



# California's Transportation Fuels Transition

Assembly Utilities and Energy, Transportation, and Natural Resources  
Committees - Oversight Hearing

August 20, 2025

# The Road to Zero Emissions

CARB has put a roadmap in place to drastically reduce our dependence on petroleum in the transportation sector by 2045.

AB  
32

Requires we cut GHGs.  
To reach goals, fuel use  
must be cut by 94%.



How cuts happen?

Zero emission cars, trucks and fuels.



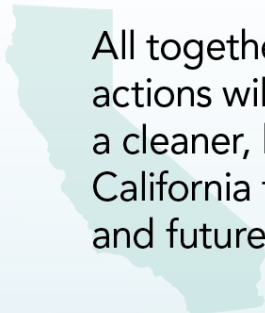
## CLEAN VEHICLE PROGRAMS

CARB rules advance zero-emission  
vehicle deployment:

- 100% light-duty sales requirements by 2035
- Requirements to increase sales of zero-emission trucks
- Incentives and other programs to help fleets adopt cleaner technology

LCFS

All together, these  
actions will help us build  
a cleaner, healthier  
California for current  
and future generations.



Governor Newsom creates  
new oversight committee  
to monitor oil companies



Makes fuel less polluting and encourages  
production of cleaner alternatives

How it  
works:

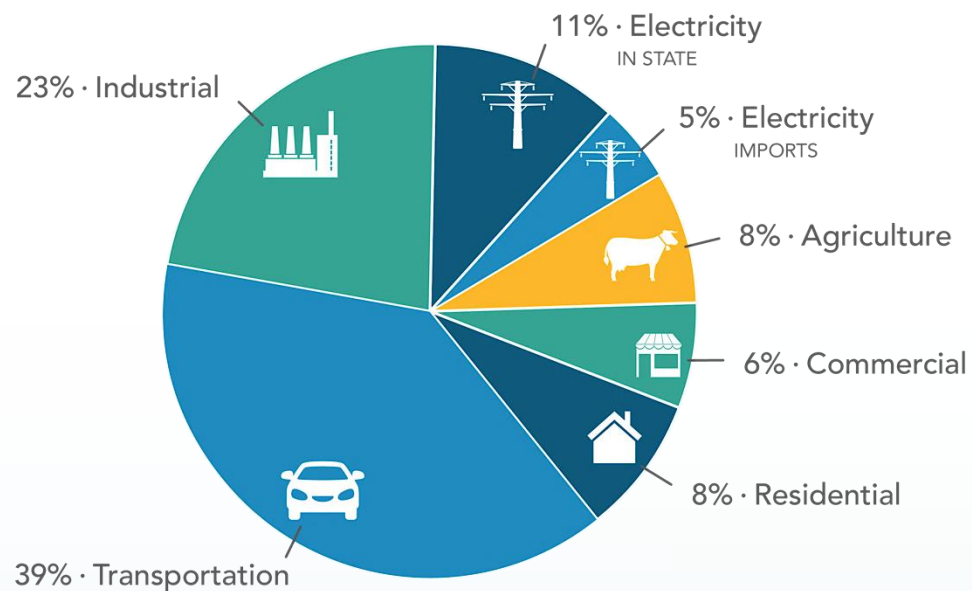
Dirty Fuel



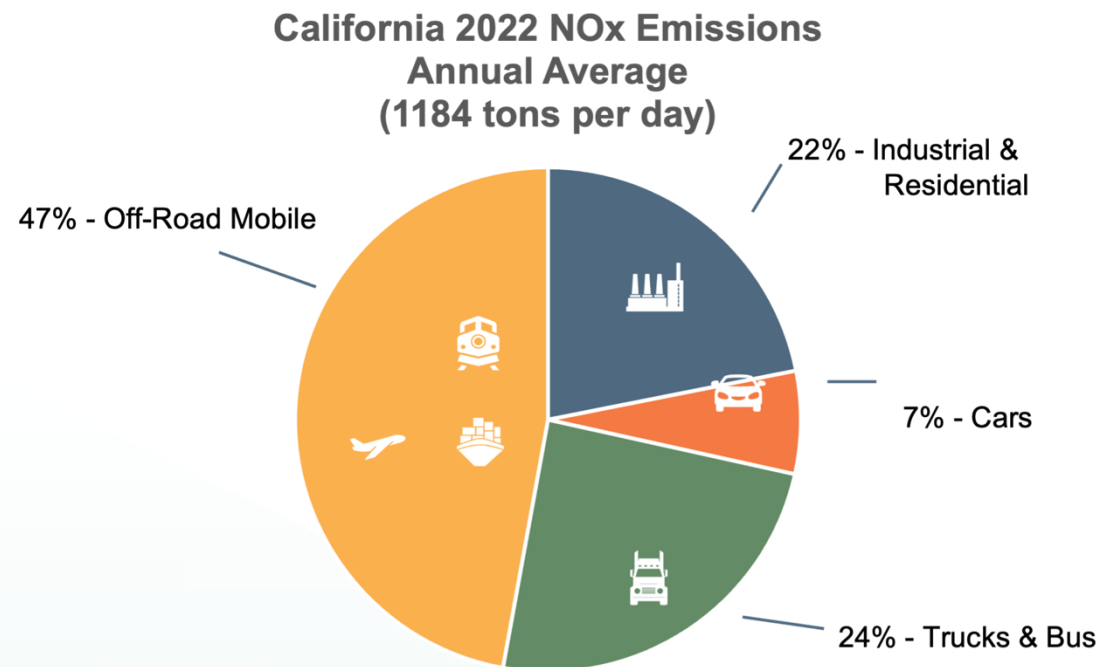
Cleaner Fuel



# California Transportation Sector: Largest Source of Climate & Air Pollution



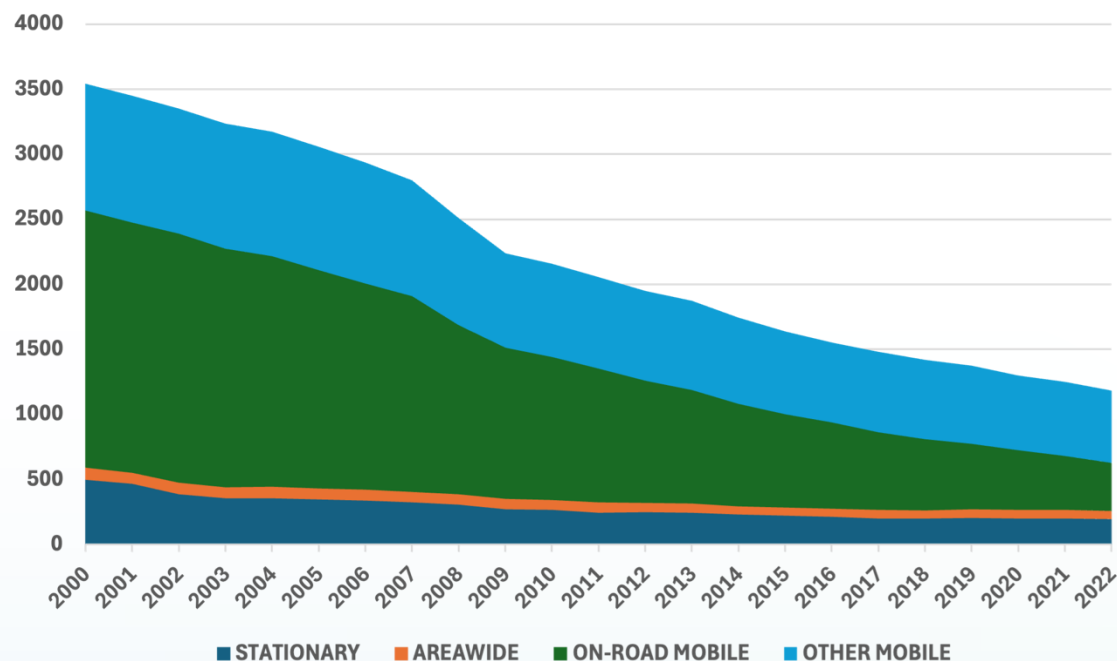
371.1 MMT CO<sub>2</sub>e  
2022 TOTAL CA EMISSIONS



# Air Quality Success: Reducing Smog-Forming NO<sub>x</sub>

Statewide NO<sub>x</sub> Trends

(Annual Avg, Tons/Day)



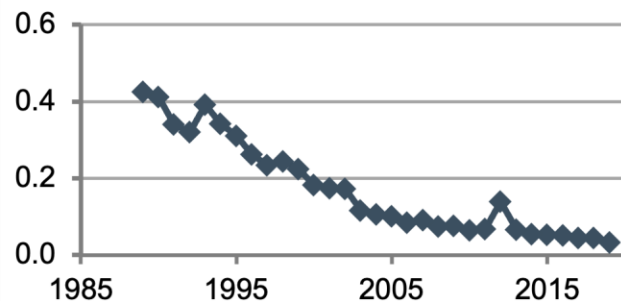
\*Total NO<sub>x</sub> combines NO<sub>2</sub>, NO, and additional species (so NO<sub>x</sub> is higher than NO<sub>2</sub> alone); Marine Extent: 100 Nautical Miles From Shore



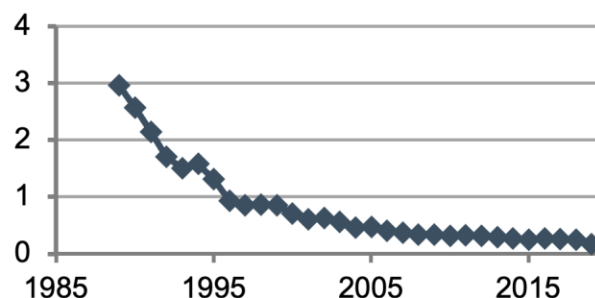
Dealing with Los Angeles Smog in 1958

# Air Quality Success: Reducing Toxic Air Contaminants

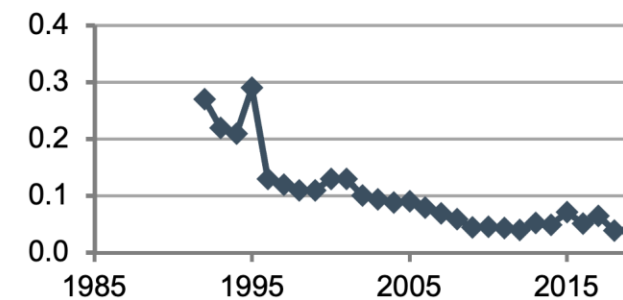
**1,3-Butadiene**  
Air Monitor Trend - Mean (ppb)



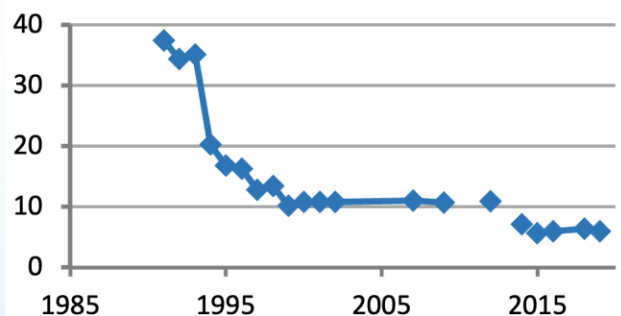
**Benzene**  
Air Monitor Trend - Mean (ppb)



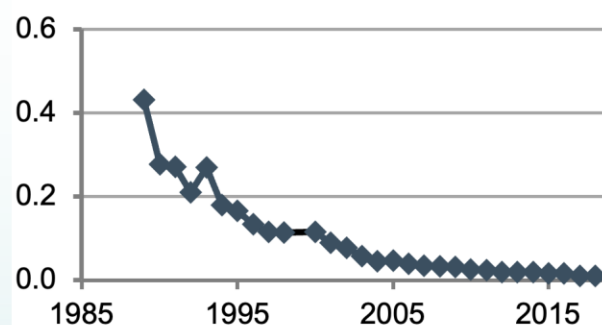
**Hexavalent Chrome**  
Air Monitor Trend - Mean (ppb)



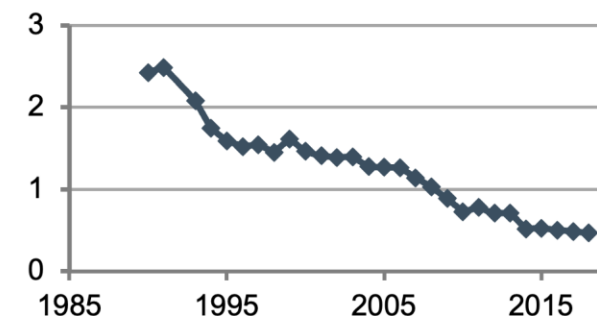
**Lead**  
Air Monitor Trend - Mean (ng/m3)



**Perchloroethylene**  
Air Monitor Trend - Mean (ppb)



**Diesel PM**  
Air Monitor Trend - Mean (µg/m3)



# History of California Fuel Standards

- California has been regulating gasoline blends to reduce air pollution since 1971
- Standards updated several times
  - Removed lead
  - Phased out Methyl Tertiary-Butyl Ether (MTBE)
- Last revised in 2007

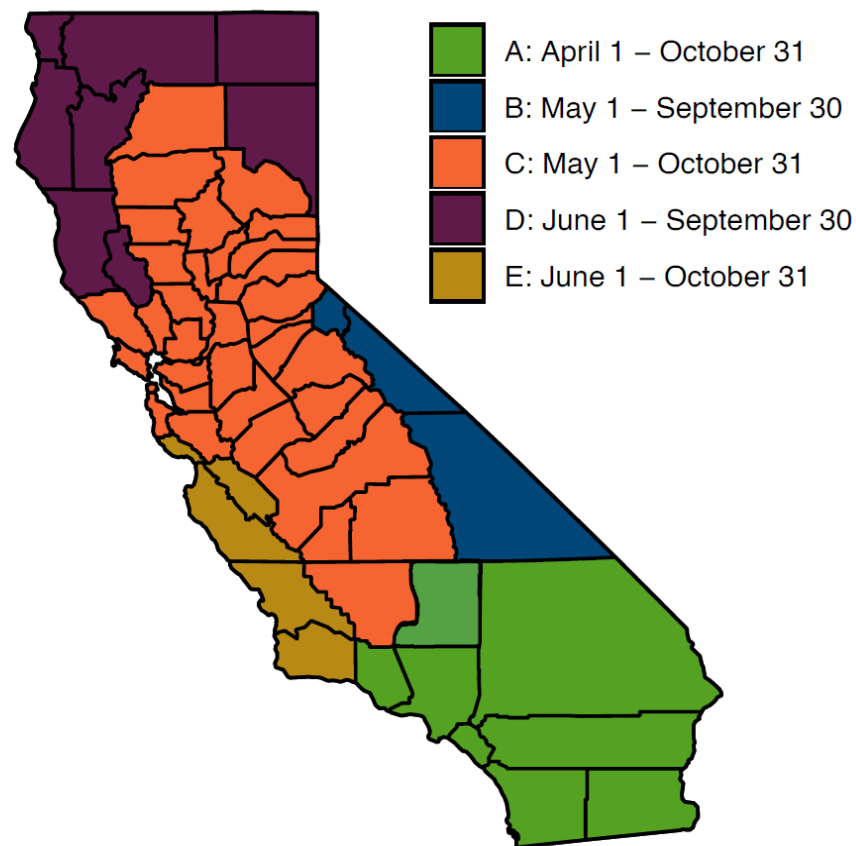




# California Summer vs. Winter Fuel Blends

- Summer blend helps limit ozone formation
- The longest summer blend period is April 1 to October 31
- Use of these fuels is part of the State Implementation Plan to achieve federal air quality standards.

CALIFORNIA RVP CONTROL PERIODS BY AIR BASIN AT RETAIL STATION



Source: CARB

# More Progress Needed

- 18 million Californians live in areas that exceed federal air pollution standards
- 5 of the 10 cities with the worst air quality are in California
- Over 5,000 premature deaths and hundreds of emergency room visits are linked to air pollution
- Low-income and disadvantaged communities experience disproportionately high levels of air pollution



70 ppb Ozone Nonattainment Areas



# Federal Accountability

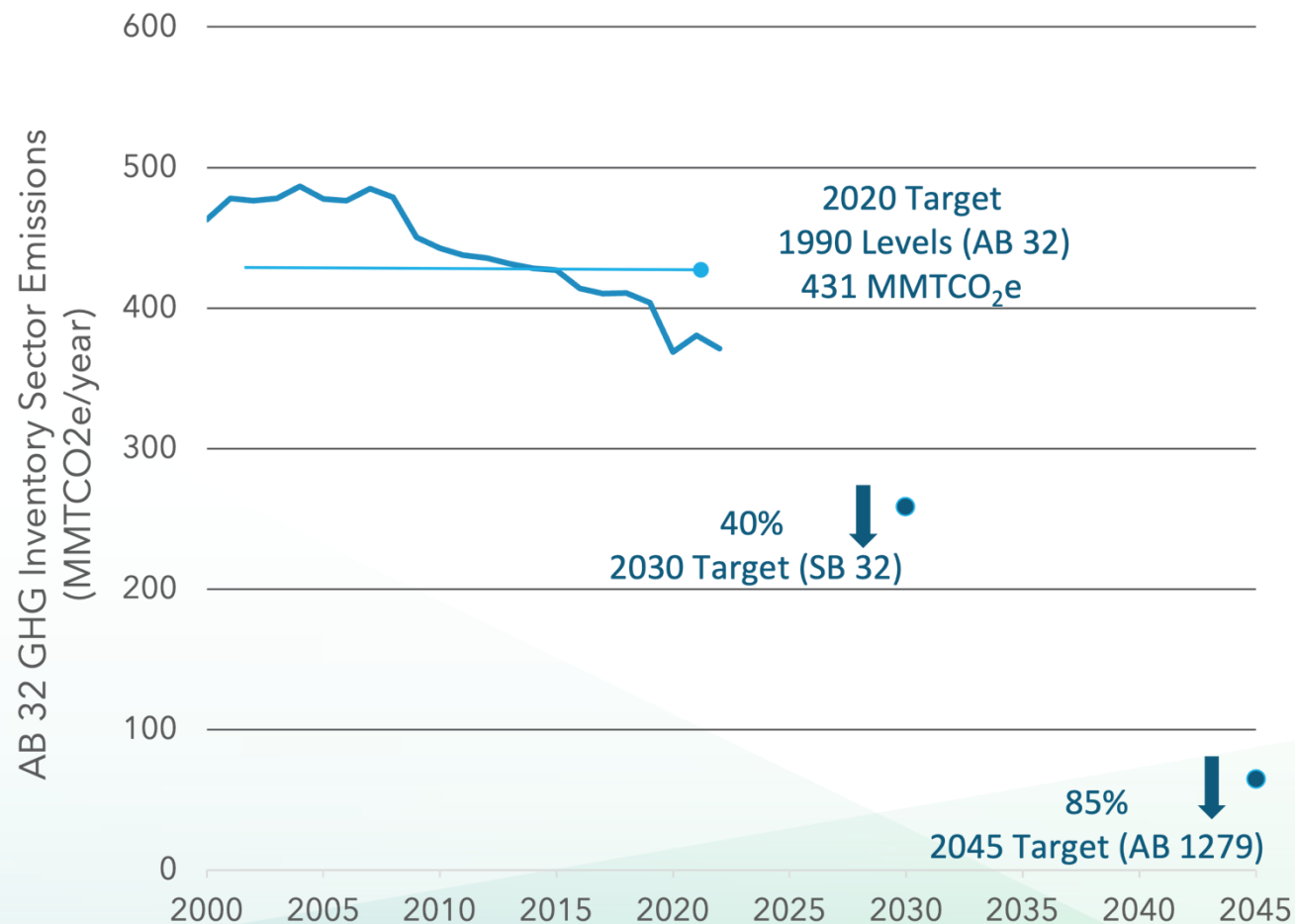
- Clean Air Act and National Ambient Air Quality Standards
  - Inaction or loosening of regulations could result in failing to meet standards
  - Failing to meet standards can result in stationary source sanctions and federal highway funding sanctions
  - Potential for losses of tens of billions of dollars in transportation funding





# California's Climate Goals

ACHIEVING  
**CARBON**  
NEUTRALITY  
BY **2045**

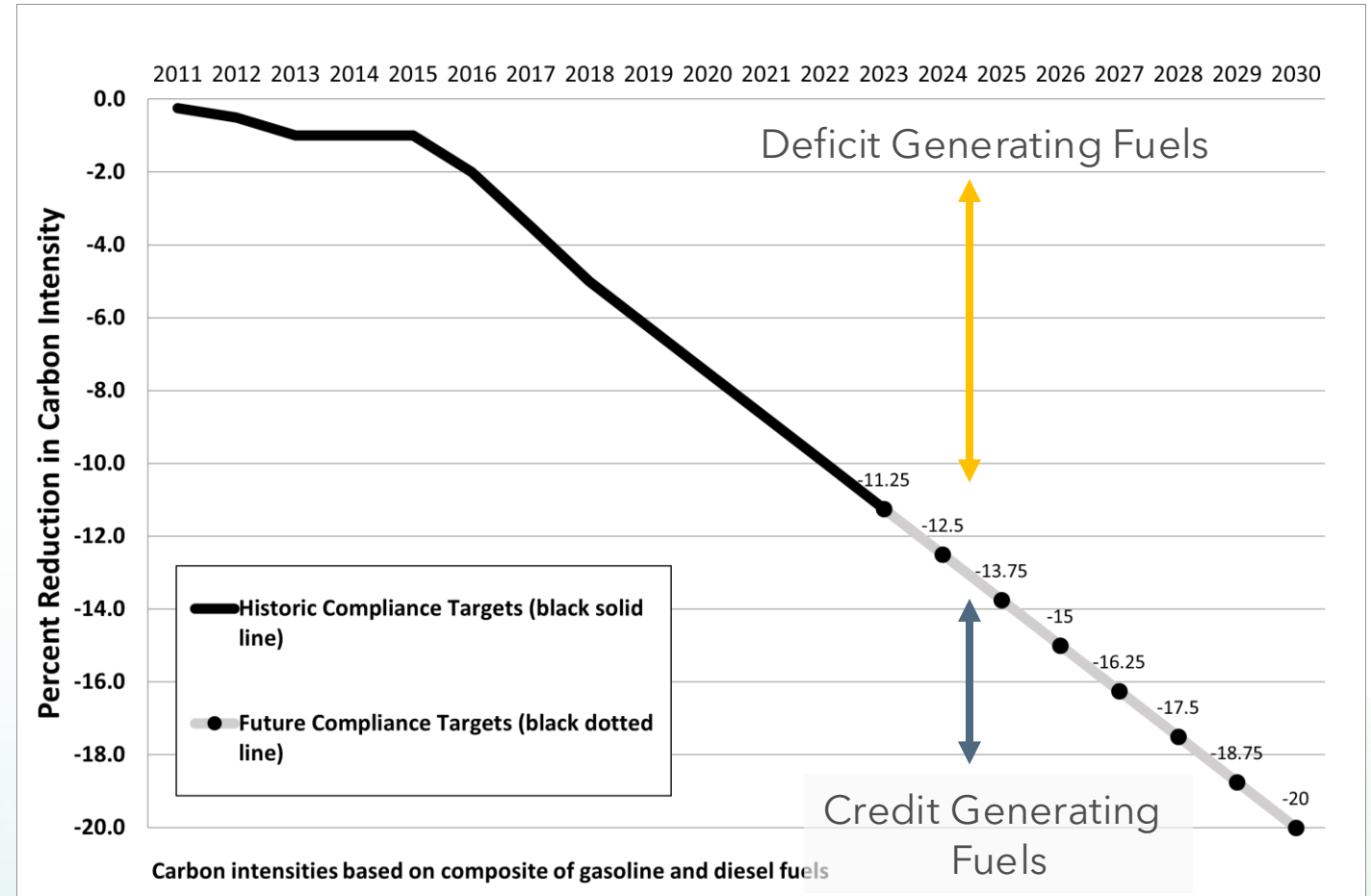


# Key Legislation

- AB 32 (2006): 2020 target and calls for a Scoping Plan and updates at least every 5 years
- SB 32 (2016): 2030 target
- SB 1383 (2016): Short-lived climate pollutant targets for 2030
- AB 197 (2016): Specific analyses for the Scoping Plan
- 2022 legislation informing the most recent Scoping Plan:
  - AB 1279: 2045 carbon neutrality target , anthropogenic emissions to be reduced by 85% by 2045
  - SB 905: Establishes a Carbon Capture, Removal, Utilization and Storage Program
  - SB 846: Extends the Diablo Canyon Power Plant's sunset date
  - SB 1020: Establishes interim clean electricity targets
  - SB 1137: Oil and gas setbacks of 3,200 feet
  - SB 1075: Requires CARB to prepare an evaluation of the role of hydrogen in California
  - AB 1757: Requires setting of natural and working lands targets and tracking progress
  - AB 2251: Sets a target for increasing urban tree cover by 10% by 2035

# Low Carbon Fuel Standard

- Establishes an annual, declining carbon intensity target for transportation fuels used in California
- Lower carbon fuels generate credits





# LCFS Delivers Benefits California

15.3% reduction in the carbon intensity of transportation fuels

Over 31 billion gallons of petroleum fuels displaced by low-carbon fuels

75% of fossil diesel displaced by renewable diesel in 2024

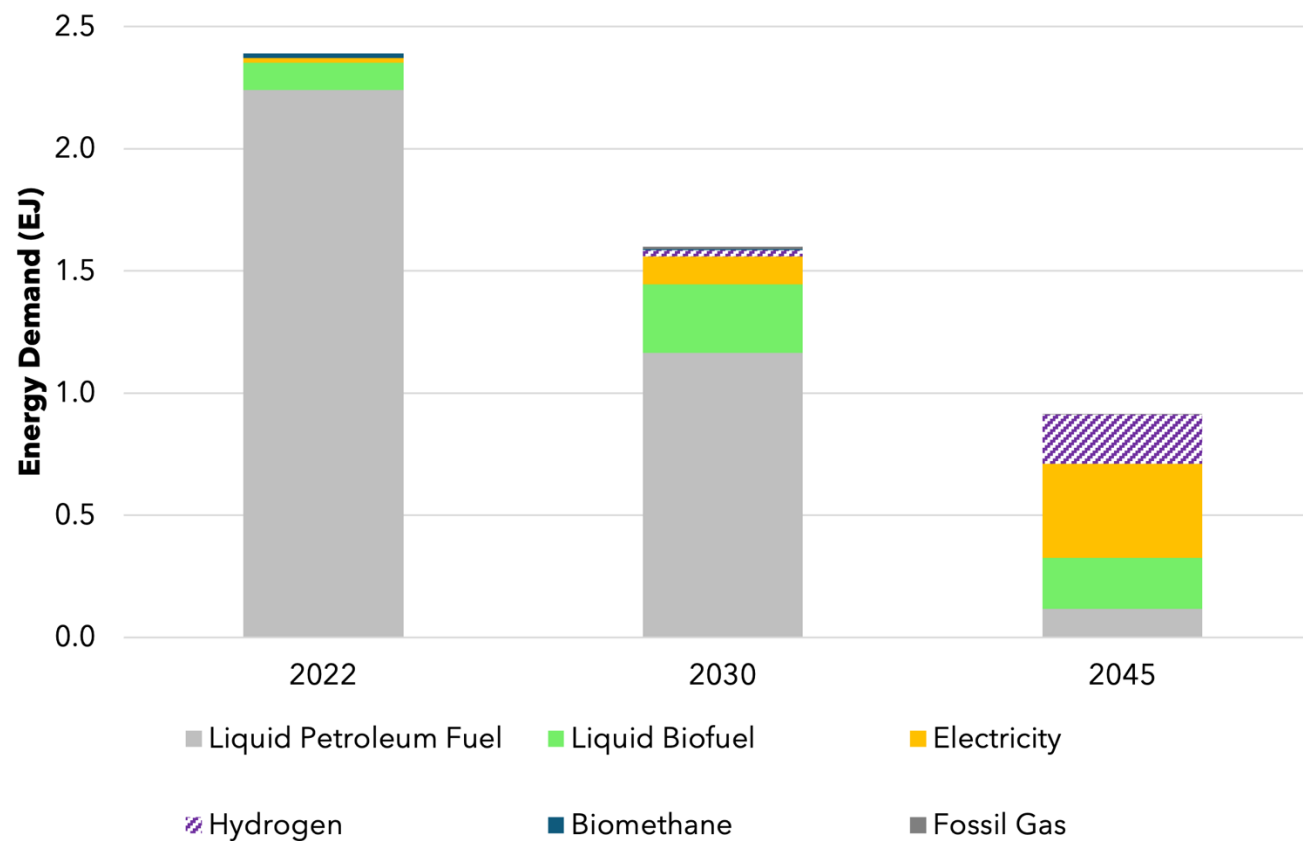
\$4 billion annually to support low-carbon investments and including transit

Provides financial assistance for public fleets

Over 200 alternative fuel providers in the program



# California's Projected Transportation Fuel Mix

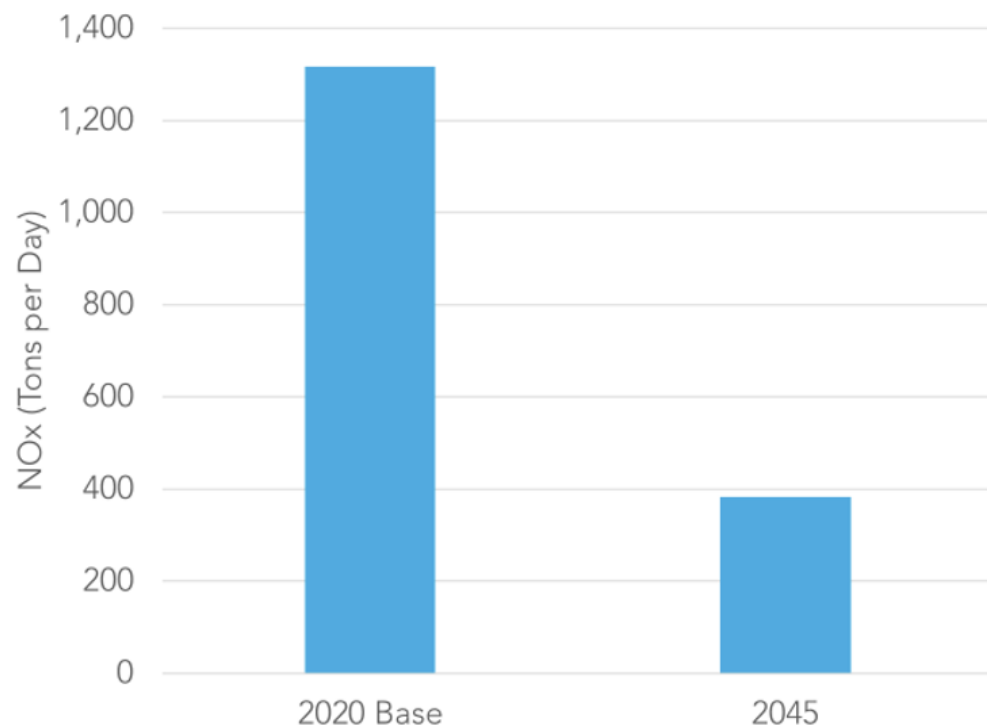


On-road transportation fuel mix, 2022 Scoping Plan

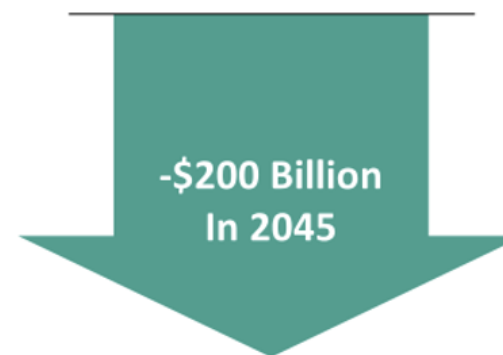


# Benefits of Reducing Fossil Fuel Use

*71% reduction in air pollution*



\$200 Billion in health cost savings from decreased fuel combustion



Source: 2022 Scoping Plan Update

# Ongoing Demand from Other Sectors

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Aviation Fuel



Ocean-Going Vessel Fuel



Offroad Fuel



Exports to Other Markets



Hydrogen



Refining Co-products

# Ocean-Going Vessels At Berth Requirements

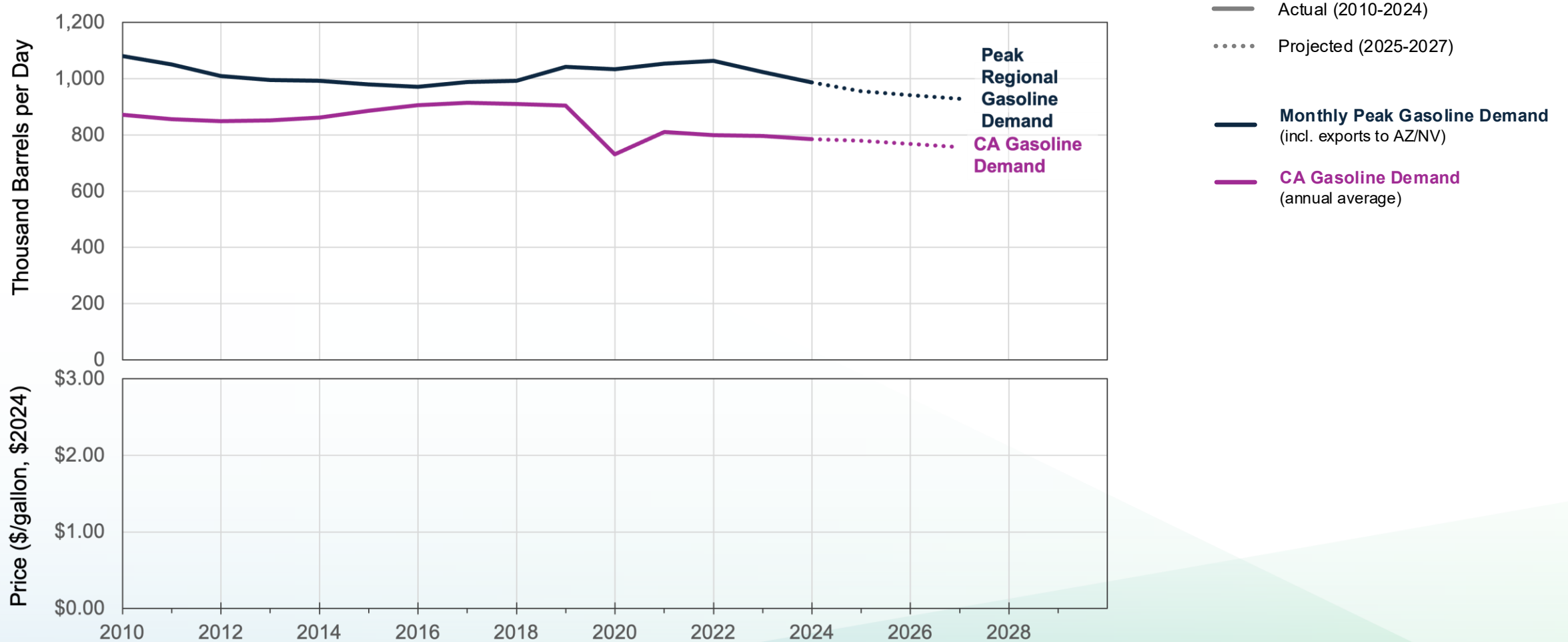
- 2020 update builds on 2007 regulation and sets compliance deadlines for tankers:
  - Southern CA terminals: January 1, 2025
  - Northern CA terminals: January 1, 2027
- Implementation & Compliance Progress
  - Tanker visits and fuel import volumes remain unaffected
  - Majority of Southern CA terminals have established compliance pathways for all their visits
  - Northern CA terminals will submit updated plans by Feb. 2026 in preparation for compliance





# California Petroleum Trends

## California Petroleum Trends (2010-2027)

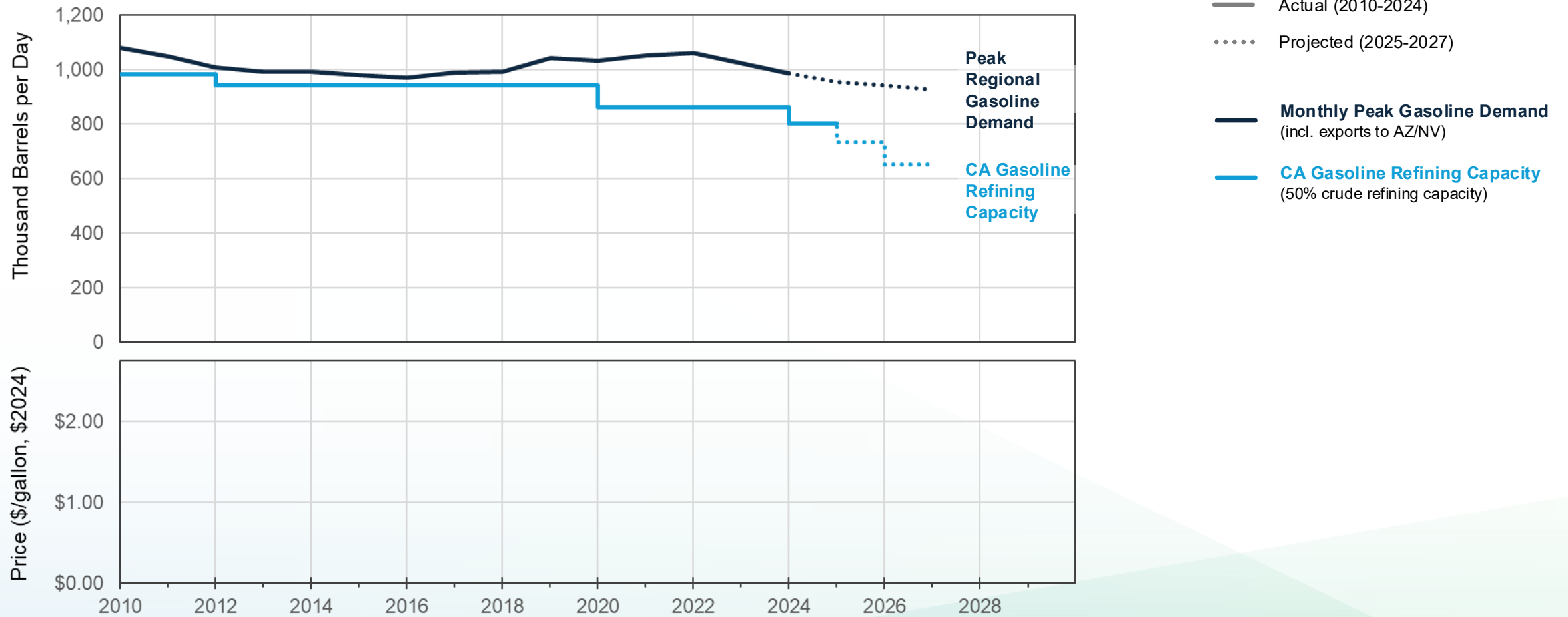


Sources: CEC, CDTFA, DOC, U.S. EIA



# California Petroleum Trends

California Petroleum Trends (2010-2027)

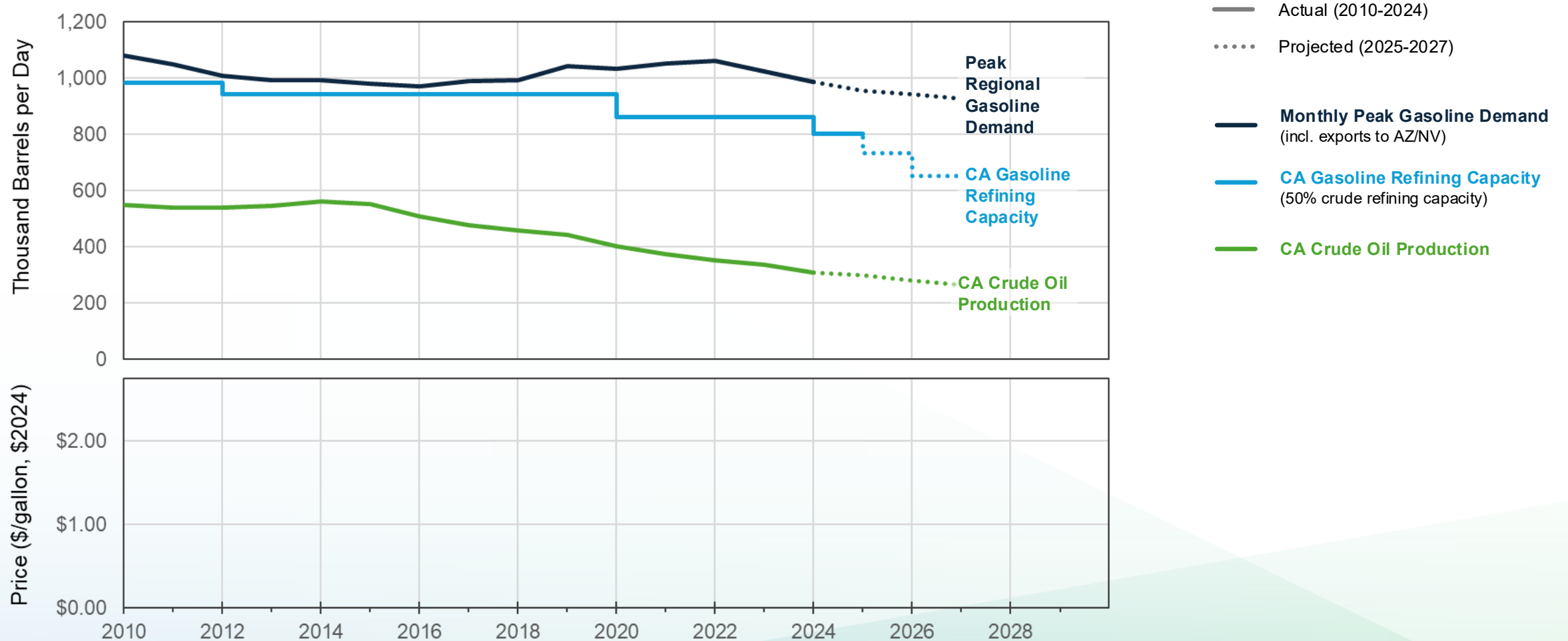


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# California Petroleum Trends

California Petroleum Trends (2010-2027)



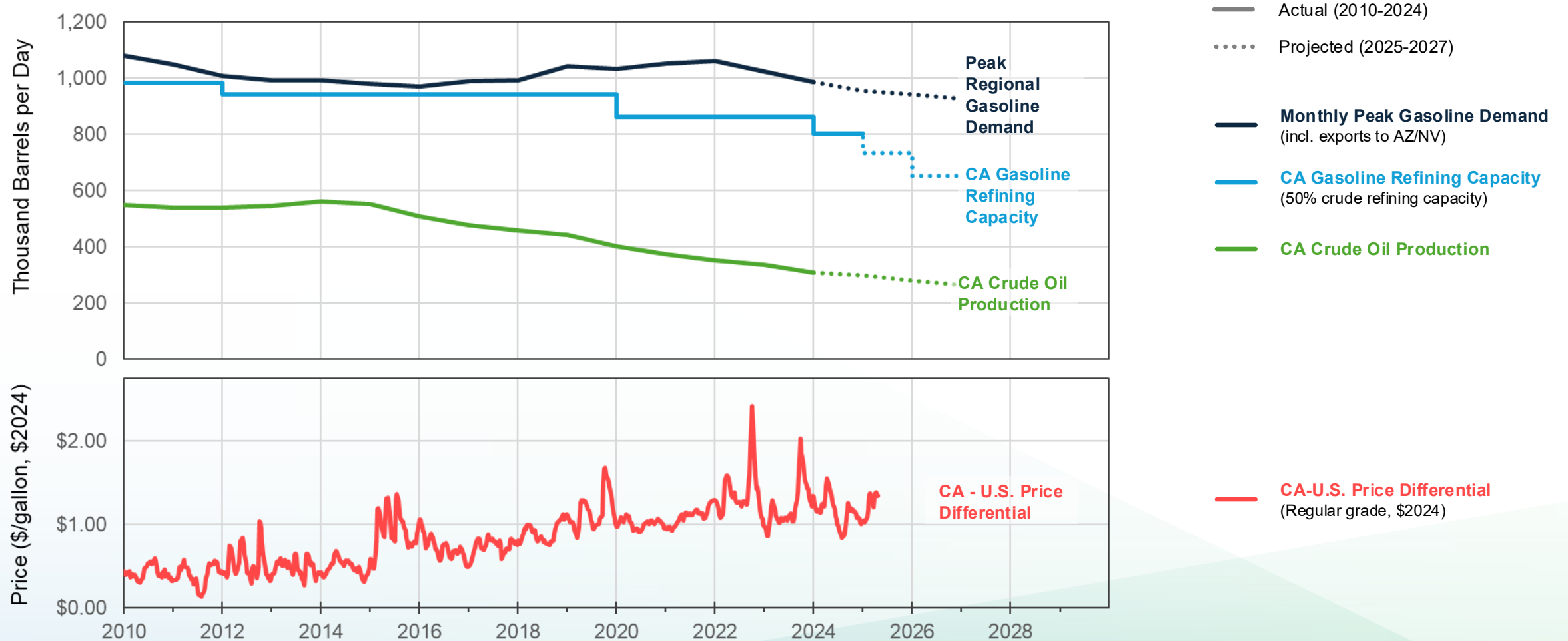
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# California Petroleum Trends

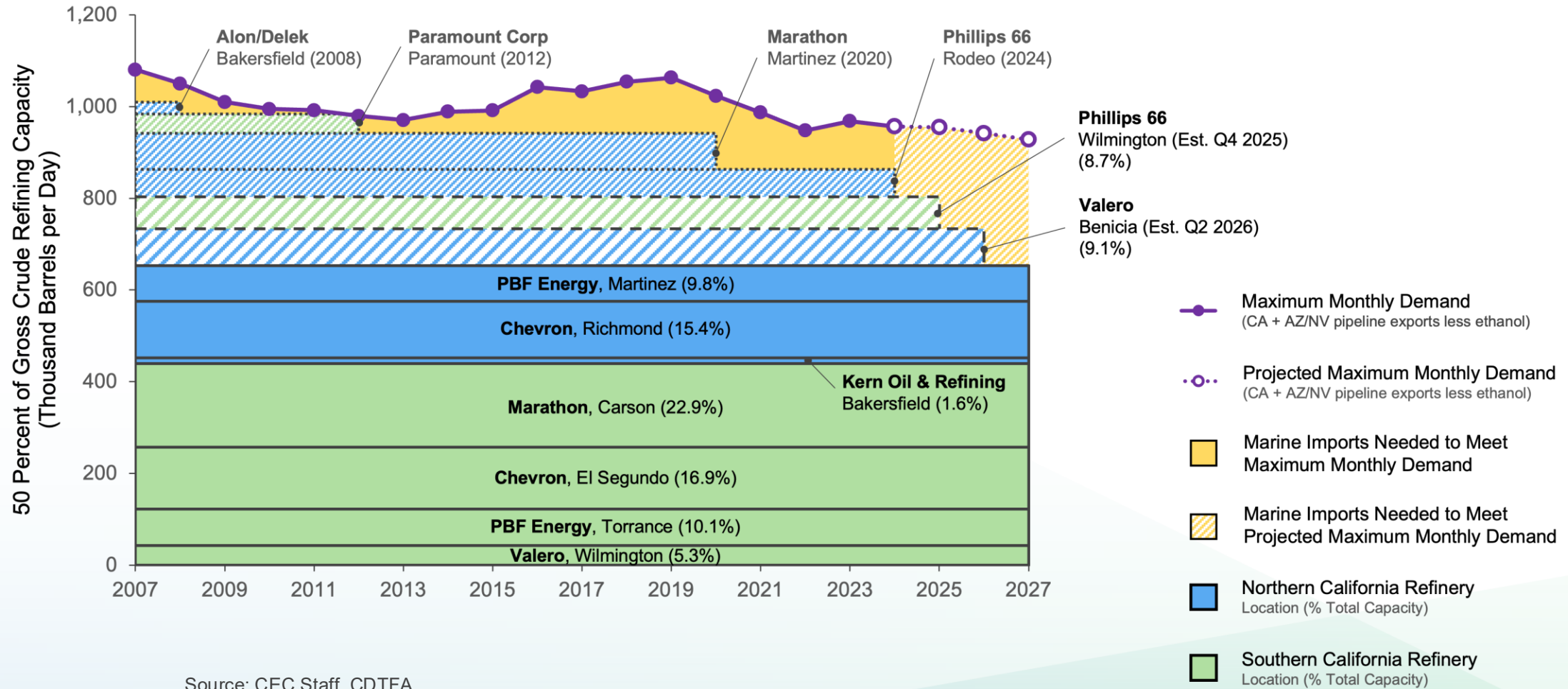
## California Petroleum Trends (2010-2027)



Sources: CEC, CDTFA, DOC, U.S. EIA



# Estimated Gasoline Refinery Capacity





# June 2025 Letter to Governor Newsom: Strategies Development Process



Continued implementation of transparency tools granted by the Legislature



Cross-Agency Petroleum Strategy Task Force: coordinated work within state government



Roundtables and discussions with stakeholders

- Impacted communities
- Local and regional authorities
- Workers
- Environmental advocates
- Environmental Justice advocates
- Industry

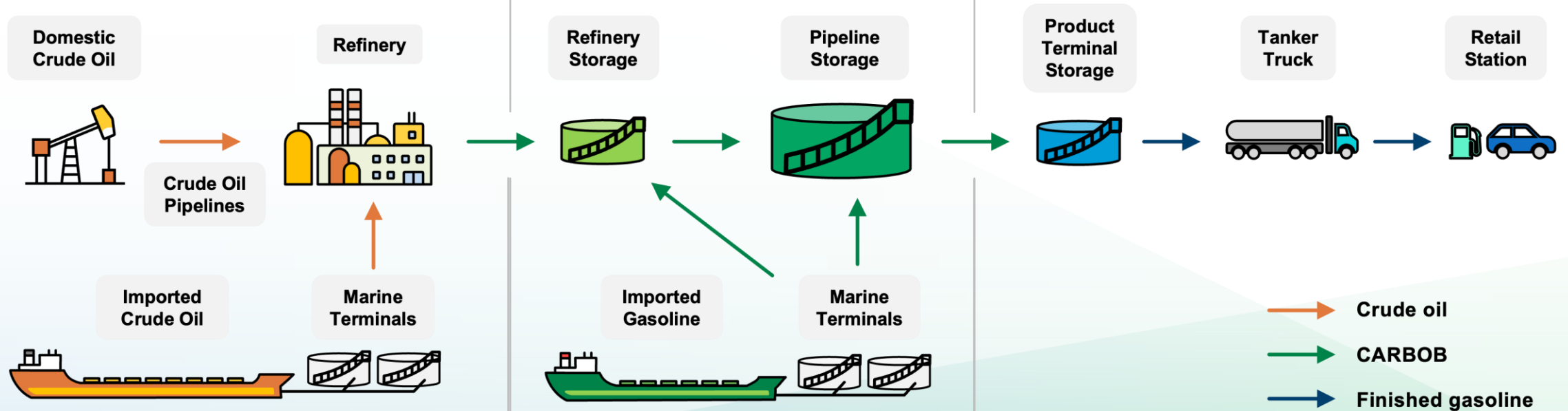


# Value Chain Must Be Considered As A Whole

Crude oil is extracted from fields or delivered via marine vessel to refineries, which produce gasoline and other petroleum products.

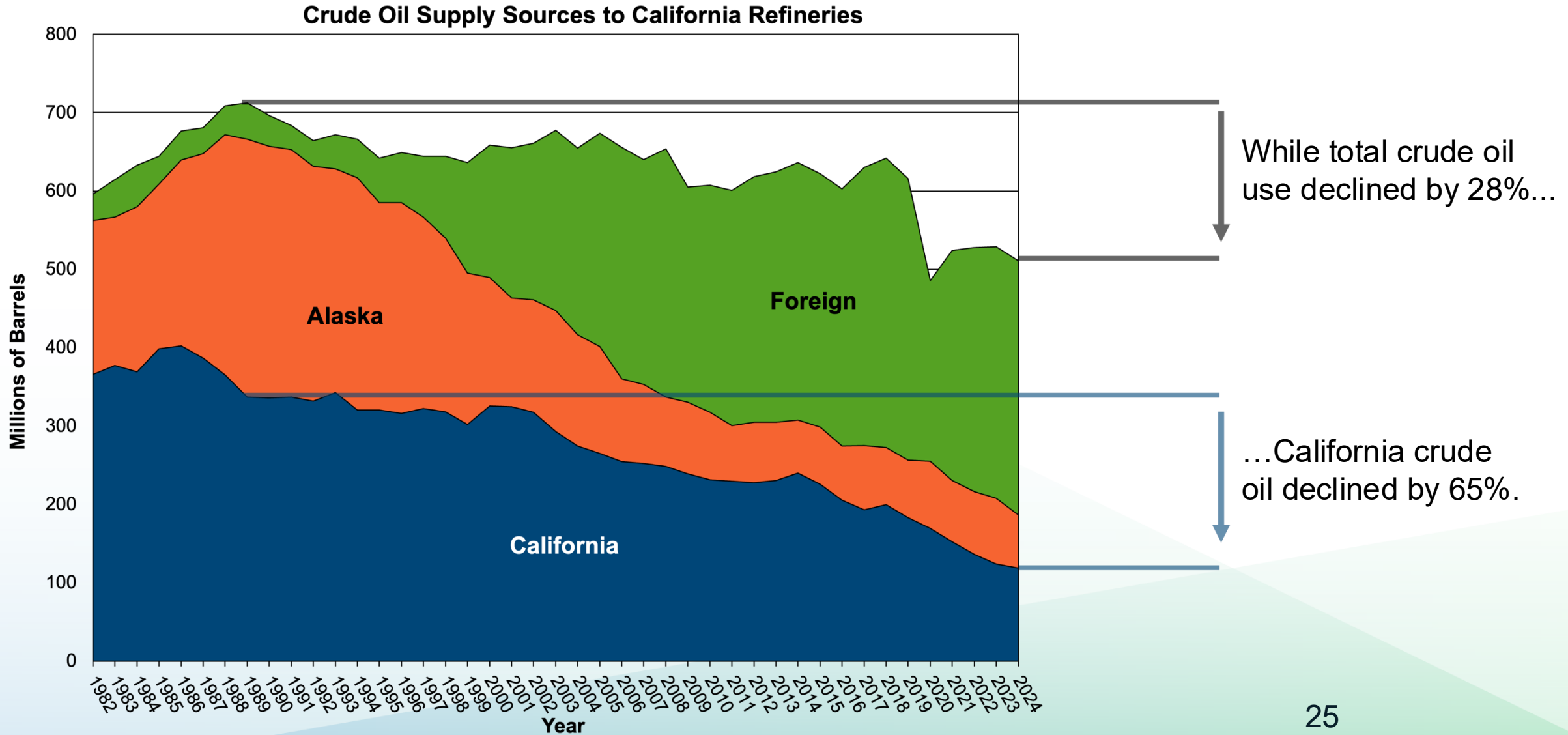
Gasoline from refineries and additional imports are delivered to pipeline hubs.

Gasoline is blended with ethanol and loaded onto trucks at racks to be delivered to retail stations.



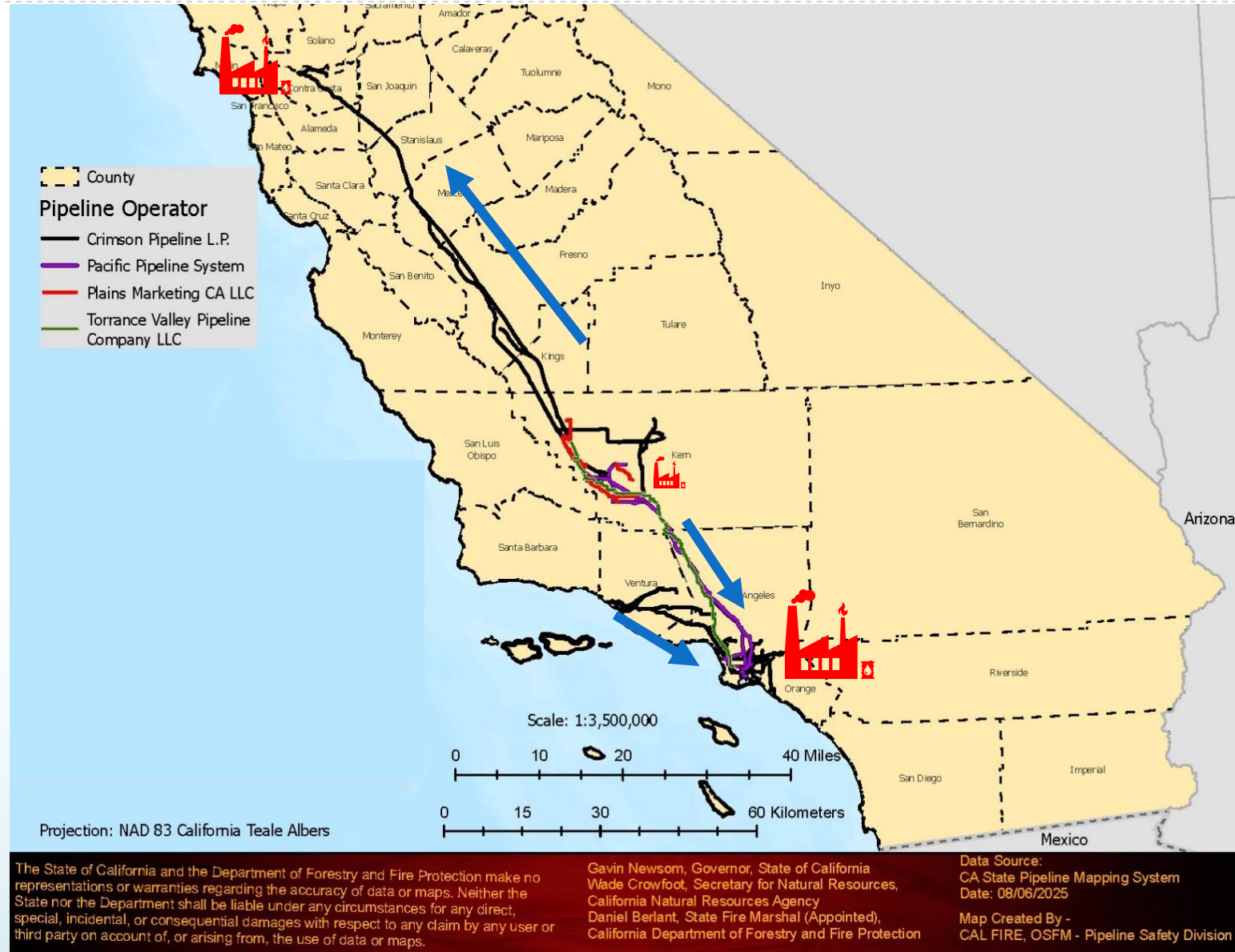


# California Crude Supply Declining Faster Than Total Crude Oil Use





# Major Crude Oil Pipelines Supplying Refineries

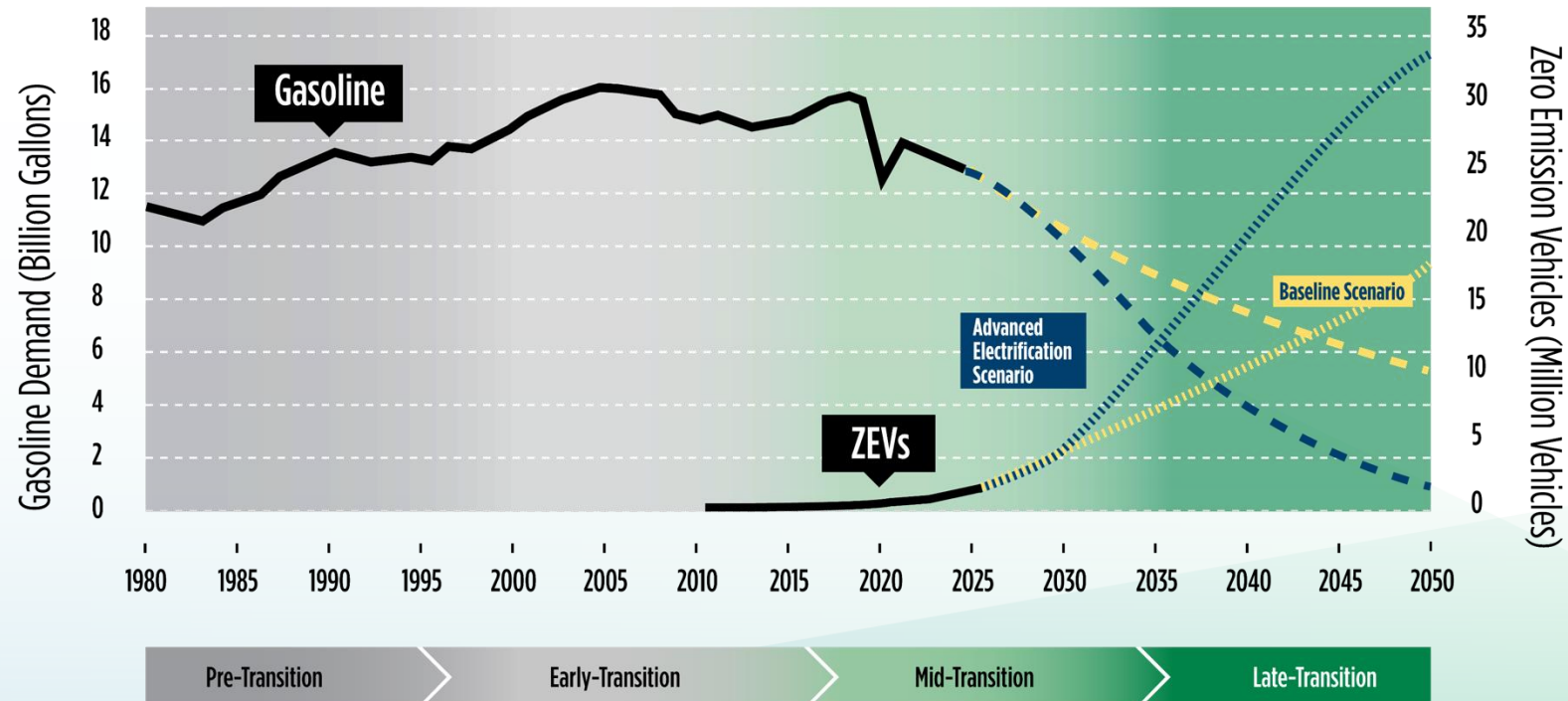






# Transportation System In Transition

	Pre-Transition: (Fossil Growth)	Early-Transition: (Fossil Adequacy)	Mid-Transition: (Building & Retiring)	Late-Transition: (New Dominant System)
Policy:	Market-Based, Fossil Focused	Setting Goals, Identifying Needs For Non-Fossil replacement	Building Non-Fossil, Managing Fossil Ramp-Down	Supporting New Non-Fossil System, Fossil Close-Out
Fossil Investment:	Strong	Uncertain, Profitability Questions	Low Investor Appetite, But Needed For Safety & Reliability	No Investor Appetite, Remediation Needed
Non-Fossil Investment:	Minimal	Emergent	High Growth	Strong & Stable





# June 2025 Letter to Governor Newsom: Strategies and Recommendations

1

## Maintain Capacity to Stabilize Fuel Supply

- Support import of refined products by addressing regulatory and permitting barriers.
- Explore strategies to retain operations at existing refineries.

2

## Investment Confidence for Safe and Reliable Operations

- Stabilize in-state crude oil production and delivery for California refineries to support the petroleum system.
- Harmonize state regulations with policy goals.
- Strengthen coordination across local, regional, and state authorities.

3

## Holistic Transition Strategy

- Support a managed transportation fuels transition, including:
  - Transition Support: funding for climate, health, communities, and workers.
  - Environmental: air quality standards and climate goals.
  - Health and Safety: Protect workers and communities.

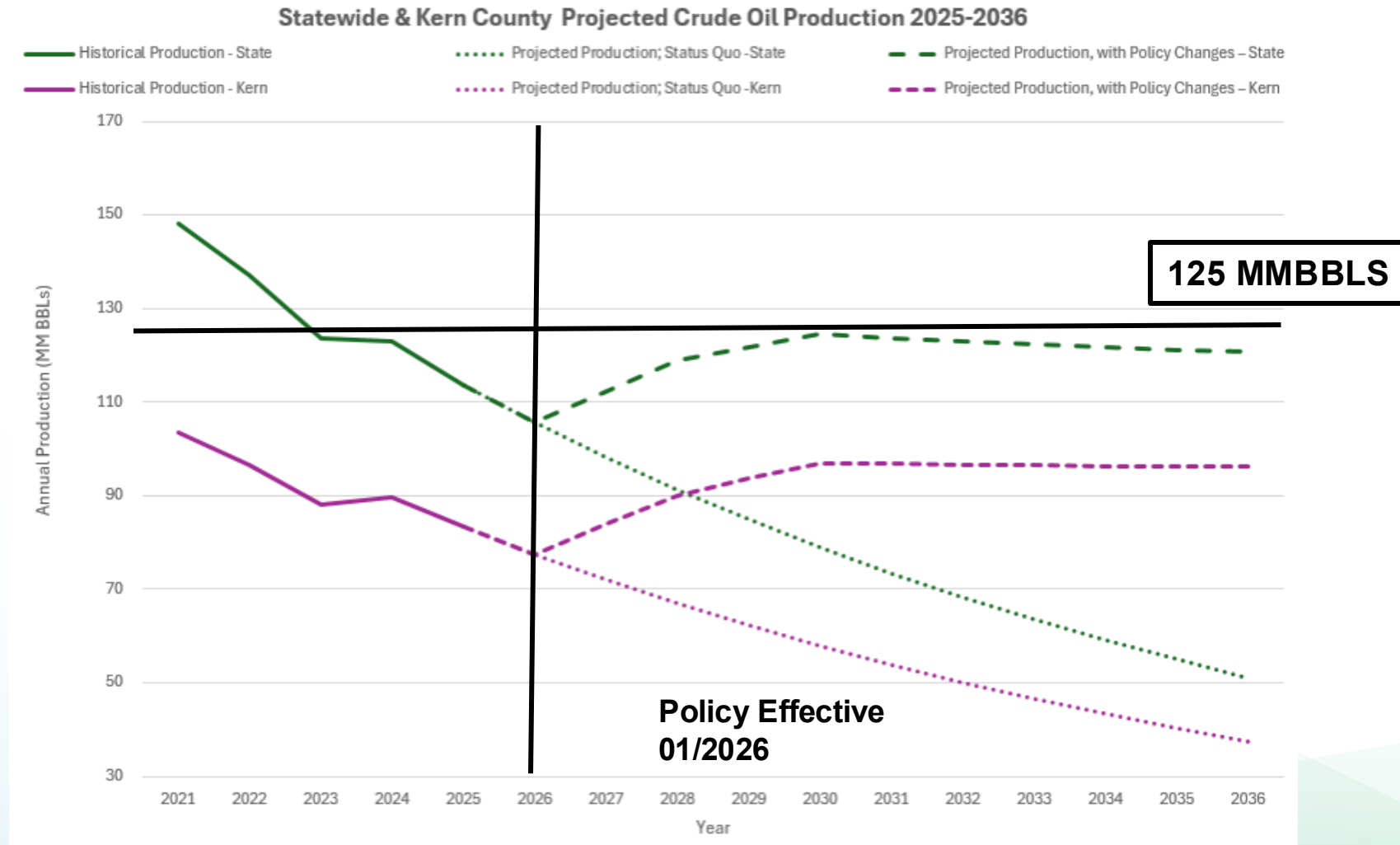


# **Petroleum Market Stabilization Proposal**

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- Statewide Oil Well Stimulation Treatment Prohibition
- Kern County Oil Ordinance – Second Supplemental Recirculated Environmental Impact Report Validation
- Statewide 2:1 Plug to Drill Program
- Pipeline Safety and Public Transparency

# Potential Effect on Production



**Projected Model Assumptions:**

- 7% Production Decline Rate; based on historic 2014-2024 production data trends
- Initial average production rate per new well of 30 bbls of oil per day.
- 1,700 initial estimated new wells statewide in 2026



# Well Stimulation Treatments

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- Codifies the regulation that went into effect October 1, 2024, prohibiting CalGEM from issuing oil well stimulation treatment permits, effectively banning oil well hydraulic fracturing in California.

# Kern County Ordinance

- Validates the environmental review and mitigation program adopted by Kern County as a lead agency under CEQA for the purposes of oil and gas permitting within the boundaries of the Kern Ordinance until 2036.
- Boundary includes unincorporated area of Kern County where oil and gas development takes place
- Excludes projects on federal land and in the **SB 1137 Health Protection Zones (HPZ)**.
- Covers production-related oil wells, equipment, and facilities including activities, such as: drilling, repairing and permanently plugging wells.



# 2:1 Plug to Drill Proposal

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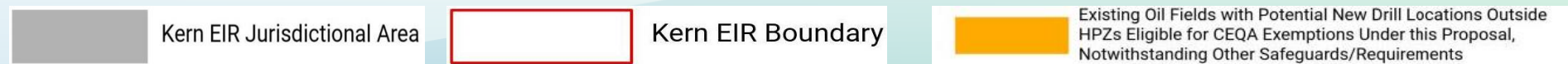
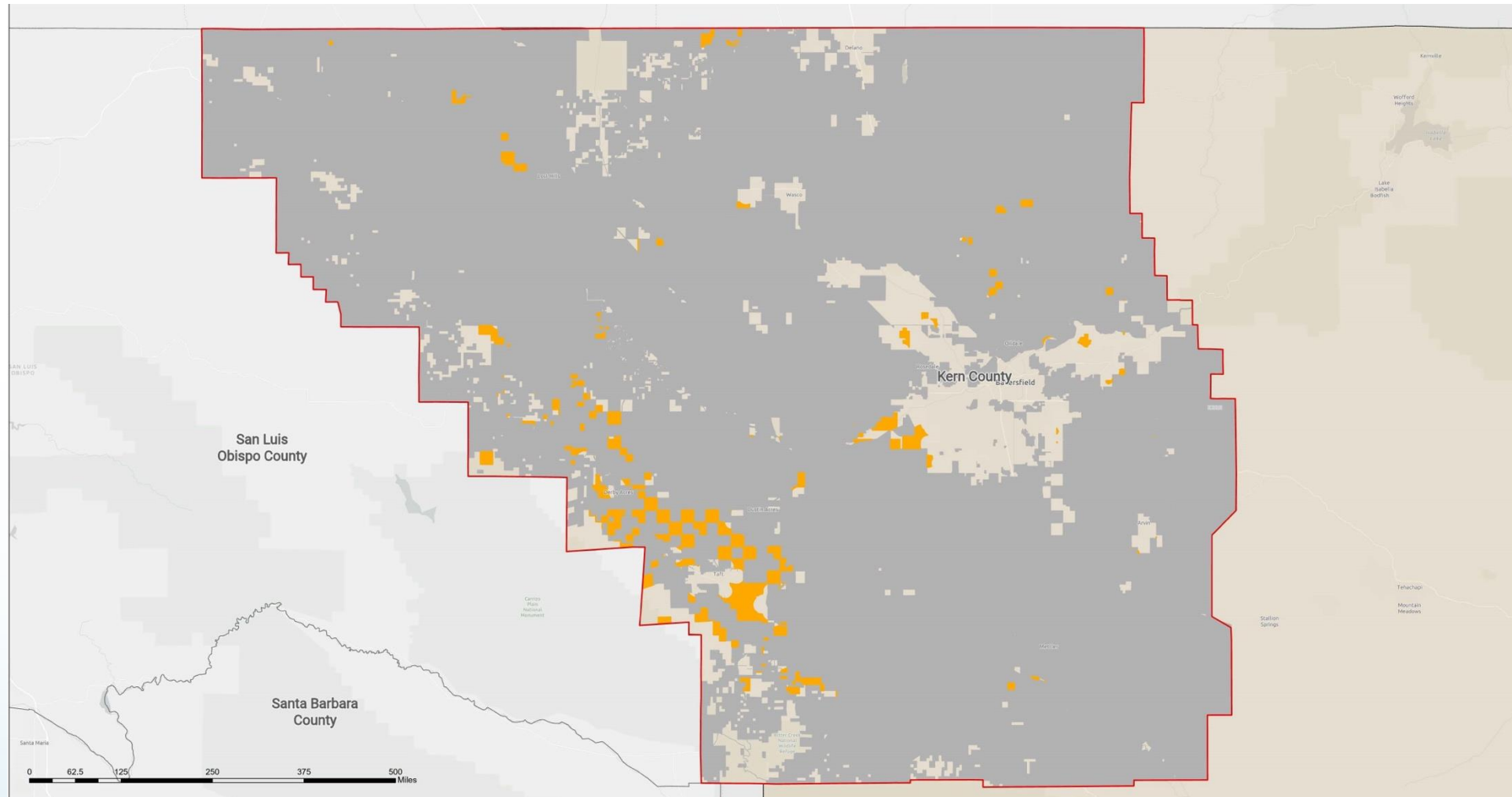
- Provides a CEQA exemption for certain new wells within existing oil fields, requiring 2 existing wells be permanently plugged for every 1 new well
- Two wells must be plugged prior to drilling the new well
  - 1 well plugged within the same oil field
  - 1 well within a health protection zone
  - Both wells cannot be used to meet idle well management requirements



# **2:1 Plug to Drill Proposal – New Wells**

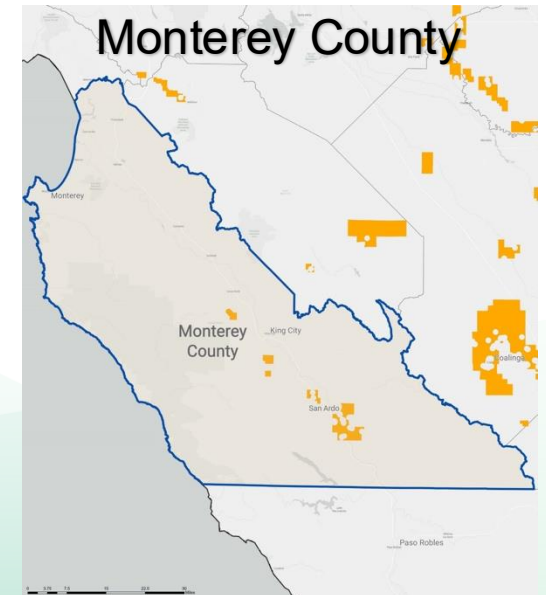
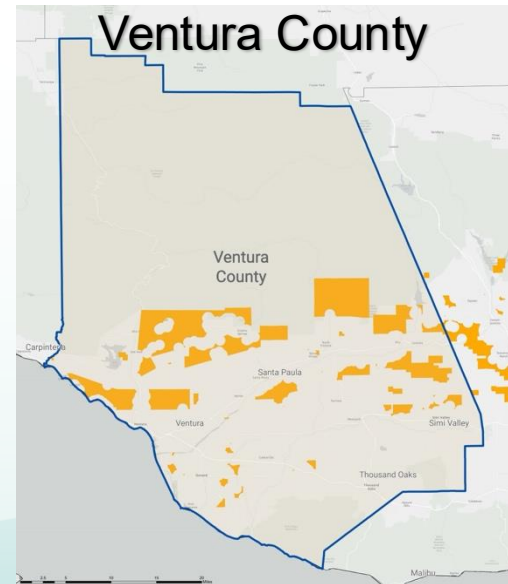
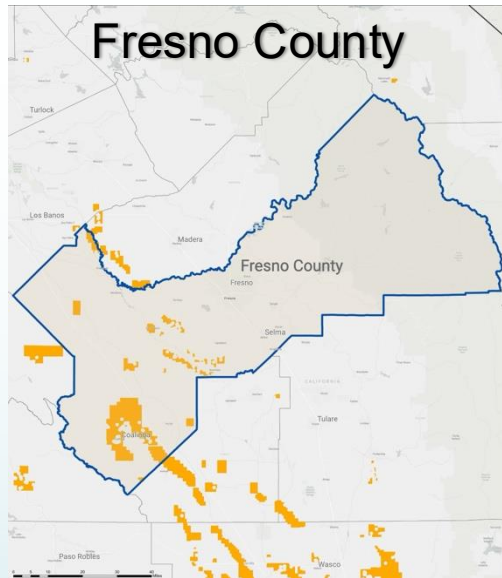
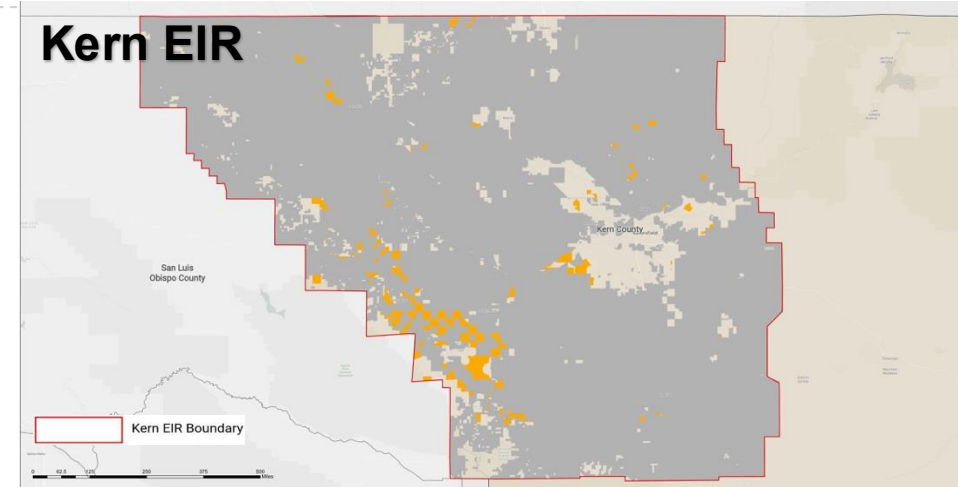
- New well requirements
  - Cannot be part of a project with a valid EIR, negative declaration, or mitigated negative declaration
  - Must be in an established oil field
  - Must be outside of a health protection zone
  - Must not require an individual take permit for protected species
  - Must not require a streambed alteration permit
  - Must not be in a location with cultural or historic resources present


# 2:1 Plug to Drill - Kern County



# 2:1 Plug to Drill - Top 5 Producing Counties

County	% of 2024 Production	# of Active Wells	# of Idle Wells
Kern	73%	43,813	20,710
Los Angeles	7%	3,330	2,930
Fresno	4%	2,155	1,155
Ventura	4%	2,314	1,418
Monterey	3%	925	468



 Existing Oil Fields with Potential New Drill Locations Outside HPZs Eligible for CEQA Exemptions Under this Proposal, Notwithstanding Other Safeguards/Requirements



# Thank you!

Assembly Utilities and Energy, Transportation, and Natural Resources  
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