



# **Advanced Clean Fleets (ACF) Regulation Waste and Wastewater Fleet Workgroup**

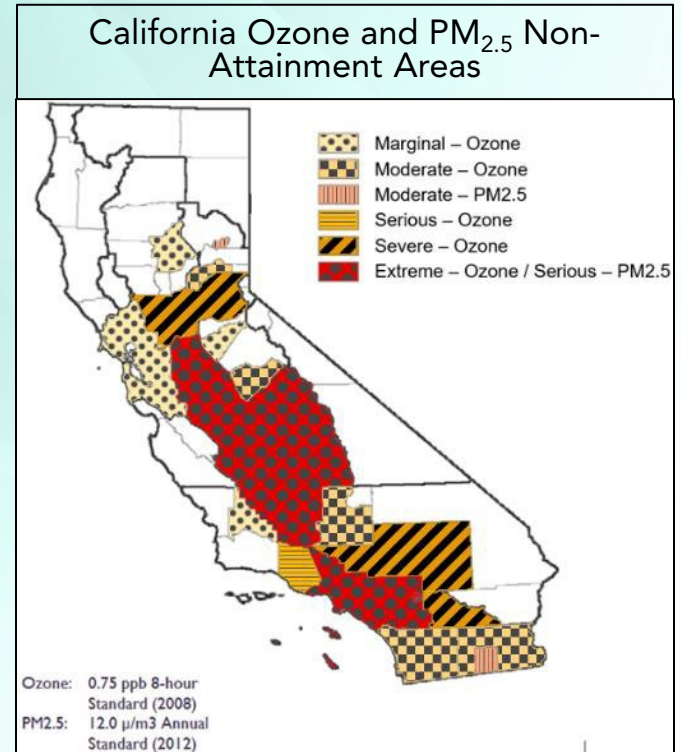
December 12, 2022

# Overview

- Background
- Proposed Provision
- Next Steps
- Discussion

# Major Oxides of Nitrogen (NO<sub>x</sub>) and Fine Particulate Matter (PM<sub>2.5</sub>) 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
- Board committed to adopt zero-emission truck measure 2028




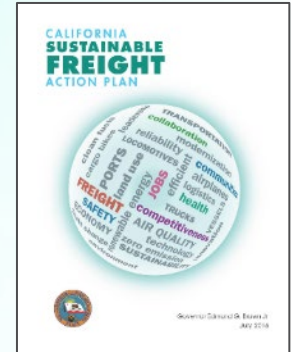
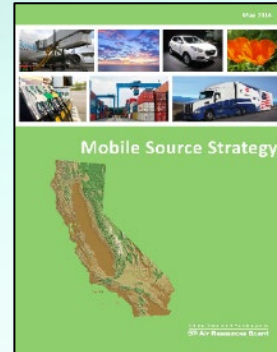
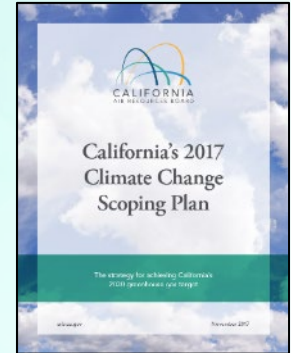
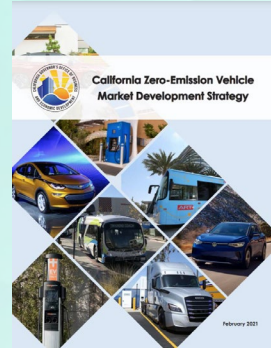
# California Leading the Way for a Sustainable Future

Governor Executive Order N-79-20

 **100% ZEV sales** by 2035

Full transition to **ZEV short-haul/drayage trucks** by 2035 

Full transition to **ZEV buses & heavy-duty long-haul trucks** by 2045\* 



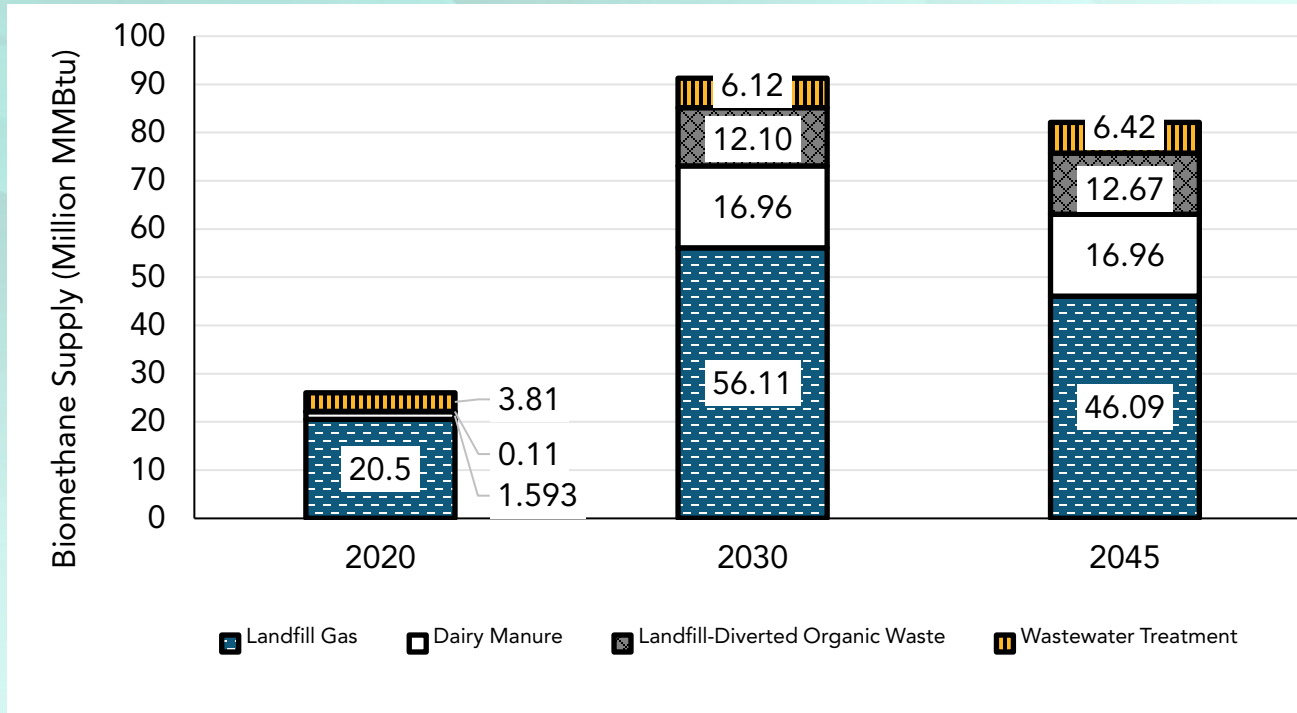
# Board Direction

- First of two Board hearings on October 27, 2022
- Board approved staff recommendation to provide flexibility for waste and wastewater fleets
- 15-day comment period Spring 2023
- Second hearing planned for Spring 2023

# Organic Waste Diversion Background

- Low Carbon Fuel Standard promotes switching to renewable fuels in transportation
- State policies establish statewide targets to divert organic waste away from landfills
  - 50% reduction by 2020 and 75% by 2025
- Cities and counties must meet annual procurement targets of products from the recovered organic waste either directly or through direct service providers
  - Some produce biomethane for transportation through anaerobic digestion
- Senate Bill 1440 requires gas utilities to procure biomethane

# Biomethane Potential



# Biomethane End-Use Options in the Draft Scoping Plan

- Transportation
- Pipeline injection for residential/commercial end-uses
- Pipeline injection for industrial end-uses
- Feedstock for hydrogen production, either onsite or via pipeline injection



# Strategies for Achieving Success Organic Waste

- Invest in the infrastructure needed to support growth in organic recycling capacity.
  - Avoid stranding existing investments and continue to highlight permitting challenges
- Utilize existing digesters at wastewater treatment facilities to rapidly expand food waste digestion capacity.
- Expand markets for products made from organic waste, including through recognition of the co-benefits of compost, biochar, and other products.
- Direct biomethane captured from landfills and organic waste digesters to sectors that are hard to decarbonize.
- Implement improved technologies and best management practices at composting and digestion operations.

# Waste Fleet Provision Concept

# Guiding Principles

- Provide additional time for fleets
- Support biomethane transition to hard-to-decarbonize sectors
- Guard against stranded assets and investments
- Balance short-lived climate pollutant objectives with other greenhouse gas and criteria pollution reduction goals
- Achieve full transition to zero-emissions (ZEV) fleets to meet Governor directives and protect public health
- Establish objective criteria and maintain enforceability

# Proposed Waste Fleet Provision Applicability

- Fleets owned by or contracted with municipalities implementing organic waste diversion or receiving diverted organic waste for anaerobic digestion
- Fleets owned by or contracted with facilities generating in-state biomethane from diverted organic waste
- Vehicles using in-state biomethane to collect and process in-state organic waste
- Vehicles used to support wastewater and organic waste diversion facilities processing in-state organic waste

# Proposed Waste Fleet Provision

## Compressed Natural Gas (CNG) Truck Types

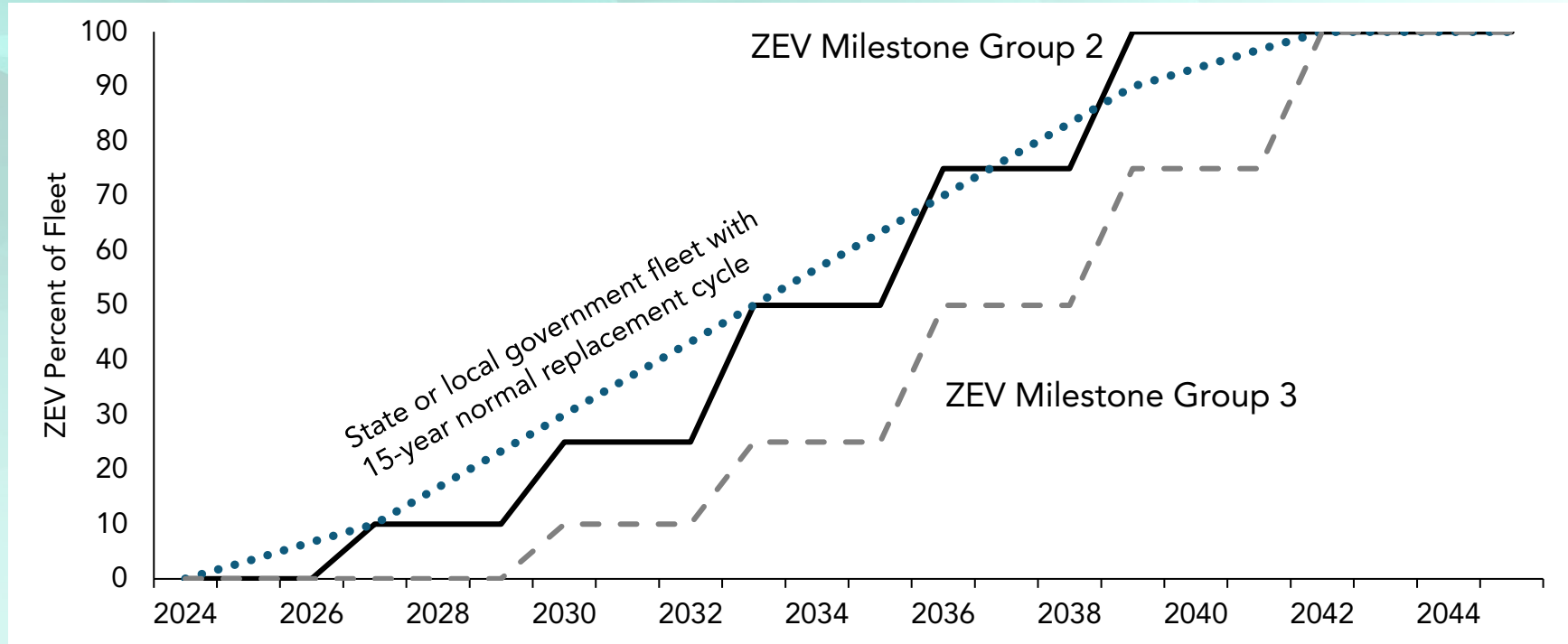
- Refuse
  - Front-loader, side-loader, rear-loader compactors
  - Transfer trucks, sludge trucks?
- Wastewater fleets
  - Trucks dedicated to wastewater divisions

# Waste Fleet Timeline Concept

- Biomethane waste diversion vehicles moved into Group 3 of the ZEV Milestone Schedule
  - Flexibility to continue purchasing CNG vehicles
  - Must continue to use biomethane
  - Phase-in ZEVs from 2030 to 2042

ZEV Milestones Fleet Percentage	10%	25%	50%	75%	100%
RNG waste diversion vehicles, sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042

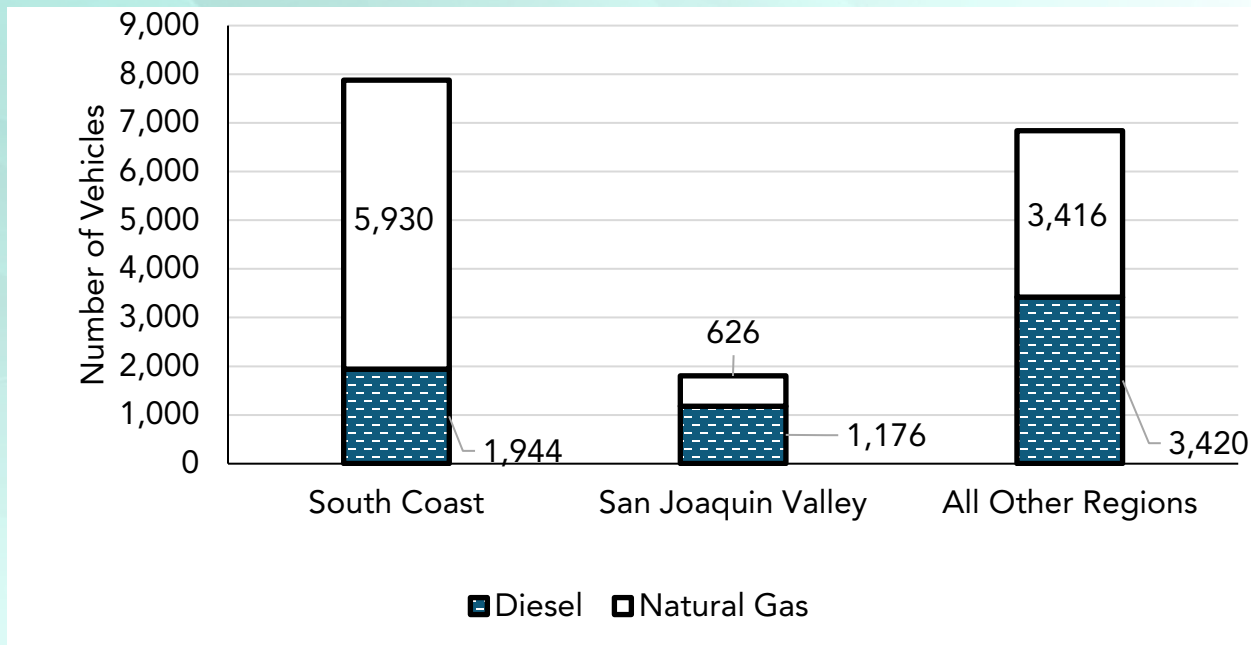
# How Proposed Waste Truck Timeline Compares



100 truck fleet example

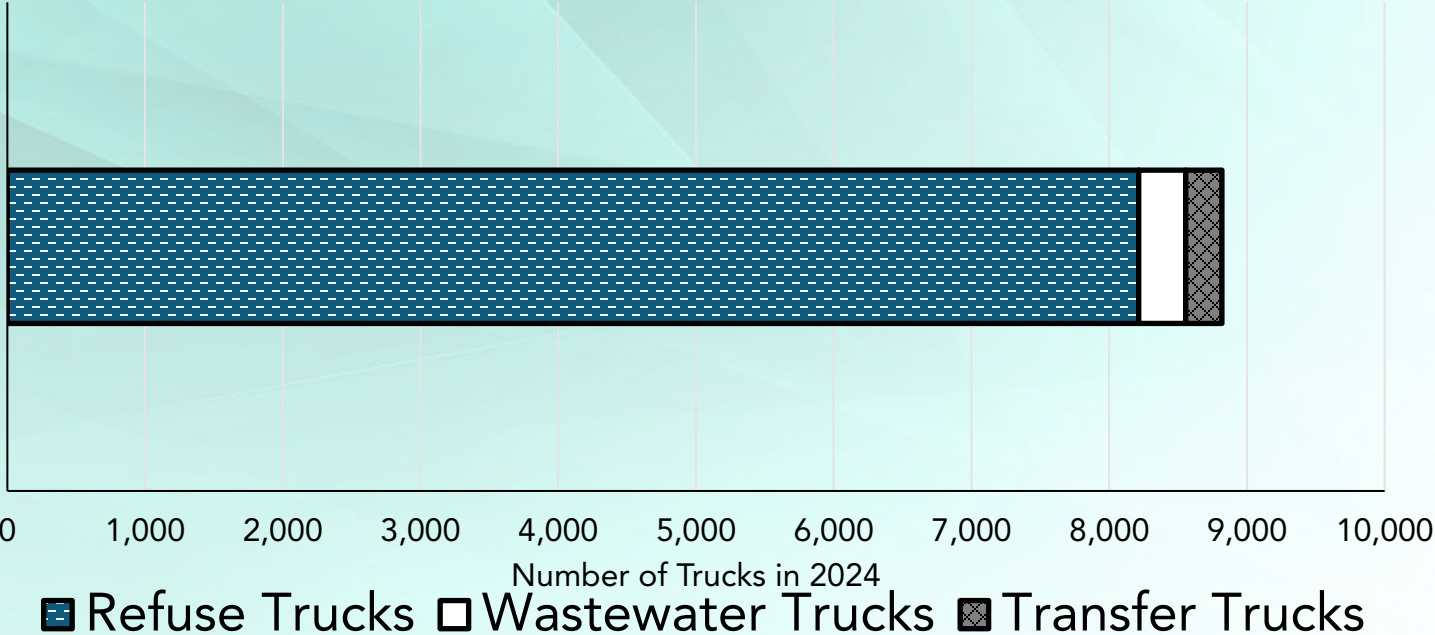
# Solid Waste Collection Vehicle Population

- ~16,500 Class 8 compactor trucks
  - ~75% in South Coast are CNG
  - ~30% in San Joaquin Valley are CNG
- Does not include transfer or other trucks





# Estimated Population of CNG Trucks Affected by Waste and Wastewater Provision



# Next Steps

- Additional public meetings planned
- 15-day change package released for formal comments prior to second Board hearing
- Second Board hearing in Spring 2023

# Questions

- How to identify wastewater trucks within larger city/county fleets?
- What records show the fleet is implementing CalRecycle's short lived climate pollutant regulation?
- How are transfer trucks identified?
  - Term is a use case and not a truck type
  - How many are there?
- Should provision sunset if plug-in hybrid CNG vehicles become available?
- How to best avoid biomethane fueling expansion which leads to stranded assets?