



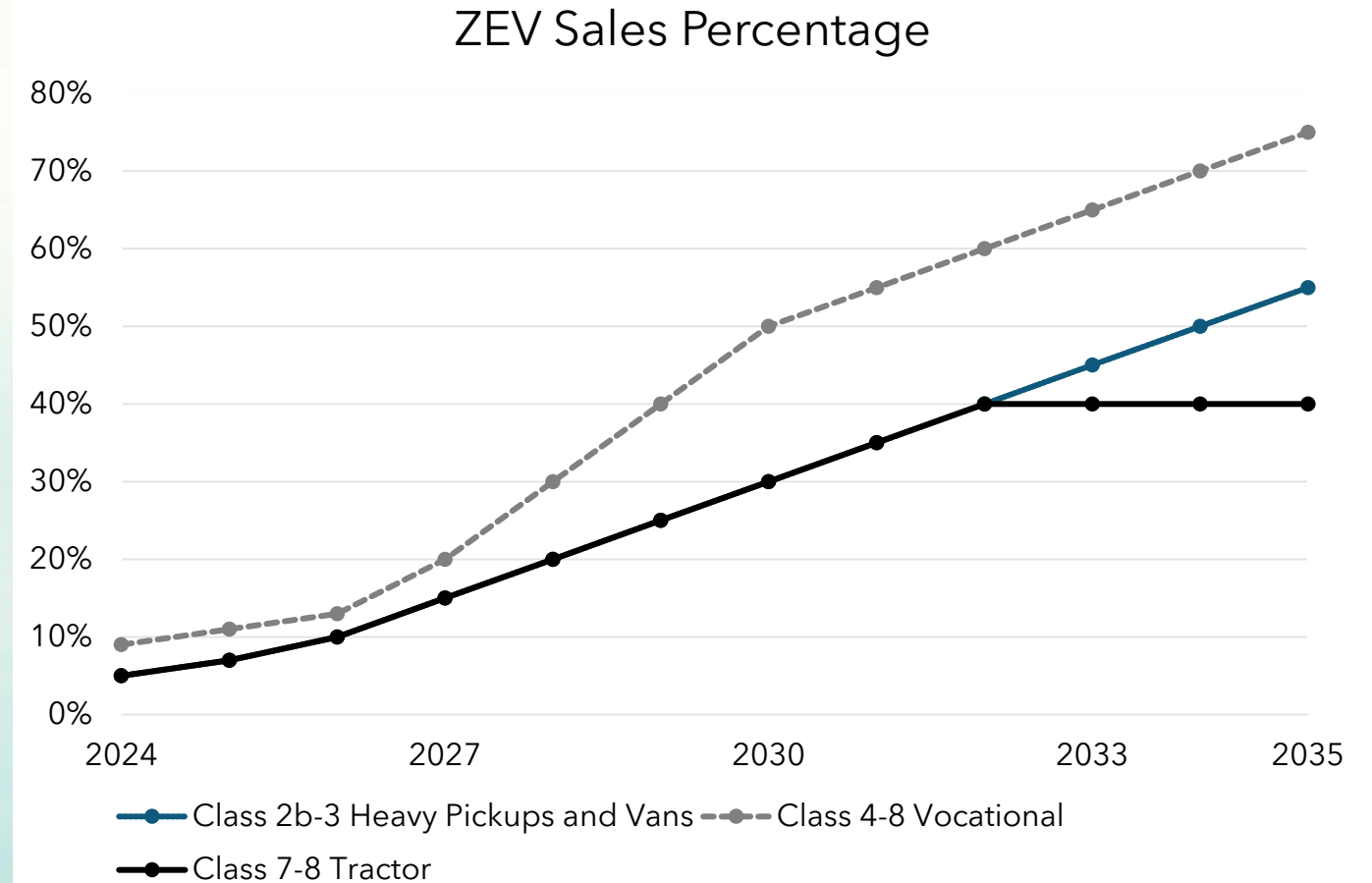
# **Advanced Clean Trucks Proposed Pooling Concepts**

December 9, 2024

# **Advanced Clean Trucks (ACT) Overview**

# Advanced Clean Trucks Regulation

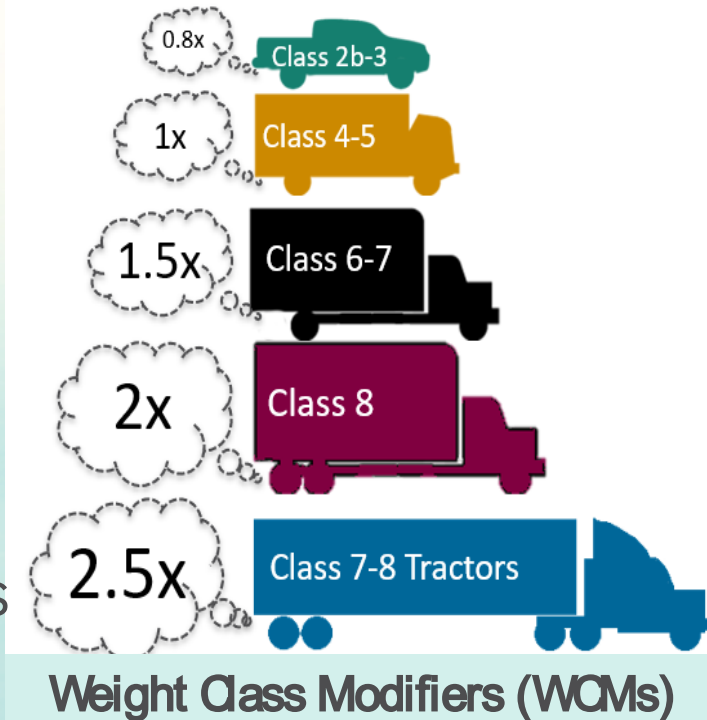
- Adopted June 2020
- Manufacturers to sell zero-emission vehicles (ZEV) as a percentage of Class 2b-8 sales\*
- Compliance flexibility
- 320,000 ZEVs to California by 2035





# ACT Compliance

- Deficits = Sales x ZEV % Requirement x WCM
  - 0.05 g/bhp·hr or lower heavy heavy-duty engines do not generate deficits for 2026 MY\*
- Credits = ZEV sales x WCM
- Weight class modifiers (WCMs) account for more emission with heavier vehicles
- Compliance when total credits exceed total deficits and tractor credits exceed tractor deficits



# ACT Flexibilities

- Early action credits
- Credits may be used interchangeably to meet non-tractor deficits
- Surplus credits may be banked for future use
- Surplus credits may be traded/sold between manufacturers
  - Secondary vehicle manufacturers may opt into credit trading\*
- NZEV credits may fulfill up to 50% of deficits
- Deficits may be carried forward for up to three years\*
  - NZEV credits may be used to fulfill a deficit during make up period\*
- Low tractor sales (< 25 tractor deficits) may be offset with non-tractor credits
- Exempts manufacturers with < 500 average annual on-road vehicle sales

# Current Status of Advanced Clean Trucks

- Met 2025 requirement in 2023 – two years ahead of schedule
  - 2023 model year (MY) data shows ~16% ZEV sales – one in six
  - Abundance of credits expected for 2024 MY
- 10 other states have adopted the ACT regulation
  - 25% of new US truck sales





# Clean Truck Partnership

- CARB staff agreed to align with 2027 EPA NOx standards, provide flexibility and lead time
- Manufacturers agree to comply with specified CARB truck regulations regardless of litigation outcomes
- Includes a commitment to comply with 100% zero-emission (ZE) sales starting with the 2036 MY
- Includes a commitment to develop and implement a pooling structure



DAIMLER TRUCK



# **Advanced Clean Trucks Pooling**



# What is Pooling?

- A flexibility provision that allows manufacturers to use surplus ZEV credits in one state to assist with compliance in another state
- Currently used in light-duty ZEV regulations and provides flexibility on ZEV deployments
- Clean Truck Partnership
  - Required CARB to hold public workshop on pooling in 2023
  - Work with Section 177 states and OEMs to develop pooling concept for ACT

# Proposed Pooling Concept Summary

- Applies to states that have adopted the ACT regulation
- Pooling period from 2027-2031 model years
- Only surplus credits generated in the most recent model year can be transferred to another state
- Credit transfer caps to ensure ZEV deployments in all states
  - Cap total annual credit transfers into a state with a shortfall
  - Cap portion of credits that can come from any one state
- Can be used concurrently with the three model-year deficit make-up period in any state
- Pooling can only be used to offset an immediate deficit

# Proposed Scope of Pooling

## Include Class 7-8 tractors

- Tractor deficits can only be met with Class 7-8 tractor credits
- Operation frequently occurs over state lines and not where vehicle is initially delivered for sale
- Emissions benefits spread amongst several states

## Unclear of need to include non-tractors in pooling

- More credit options
  - Deficits may be met with any type of credits
- Non-tractors predominantly return to base
  - Tend to operate locally
  - Can install own infrastructure
- Tractors are more dependent on ZEV fueling infrastructure away from depots
- Ensures local emissions benefits



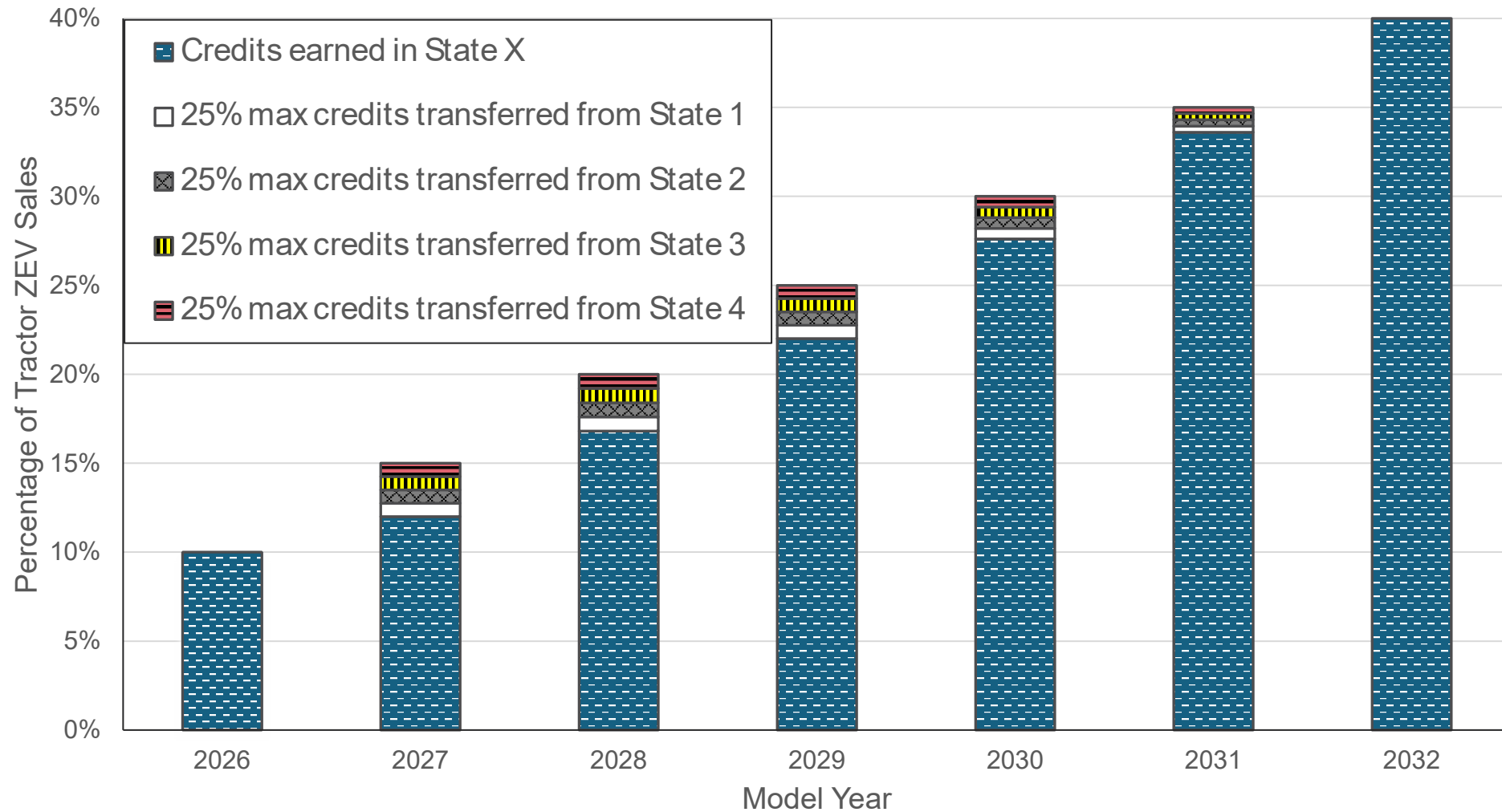
# Proposed Annual Credit Transfer Cap

- Credits transferred into a state cannot exceed the following percentage of the total deficits generated in that state

Model Year (MY)	2027	2028	2029	2030	2031
Credit Transfer Allowance	20%	16%	12%	8%	4%

- Credit transfer allowance into a state each year is limited to 25% from any state

# Effect of Pooling Concept for a Given State



# Example 1:

## Pooling only

- In 2027, if a manufacturer generates 1,000 deficits in a state that ends the year with a credit shortfall, up to 200 credits may be transferred to that state
- Of the 200 credits, only 25% (or 50 credits) can come from any one state

Model Year	2027
Deficits (-)	-1,000
Credits (+)	+800
Net balance	-200
Contribution from pooling	+200 (+50 x 4)
<b>Final net balance</b>	0



## Example 2:

### Pooling in 2027, followed by only using deficit makeup

Model Year	2027	2028	2029	2030
Deficits (-)	-1,000	-300 (carried over) -700 (new)	-125 (carried over) -800 (new)	-200 (carried over) -385 (new)
Credits (+)	+500	+875	+725	+615
Net balance	-500	-125	-200	+30
Contribution from pooling	+200 (+50 x 4)	Not using	Not using	Not using
<b>Final net balance</b>	-300	-125	-200	+30

## Example 3:

Pooling in 2027, followed by combination of pooling and deficit makeup

Model Year	2027	2028	2029	2030
Deficits (-)	-1,000	-300 (carried over) -700 (new)	-13 (carried over) -800 (new)	-17 (carried over) -385 (new)
Credits (+)	+500	+875	+700	+500
Net balance	-500	-125	-113	+98
Contribution from pooling	+200 (+50 x 4)	+112 (+28 x 4)	+96 (+24 x 4)	NA
<b>Final net balance</b>	-300	-13	-17	+98

# Other Discussion Topics

- Adjust all-electric range for larger NZEVs
- Update NZEV test procedures
- Increased flexibility in credit retirement order



# Next Steps & Draft Timeline

- Work with stakeholders to refine proposal
  - Requesting feedback by January 3
- Public workshop on pooling draft regulatory text – early 2025
- Board hearing – summer/fall 2025
- Rulemaking completed end of 2025
- Submit comments by email to ACT Reporting (ACTreporting@arb.ca.gov) by January 3