



TEC EQUIPMENT
RRCC CARB/EQUIPMENT UPDATE
Ashley Porter – December 6, 2024

CARB REGULATORY UPDATE



THREE PRIMARY REGULATIONS

Advanced Clean Truck (ACT)	Advanced Clean Fleet (ACF)	Low NOx HD Omnibus
Affects manufacturers and distributors by controlling mix of Zero Emissions vs Internal Combustion vehicles that enter the state	Affects fleets by imposing timeline for BEV adoption as percent of total fleet	Affects manufacturers, distributors, and fleets by placing new emissions standards on engines operating in state

CARB REGULATORY UPDATE



CARB OPT-IN STATUS

2025 CALENDAR YEAR	CA	MA	NJ	NY	PA	OR	WA
CARB Certification	X				X	X	
CARB ACT	X	PPD	PPD	PPD		X	X
CARB ACF	TBD						
CARB HD Omnibus	X	PPD				PPD	

Powertrain emissions certification and vehicle certification model year = VNTA MY2026

CARB REGULATORY UPDATE



ADVANCED CLEAN TRUCK (ACT)- MANUFACTURERS AND DEALERS EFFECTED

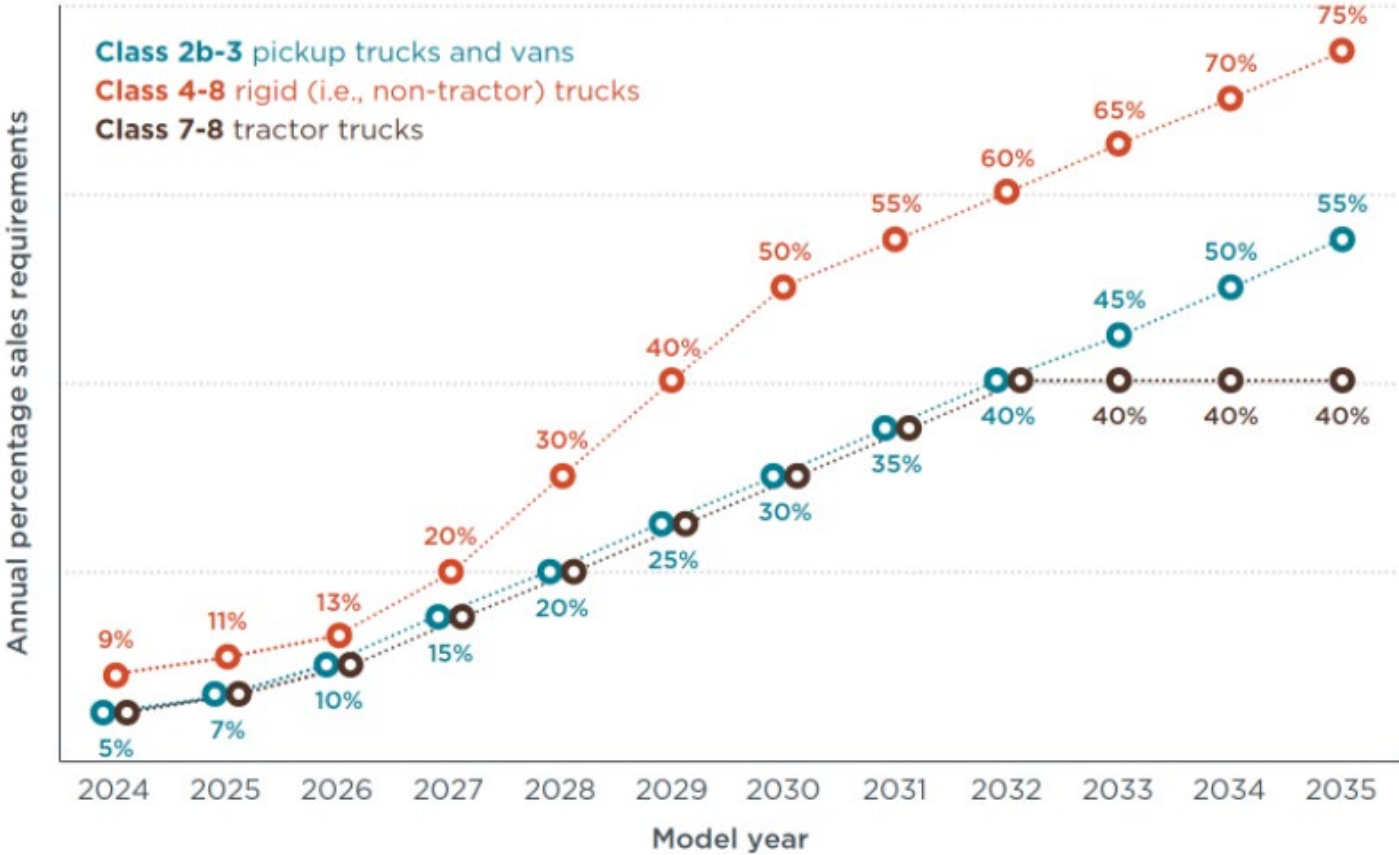


Figure 1: Zero-emission sales percentage schedule by vehicle group and model year.

Percentages are for ACT states and state by state requirement vs Nation wide requirement
 California, Oregon & Washington will be ACT opt in States in 2025-

11% of Class 4-8 rigid trucks in 2025 for each manufacturer selling in California, Oregon or Washington needs to be a ZEV vehicle

CARB REGULATORY UPDATE



ADVANCED CLEAN FLEET (ACF)

PATHWAY #1: MODEL YEAR SCHEDULE

(Default Compliance Option)



JANUARY 1, 2024

Any vehicle \geq 8,501 lbs. GVWR added to a California fleet must be zero-emission



JANUARY 1, 2025

Any vehicles beyond their useful life must be removed from the fleet

A vehicle's useful life, as defined by California's 2017 SB-1, is the latter of:

- 18 engine model years old, OR
- 800,000 miles and at least 13 engine model years old

CARB REGULATORY UPDATE



ADVANCED CLEAN FLEET (ACF)

PATHWAY #2: ZERO-EMISSION MILESTONES OPTION

Fleets Must Opt-in to Use This Pathway

This option allows for more flexibility and allows for growth in the fleet size over time. Milestone deadlines occur January 1st of each year.

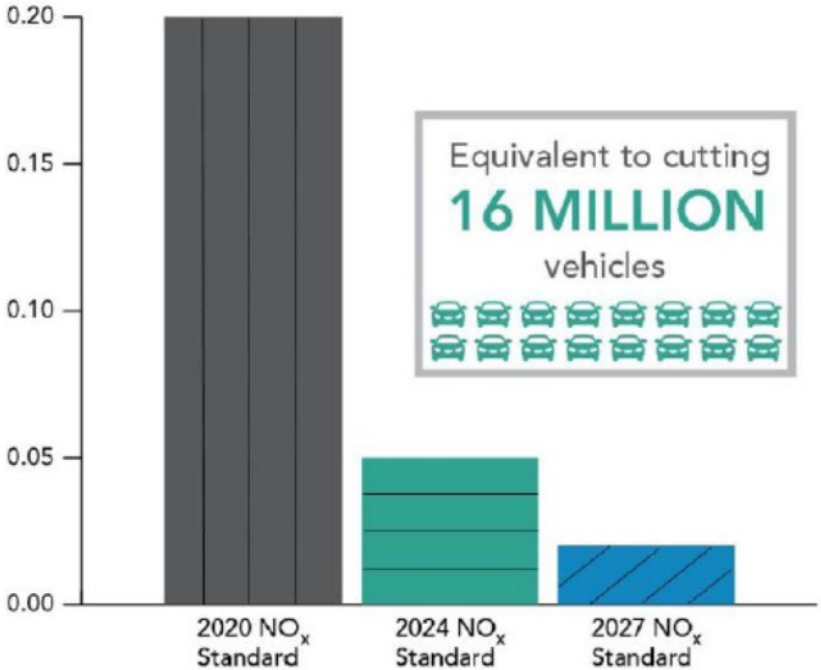
Vehicle Group Turnover Requirements	10%	25%	50%	75%	100%
Group 1: Vans, box trucks, two-axle buses, yard tractors	2025	2028	2031	2033	2035
Group 2: Work trucks, day cab tractors, three-axle buses	2027	2030	2033	2036	2039
Group 3: Sleeper cabs tractors and specialty vehicles	2030	2033	2036	2039	2042

CARB REGULATORY UPDATE



LOW NOX OMNIBUS

~~Proposed~~ regulation delivers 90% Reduction in Allowed NO_x



CARB REGULATORY UPDATE

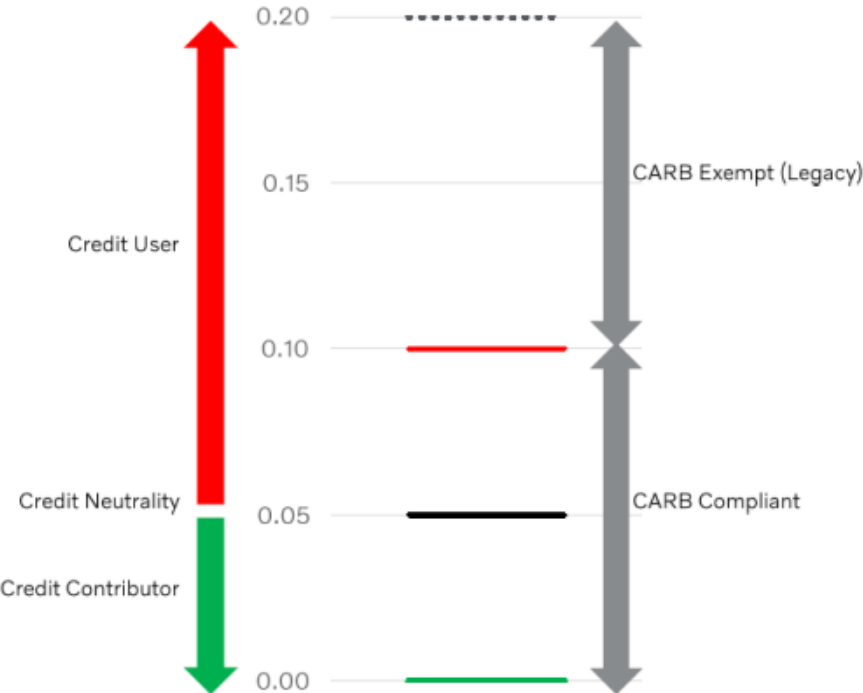
LOW NOX OMNIBUS – CLEAN TRUCK PARTNERSHIP

- 1 Agreement between CARB and the Truck Engine Manufacturers Association on % of “Legacy” vs Low NOx engines that can be registered in CA in 2024 - 2026
- 2 CARB to allow certification of Low NOx engines at .1g/bhp-hr NOx (vs required .05g/bhp-hr); NOx output deficit of all Legacy (.2g) and Low Nox (.1g) engines must be offset with ZEV credits
- 3 Manufacturers & Distributors held to annual compliance mandates in both overall NOx output and Legacy vs Low NOx engine mix; fines exceeding \$42,500 per unit of non-compliance

CARB REGULATORY UPDATE



LOW NOX OMNIBUS – CLEAN TRUCK PARTNERSHIP



Allowable Legacy Engines by Calendar Year

- 2024**
 - 45% Legacy
 - 55% CARB Low NOx
- 2025**
 - 25% Legacy
 - 75% CARB Low NOx
- 2026**
 - 10% Legacy
 - 90% CARB Low NOx
- 2027**
 - 100% CARB Low NOx, certified at .035g NOx

CARB LOW NOx HD OMNIBUS

IMPLEMENTATION AT WORK – 26MY

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Legacy .2g Diesels

- 2.0g bhp/hr total NOx
- 1.5g excess vs allowable
- 25% of total engine mix

30

Low NOx .1g Diesels

- 3.0g bhp/hr total NOx
- 1.5g excess vs allowable
- 75% of total engine mix

60

Class 8 ZEVs

- 0g bhp/hr total NOx
- .05g credit per unit
- Offsets 3.0g total excess

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THANK YOU