

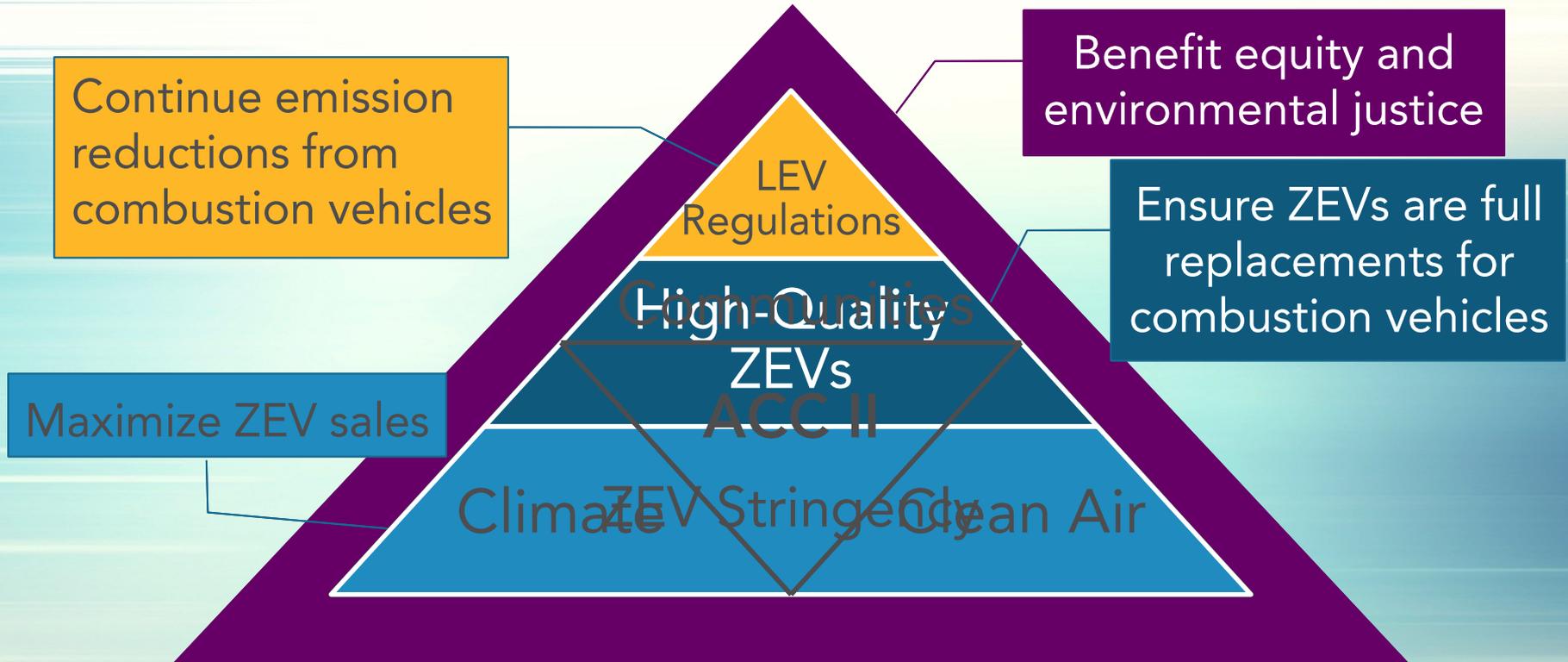


# Proposed Advanced Clean Cars II Regulations

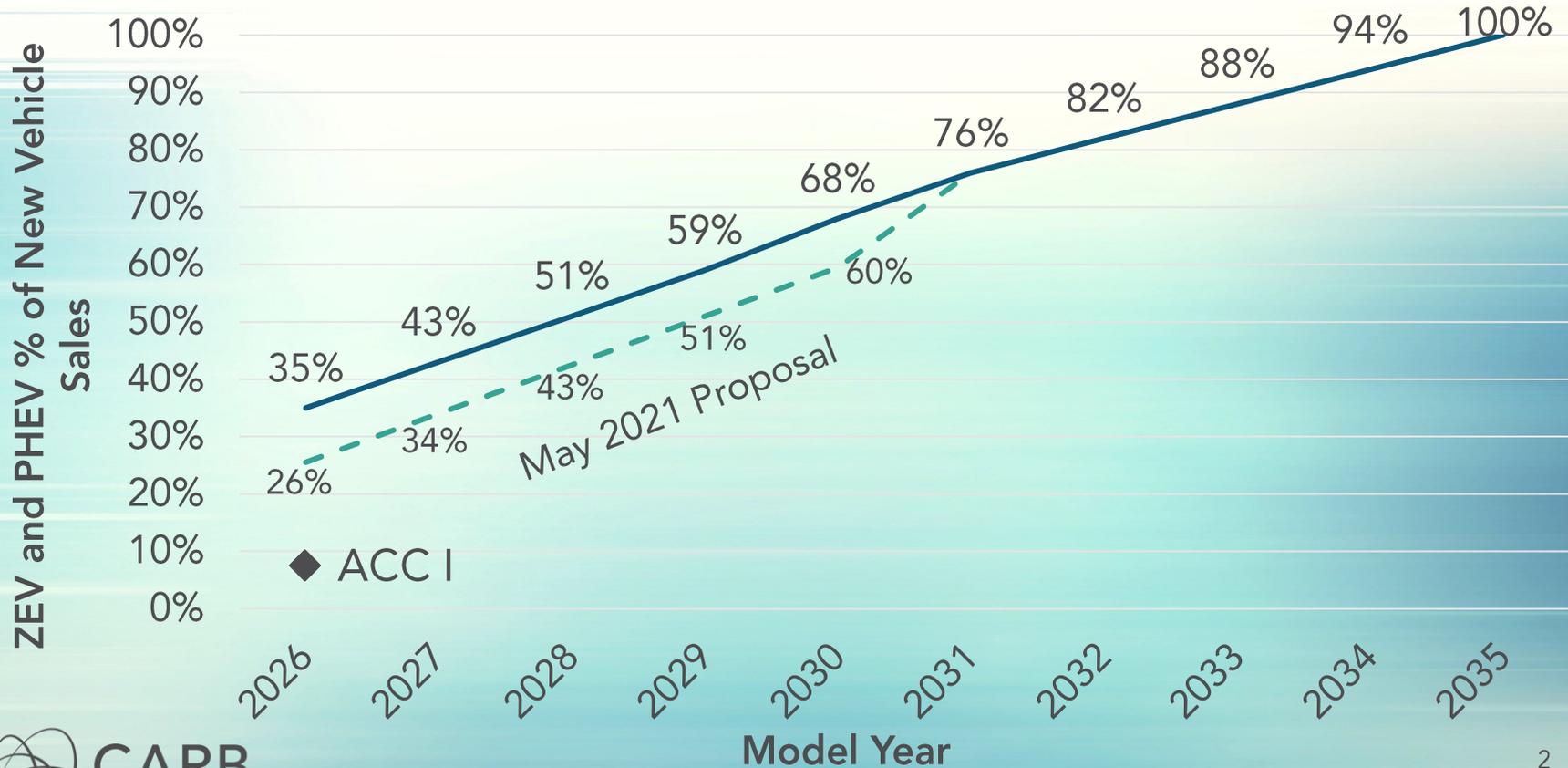
June 29, 2022

AMS10 Summer Meeting (TRB)

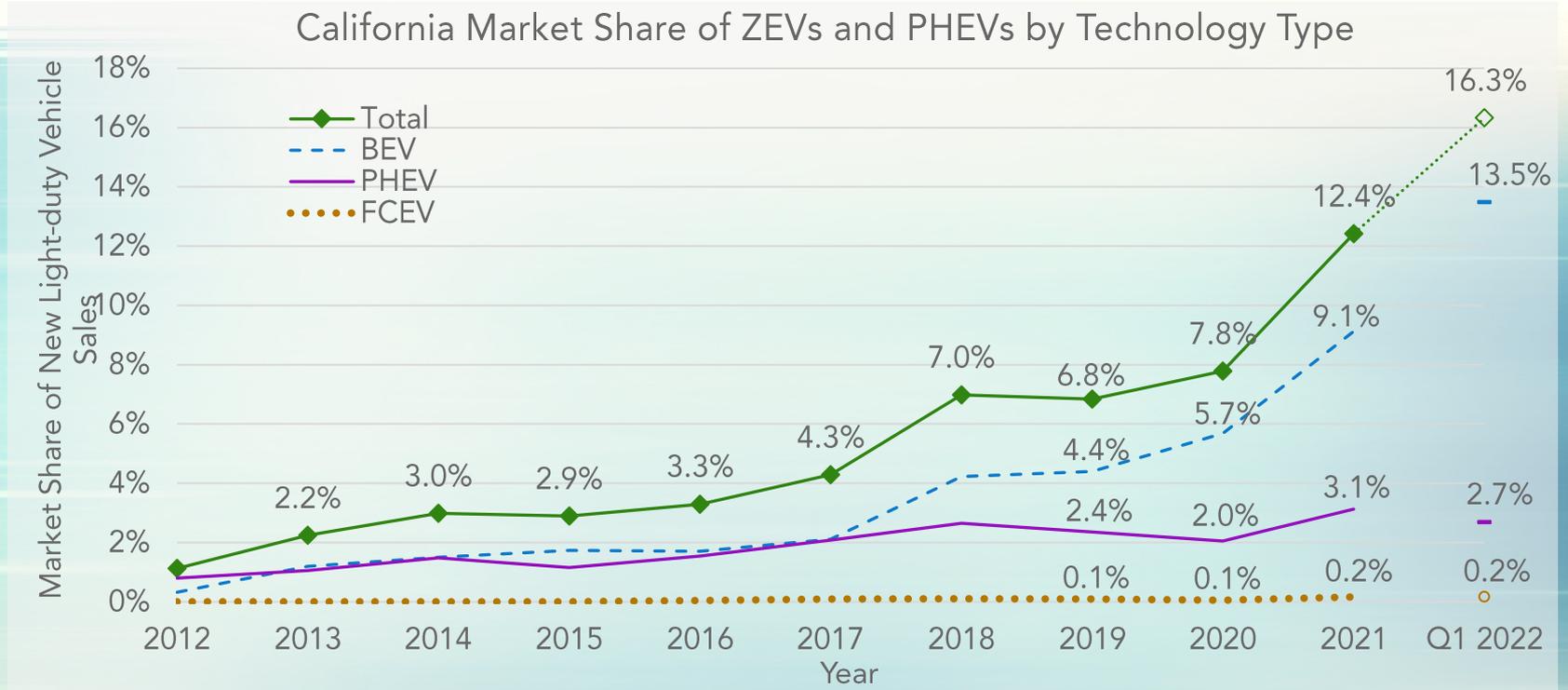
# Revolutionizing Passenger Vehicles



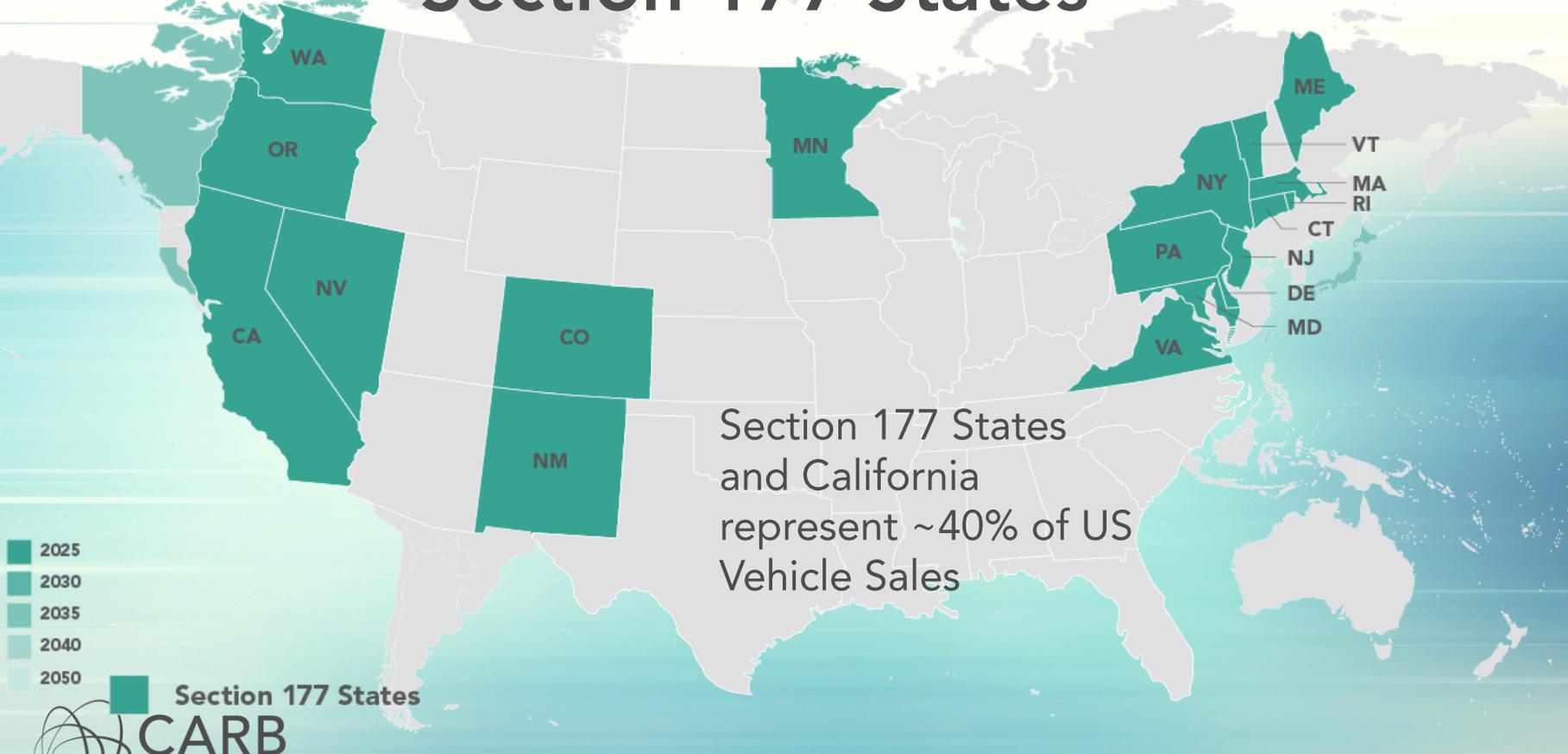
# ACC II: ZEV Requirement Proposal



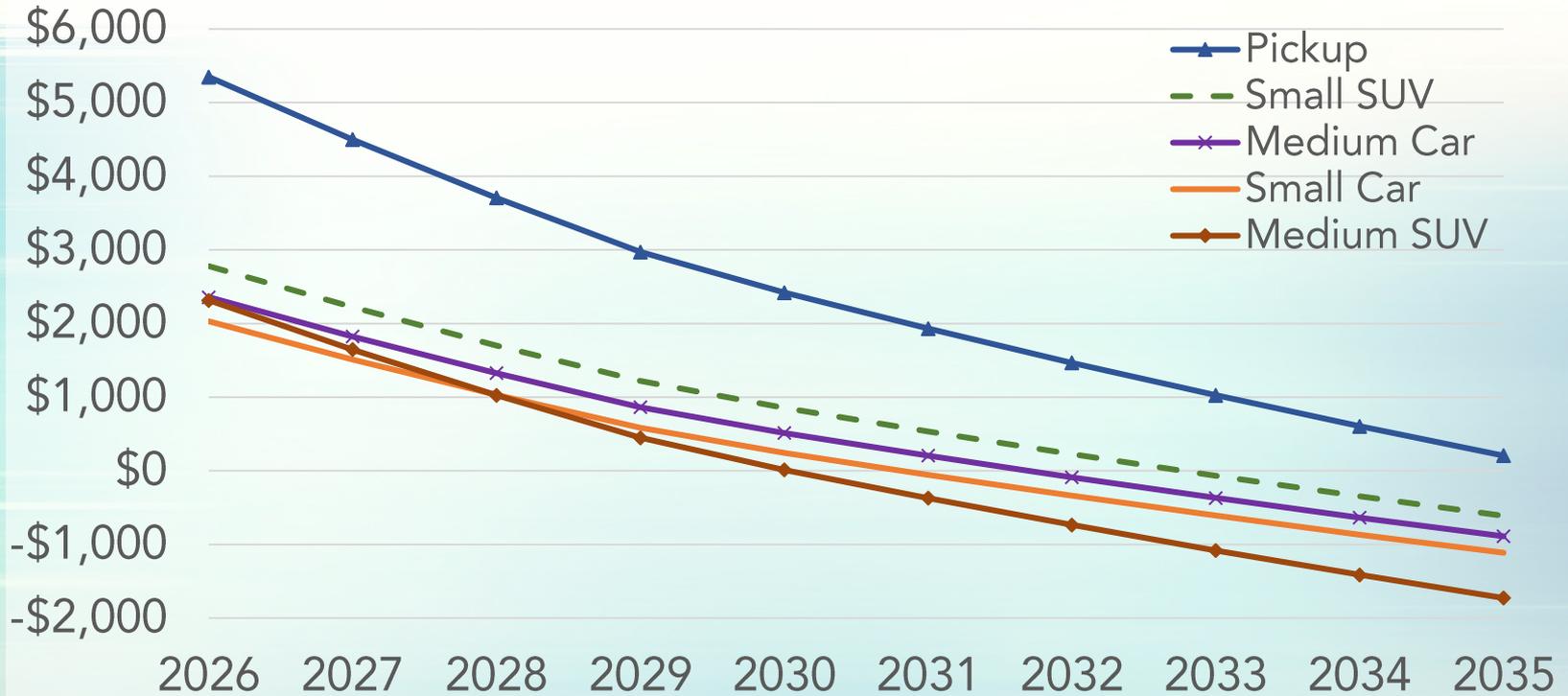
# The transition has already begun: One million+ ZEVs and PHEVs in CA



# California is not alone: Section 177 States



# Incremental costs for 300-mile BEVs: *Cost parity for most segments by 2033*



# ZEV Regulation designed to achieve 100% ZEVs

- Requirements designed to provide volume certainty
- One-value per vehicle system with minimum technical requirements
- Limits on value banking and spending
- Flexibilities encourage overcompliance, direct action, and to manage year to year fluctuations, market, and supply chain disruptions

# Environmental justice values to reward direct automaker action

**Discounted  
EVs in  
Community  
Programs**

**Lower MSRP  
EVs**

**More Used  
EVs to  
Participating  
Dealerships**

# Consumer Concerns: Barriers to adoption still exist

Range



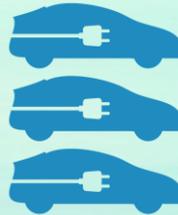
Charging  
& Fueling



Cost



Models



Vehicle  
Reliability



Knowledge



# Longer Range and More Durable ZEVs

Range



Minimum of 150-mile range



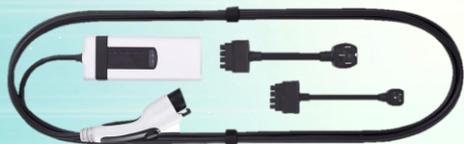
Added durability: maintain 75-80% of range for life of vehicle



Meaningful and transparent warranties



# Improving the charging experience



More capable charging cords



Streamlined fast charging



# Increasing Transparency



Standardized data on ZEVs



Increasing repair information  
access for independent shops

OEM



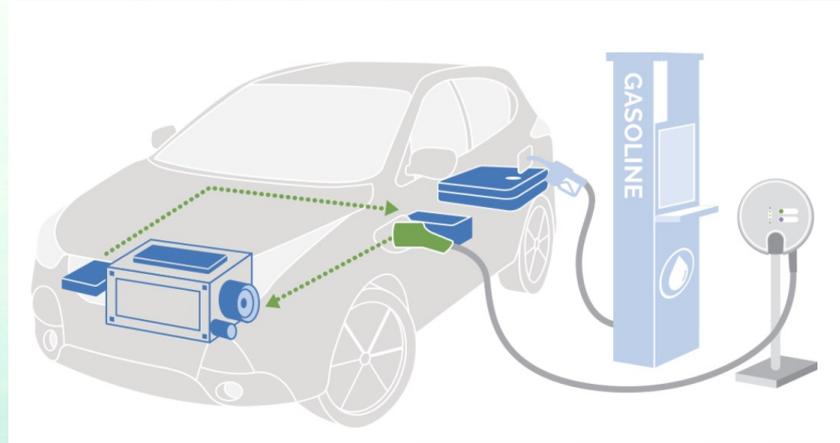
Chemistry: NCA  
Rated: 1000 cycles @ 200A  
Specifications: 28.8V  
Composition: (8 x 3.65V / 56.3Ah)

Streamlined battery labeling

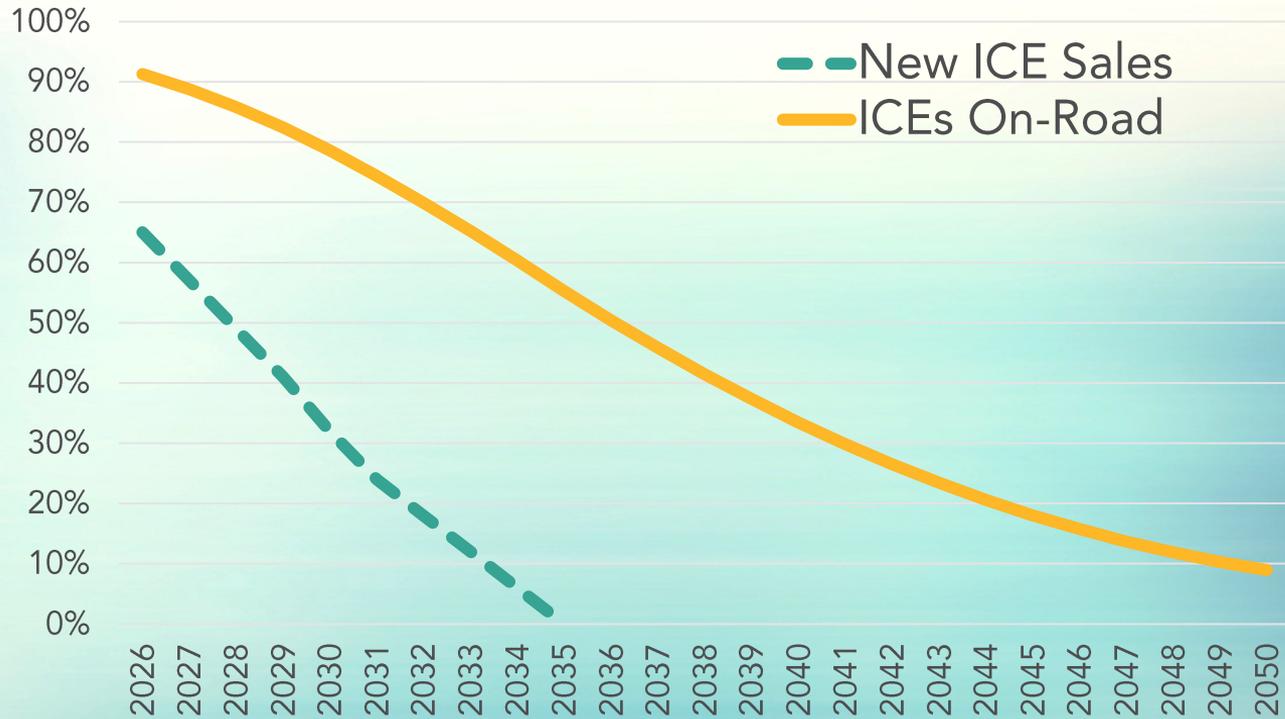


# PHEVs as an Option

Minimum 50-mile electric range with  
greater zero emission driving



# ICE vehicles will comprise a significant portion of the fleet even beyond 2035

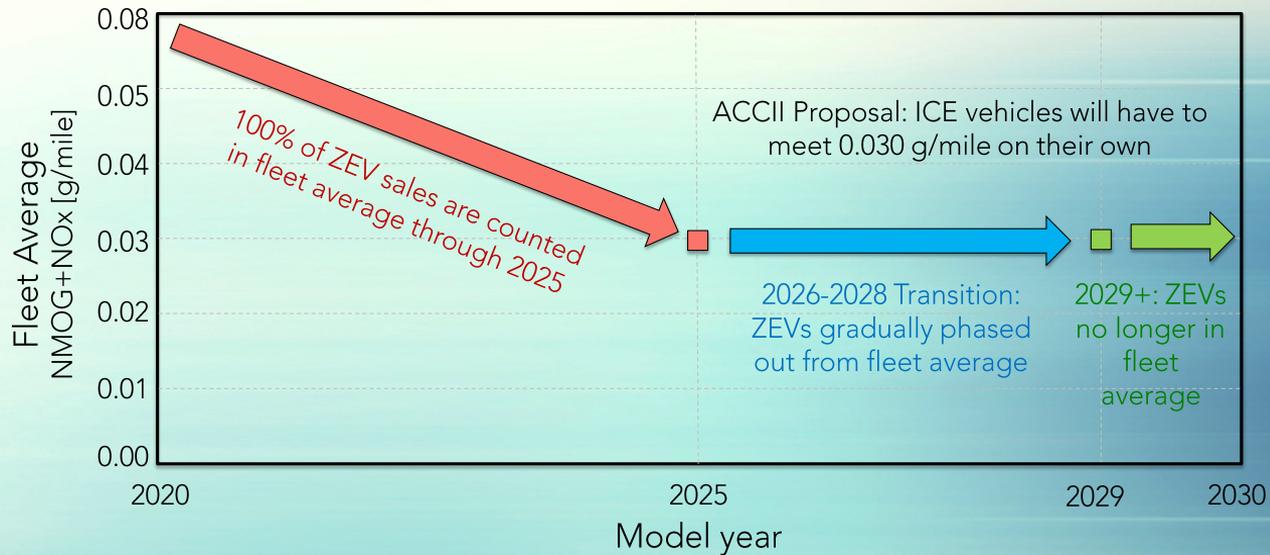


# ACC II Regulations keep combustion engine vehicles on the right path

- Changes to fleet average requirements
- New standards for aggressive driving and cold-starts
- More stringent evaporative standards
- Better emission control for medium-duty vehicles

# Ensure combustion engine vehicles remain clean as fleet electrifies

- Phase out ZEVs from fleet average
- Remove dirtiest certification bins



# Emission Standards for Aggressive Driving and Cold-Starts

## Aggressive Driving Emissions

NMOG+NO<sub>x</sub> aggressive driving standards equivalent to urban driving standards

Reduce PM standard from 6 to 3 mg/mile

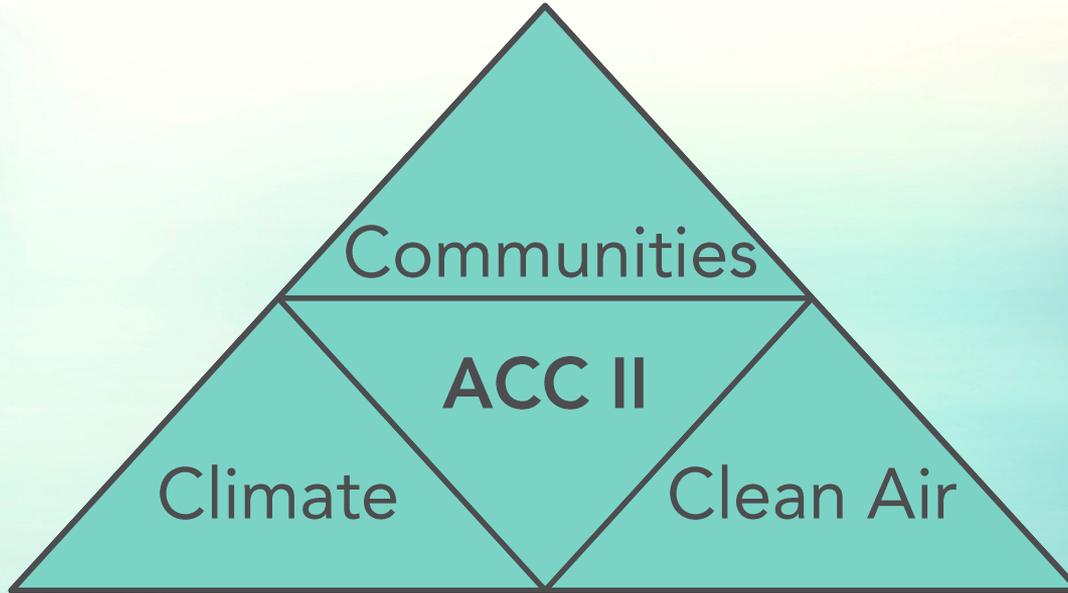
## New Cold-Start Emission Standards

Partial soak standards to control emission impacts of cool-downs

Early drive-away standards

High-power cold-start emission standards for PHEVs

# ACC II Benefits and Impacts



# Total Costs and Savings from ACCII

## Direct costs (2026-40)

- \$212.6 billion, including \$40.7 from vehicle and charger purchases

## Direct savings (2026-40)

- \$294.5 billion

**Net Impact: \$81.8 billion (savings)**

*Does not include health benefits or social cost of carbon*

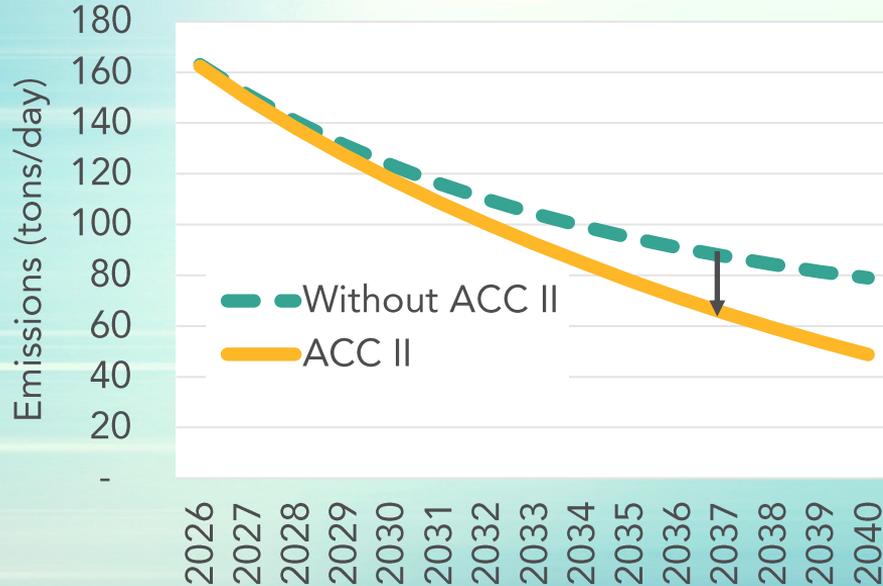
# BEV owners save substantial money: 300-mile BEV passenger car example

CY	Avg Incremental Retail Price vs. ICEV	Total Cost of Ownership over 10 Years	
		Without Home Charging	With Home Charging
2026	\$ 3,102	\$ 3,216 savings	\$ 4,267 savings
2035	- \$ 538	\$ 7,659 savings	\$ 8,835 savings

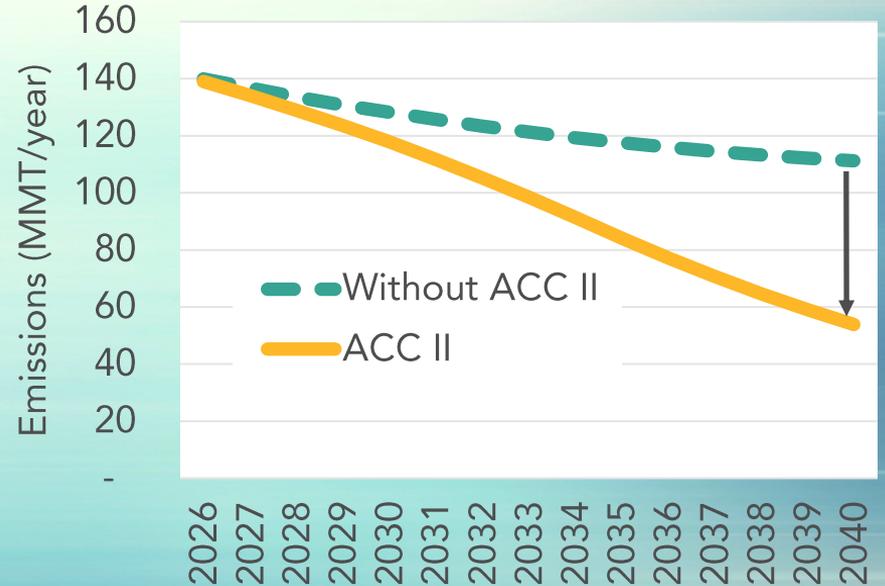
*Consumer sees savings within first year for 2026 when accounting for incremental price spread out in a five-year vehicle loan*

# ACC II provides substantial statewide emission reductions

## NOx emissions fall 26% in 2037



## GHG emissions fall 50% in 2040



# ACC II provides substantial statewide reduction of fossil fuel consumption

