers at stores, ports, railyards, warehouses, or other hubs with sufficient dwell time
 - Workplace charging
- Questions to consider
 - Can this complement other strategies to maximize ZEVs
 - How to determine which sites appropriate for infrastructure
 - Are there other ways facilities can attract ZEV trucks into DACs



ZE Miles Standard

- Set fleet ZE mile targets based on metrics
 - Energy use, miles travelled, ton-miles
- Questions to consider:
 - How to maximize ZEVs and benefits in DACs
 - How to match fleet needs and maintain level playing field
 - Can the same metric work for all truck types and uses
 - Is there simple way to track and report data
 - How to address fluctuations in truck use
 - Contracts, economy, or other issues beyond fleet's control

Early Market Segments for Focus

- Drayage and intermodal
- First/last mile delivery
- Private bus/shuttle operators
- Refuse services
- Public agencies
- Utility providers
- Others to be identified

Drayage & Intermodal Fleets

- Goal to achieve 100% ZE fleet by 2035
- Trucks that service ports, inland ports, railyards (23,000 statewide)
- Major emission sources in disadvantaged communities
- Opportunities for shared, centralized infrastructure
- Significant number of owner-operators



First and Last Mile Delivery/Services

- Goal to achieve 100% ZE fleet by 2040
- Parcel, food, beverage, linen services, home/residential delivery, other
 - Initial population estimate –80,000
- Return to base, predictable routes
- Large ZEV purchases from UPS, FedEx, and Amazon



Buses and Shuttle Buses

- Goal to achieve 100% ZE fleet by 2040
- Employee shuttles, motor coaches, other buses
- About 25,000 beyond transit and ASB
- Wide range of ZE buses commercially available
- Long distance motor coaches requires further study



Refuse Services

- Goal to achieve 100% ZE fleet by 2040
- Garbage, recycling, compactor and roll-off trucks, and other
 - About 16,000 vehicles (mostly Class 7-8)
 - Transfer trucks require further study
- Owned by or under contract with municipalities
- Return to base, predictable routes, operate in neighborhoods
- City of Los Angeles committed to 100% ZE refuse by 2035



Public Fleet Vehicles

- Goal to achieve 100% ZE capable fleet by 2040 including NZEVs
- Public fleets to lead the way for work trucks
- Diverse vehicle weight classes and body types
 - About 100,000 in Class 2b-8
 - Mostly variable use, low miles, and operate locally
- Different budget and funding issues than private
- Specialized vehicles and emergency use considerations
- No plans to require ZEV school buses



Private Utility Fleets

- Goal to achieve 100% ZEcappable fleet by 2040 including NZEVs
- Electricity, water, sanitation, telecommunications
- Diverse fleet of weight classes and body types
 - Some specialized equipment
- Operate regionally, some vehicles have long dwell times at jobsites
- Occasional long distance, or rapid response/emergency operation



What About ZEVs in Other Segments

- Need to include other truck types and market segments to meet 100% ZEV goal by 2045
 - Role for NZEVs with all-electric range
 - Requires substantial on infrastructure build-out
- Work trucks, service trucks, vans and other
- Short haul, regional, long-haul tractors
 - Largest heavy-duty emissions category
- Considerations for specialized equipment and uses
- How/when to bring in smaller fleets

STAKEHOLDER FEEDBACK OPPORTUNITIES

- Are there any questions about this material?
- Specific issues for consideration and discussion are on subsequent slides.

DISCUSSION ISSUES

- Issues for discussion:
 - Strategy
 - Is a fleet ZEV requirement a good fit for NJ?
 - What are the most significant hurdles?
 - Is there another way to achieve the goal of large-scale commercial transportation electrification?
 - Schedule
 - Unknown as not yet proposed by CARB.
 - Industry assistance
 - Can industry organizations help us with outreach and education?
 - Enforcement
 - How would this be enforced?
 - Who is the regulated entity?
 - We don't currently collect data from or regulate vehicle fleets.

COMMENTS

Please send comments and/or technical support information to:

njairrulesmobile@dep.nj.gov

Use the following heading in the subject line of the email:

California Zero Emission Fleets regulation

By September 24, 2020