Environmental Impact & Considerations for Refinery Closures

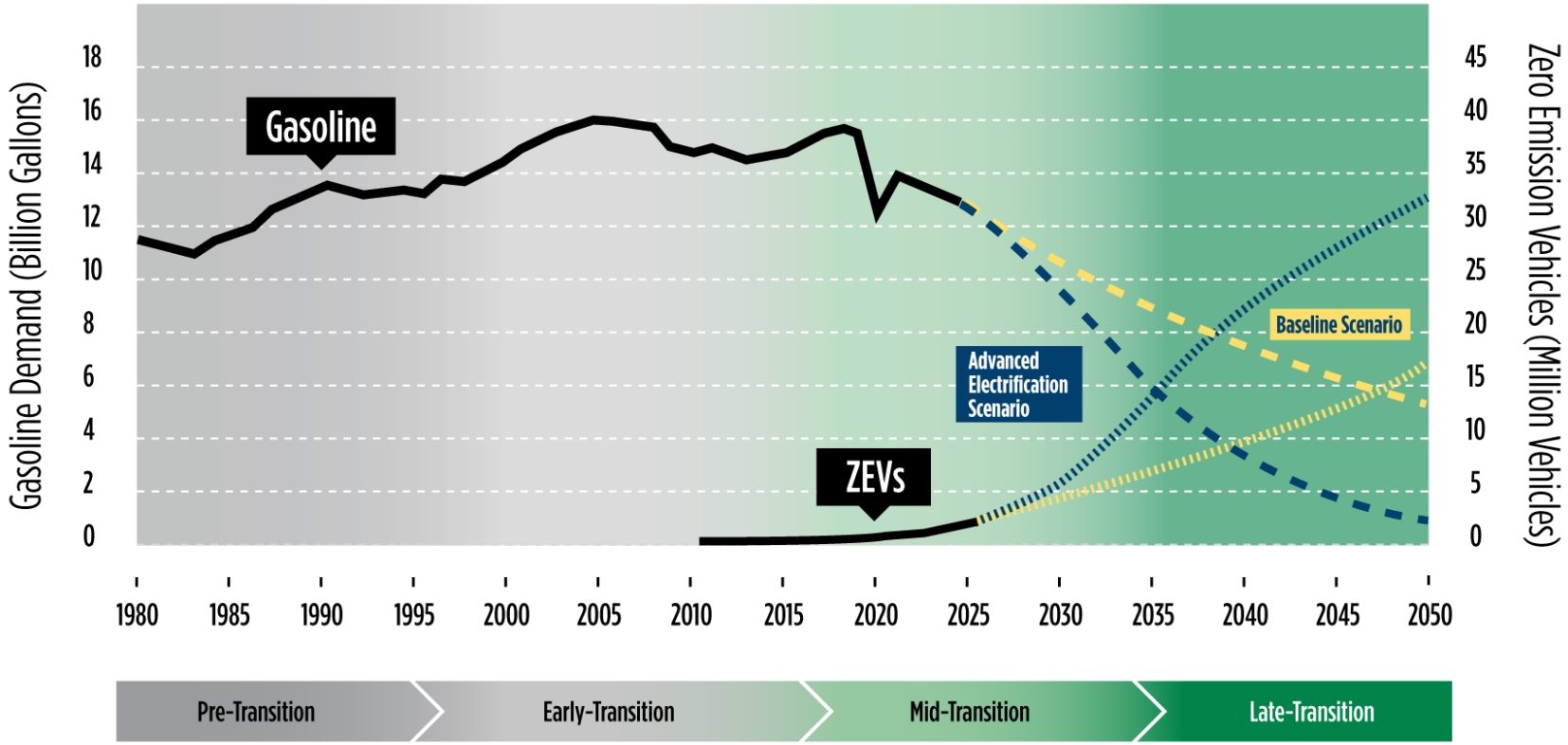
Senate Environmental Quality Committee
February 18, 2026

Navigating the Transportation Fuels Transition

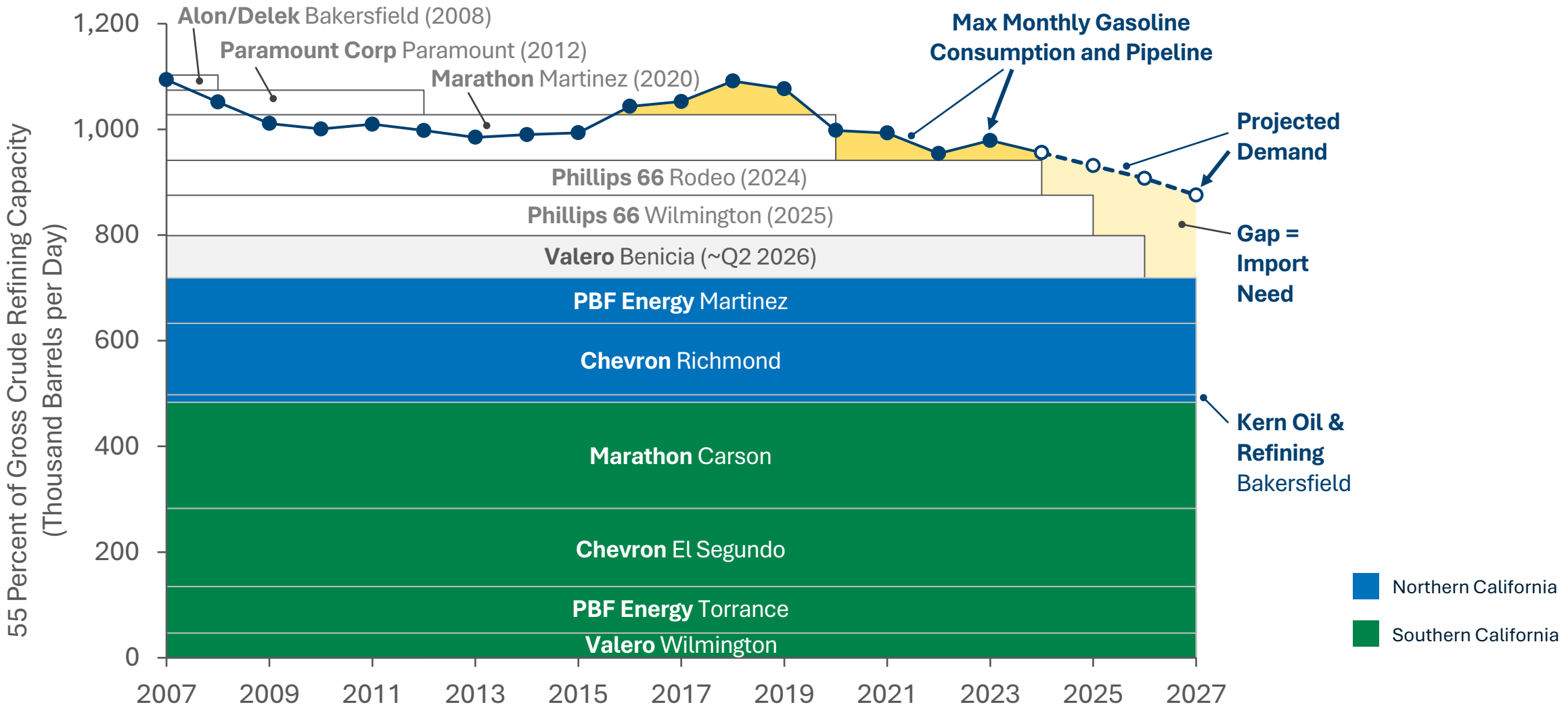
Vice Chair Siva Gunda
California Energy Commission
February 18, 2026

California Is In The Midst Of 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



Petroleum Refinery Capacity Is Falling



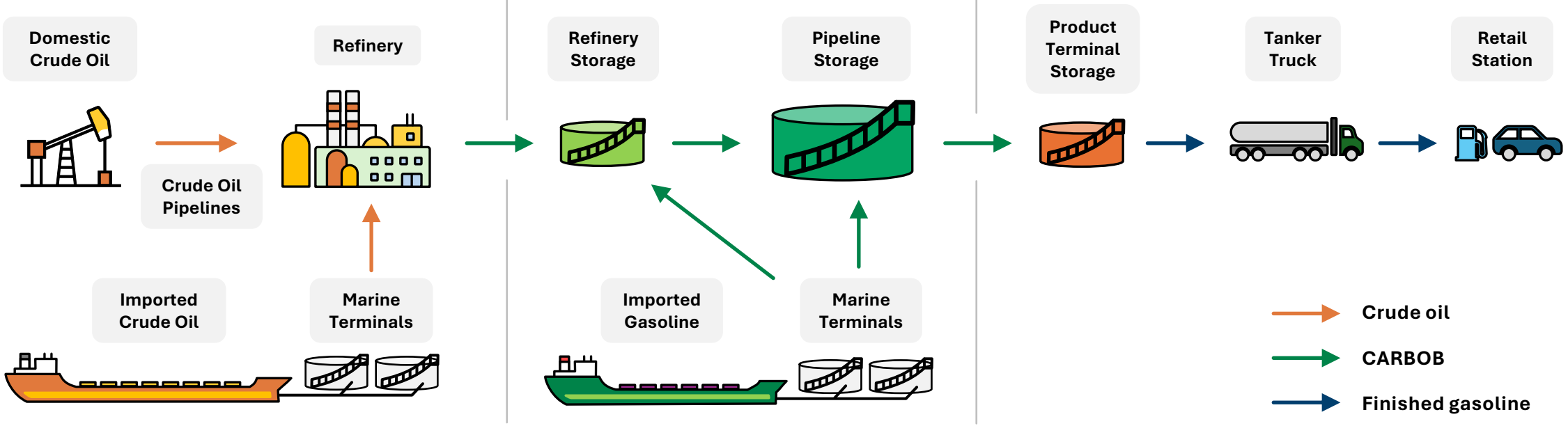
Source: CEC Staff, CDTFA

The Petroleum System Is A Complex Value Chain

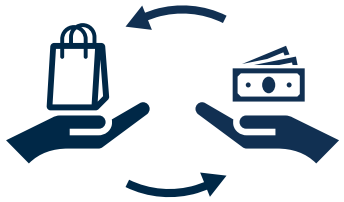
Crude oil is extracted from fields or delivered via marine vessel to refineries, which produce gasoline and other petroleum products.

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.

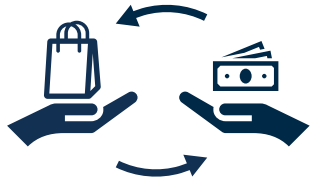


Transportation Fuels Assessment: Option Summary



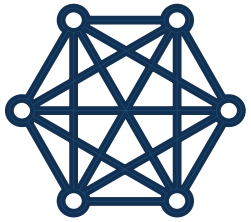
Demand Strategy

1. Enhanced ZEV Access
2. VMT Reduction Strategies
3. Fuel Conservation



Supply Strategy

4. Storage Strategies
5. Production Enhancement Strategies
6. Alignment of Gasoline Specifications for Western States
7. Import Strategies



Highly Complex

8. Gas Price Stabilization Fund
9. Cost of Service Model
10. State-Owned Refineries
11. Retail Margin Management

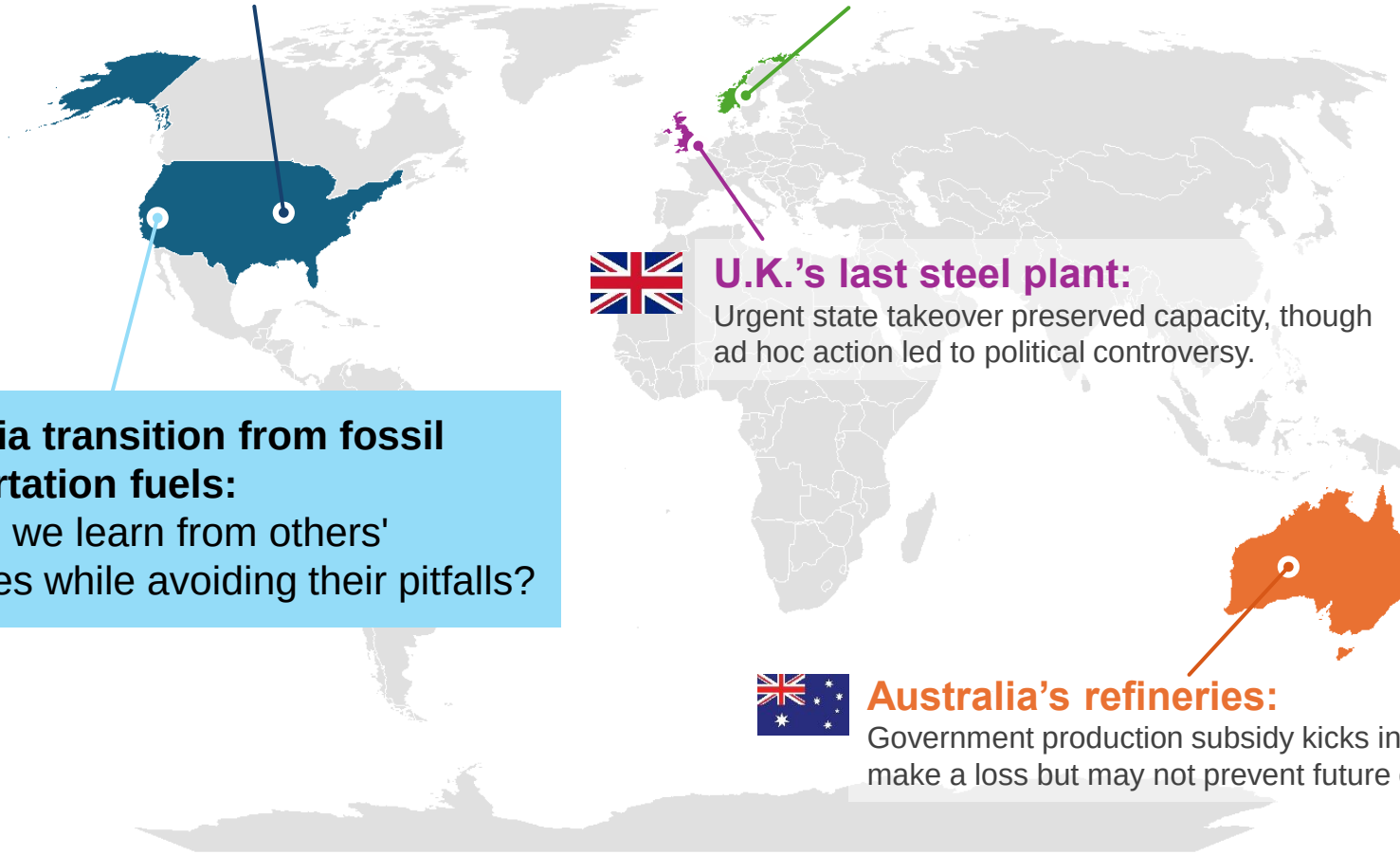
Other

12. Railcar Replenishment

Lessons from Transitions Across the World

U.S. coal production:
Long-term demand declines have produced repeated bankruptcies and mass layoffs.

Norway's Equinor:
Majority state-owned oil company channels revenue to energy transition but depends on oil exports to do so.



U.K.'s last steel plant:
Urgent state takeover preserved capacity, though ad hoc action led to political controversy.

California transition from fossil transportation fuels:
How can we learn from others' successes while avoiding their pitfalls?

Australia's refineries:
Government production subsidy kicks in when refineries make a loss but may not prevent future exits.

Concurrent "Three Buckets"

Outlined in June 2025 Letter

1. Near-Term Supply Strategy

Actions to support near-term supply and price stability

- Avoid rapid refinery capacity loss
- Support sufficient fuel imports

2. Concurrent System-Wide Strategy

Support investment confidence for safe and reliable operations to meet demand

- Crude oil production and distribution
- State regulatory tools
- State, regional, and local authority coordination

3. Holistic Transition Strategy

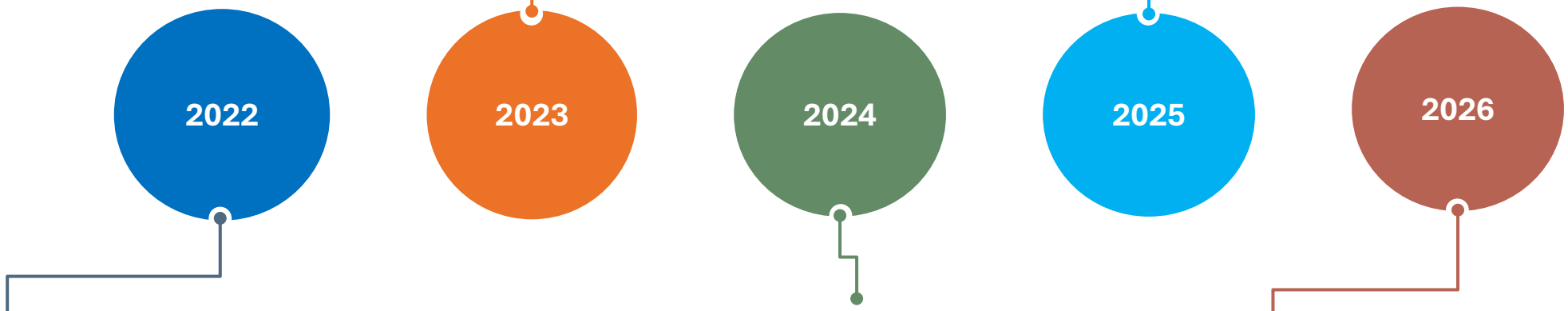
Near- and medium-term actions must be part of a holistic transition strategy

- Community and worker funding
- Community and worker safety
- Advance fossil demand reduction
- Supply stability during decline
- Managed infrastructure transition
- Future of impacted land

Petroleum Issues – *Timeline*

2023
- SB X1-2 signed and in effect
- Division of Petroleum Market Oversight is established
- Legislature appoints 2 members to the Independent Fuels Advisory Committee (ICFAC)
- CEC opens SB X1-2 Rulemaking and begins Max Margin and Penalty discussion

2025
- AB X2-1 in effect
- Valero Benicia refinery 1-year notice of closure
- Governor Newsom's letter to Vice Chair and Vice Chair's response letter
- Resupply plan collection begins; Max Margin and Penalty deprioritized; Petroleum Stabilization Informational Proceeding opened
- SB 237 signed



2022
- Record-breaking gasoline prices in CA
- Governor Newsom calls special session

2024
- Transportation Fuels Assessment published
- Governor Newsom calls second special session
- Governor Newsom appoints 6 members to the Independent Fuels Advisory Committee (ICFAC)
- Phillips 66 Los Angeles refinery 1-year notice of closure

2026
- SB 237 in effect

Thank You!

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CALIFORNIA
AIR RESOURCES BOARD

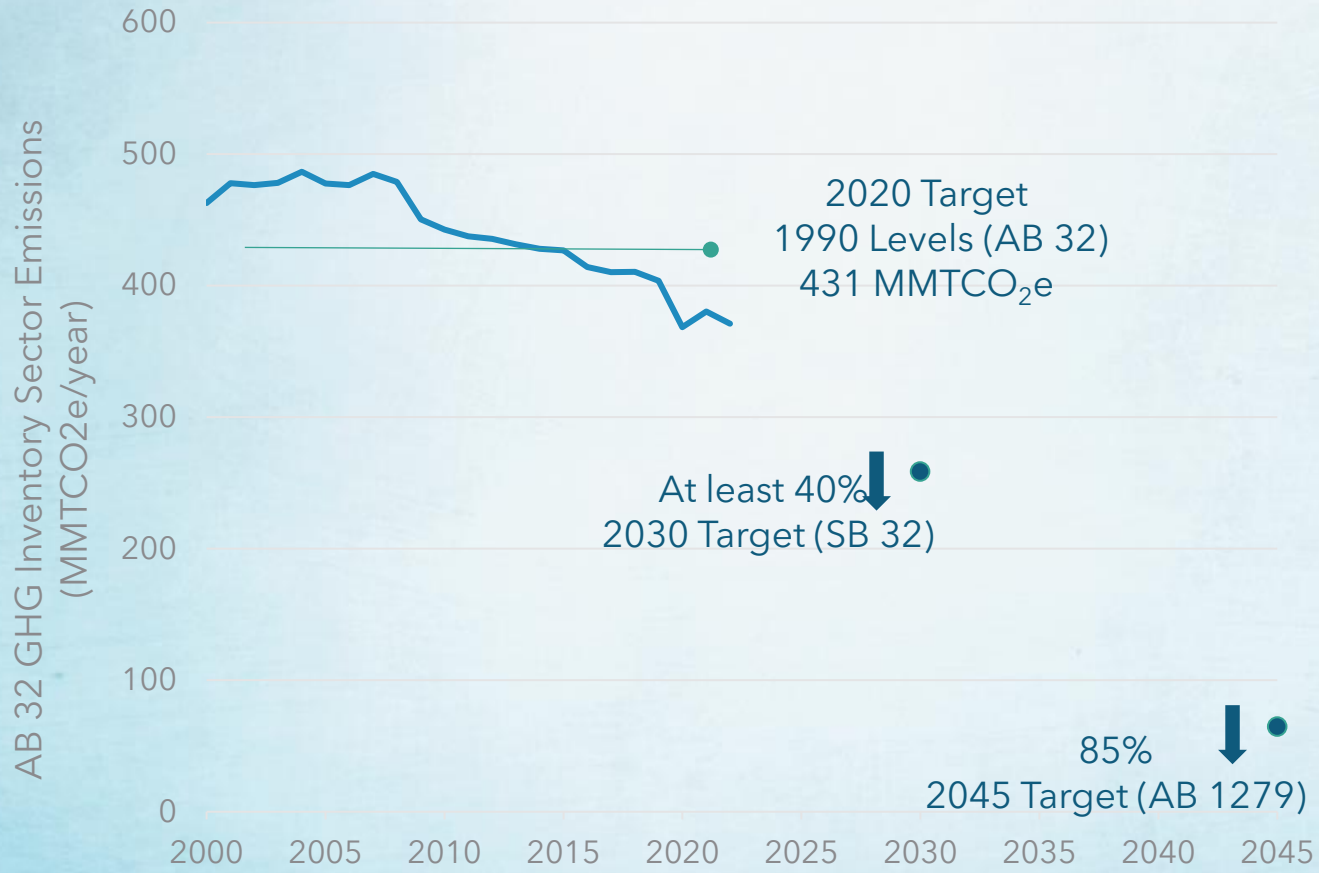
Achieving Air Quality and Climate Targets Through an Affordable Transition

Federal Clean Air Act Requirements

- U.S. EPA must set National Ambient Air Quality Standards (NAAQS) for pollutants, to be reviewed every 5 years
- States exceeding a NAAQS must develop a State Implementation Plan (SIP), developed and adopted through a public process
- Once approved by U.S. EPA, SIPs are enforceable by federal courts; citizens can sue for failures by CARB/Districts to meet commitments

GHG Emissions Reduction Targets

Achieved AB 32 target in 2014 – Portfolio of Policies



ACHIEVING

CARBON

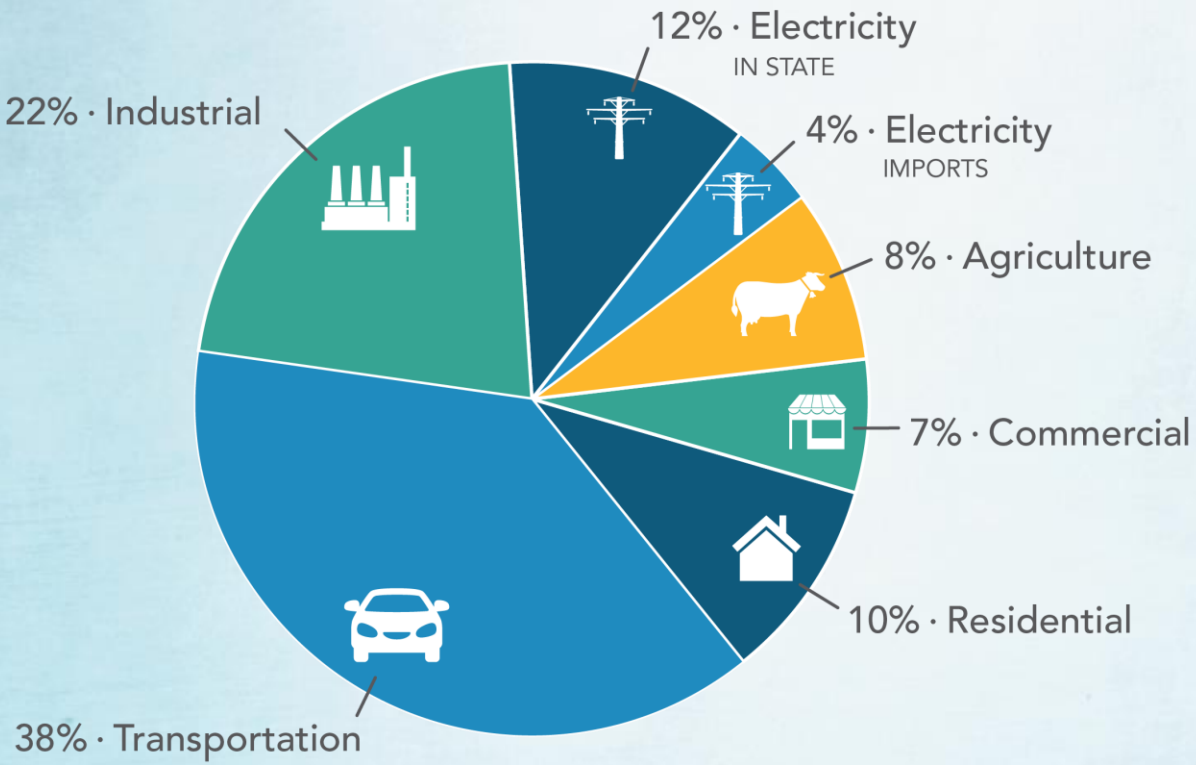
NEUTRALITY

BY **2045**

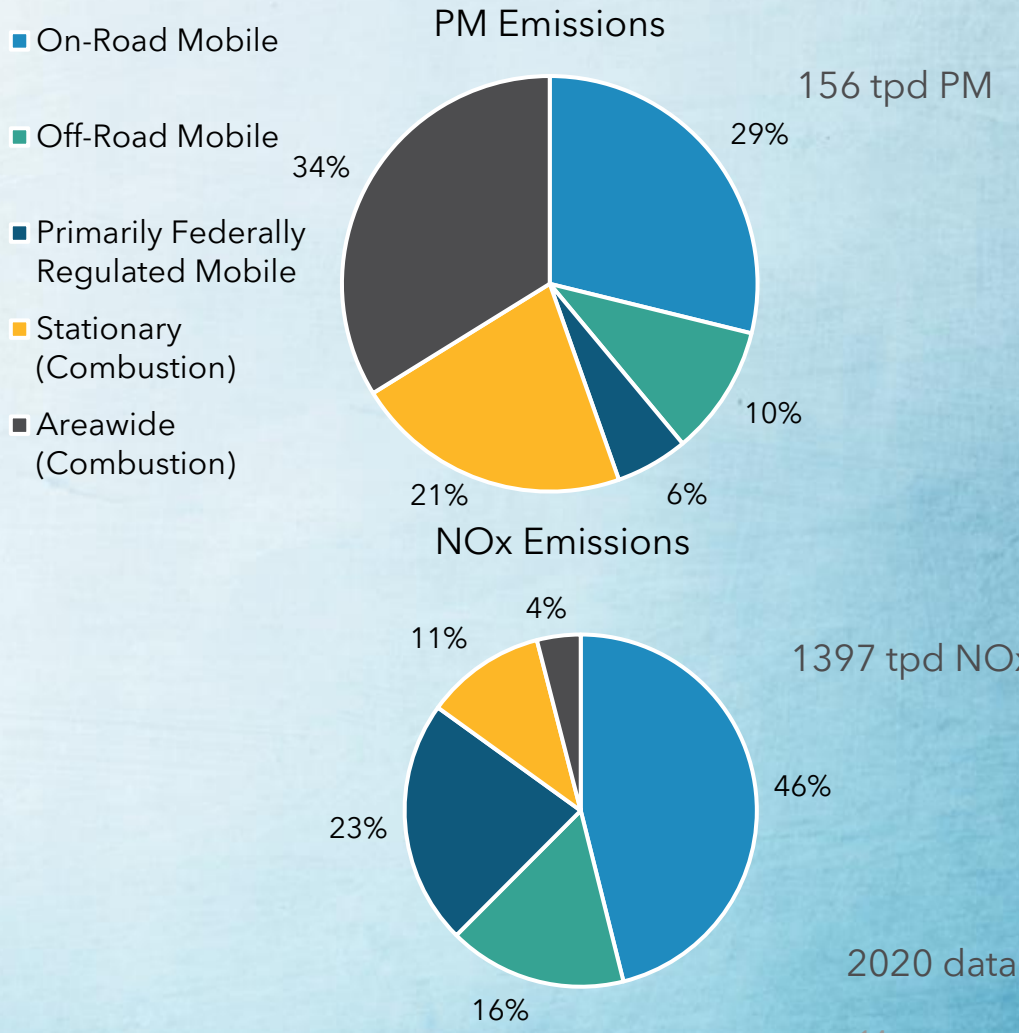
GHGs included in statute: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), nitrogen trifluoride (NF_3).

CARB

Climate and Air Pollution from Transportation



360.4 MMT CO_2e
2023 TOTAL CA EMISSIONS

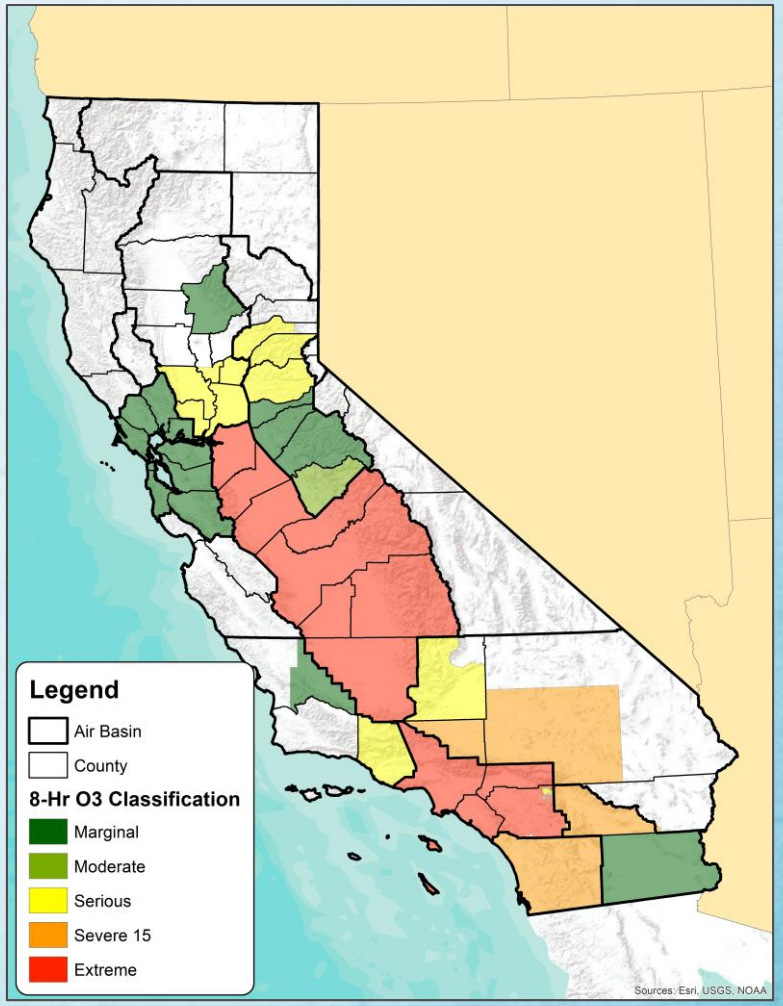


2020 data

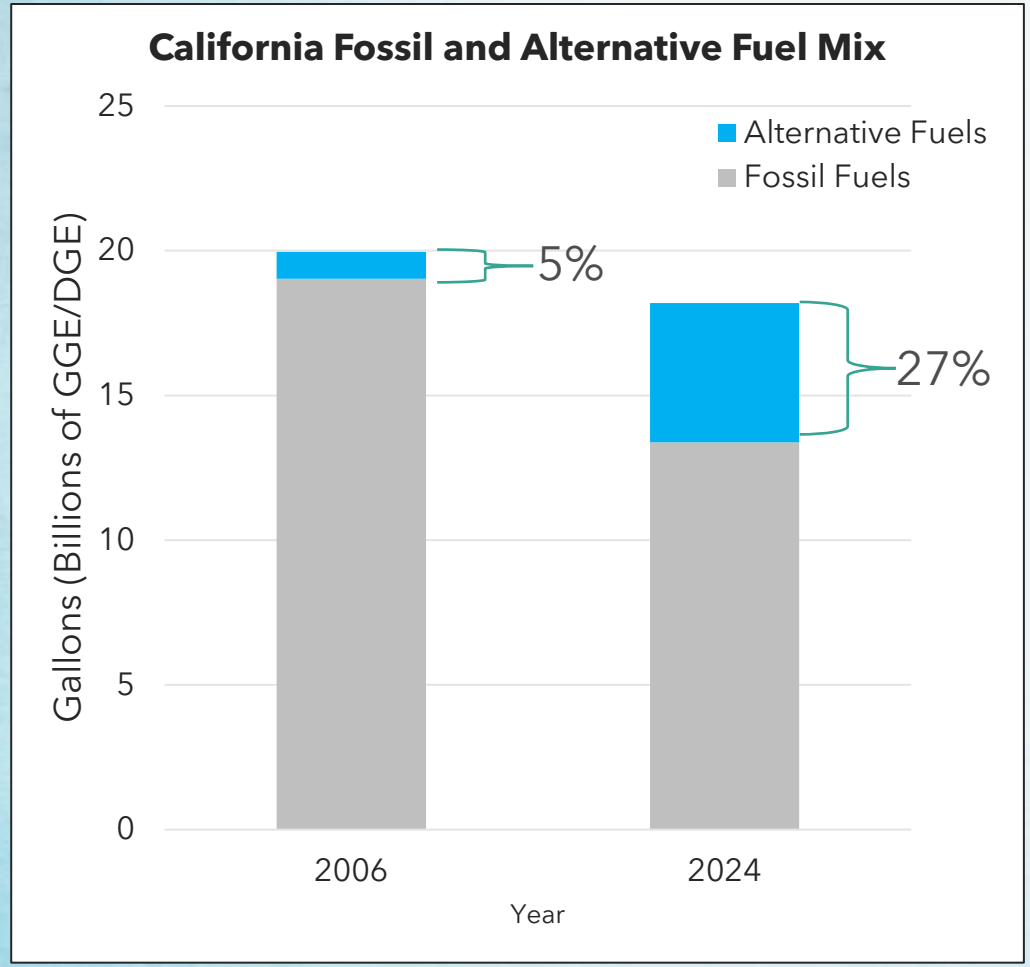
CARB

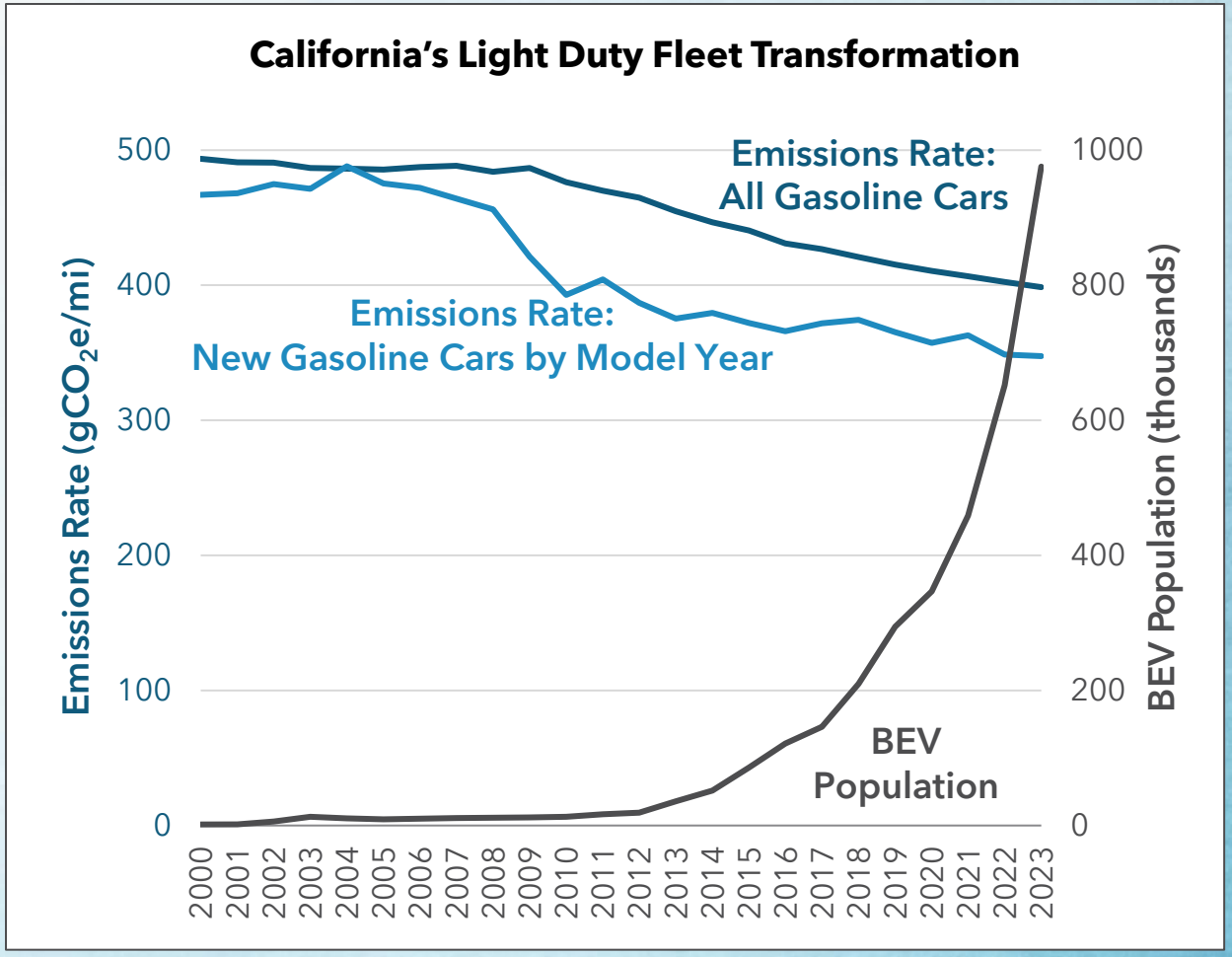
Consequences of Failing to Meet Federal Air Quality Requirements

- Today, 17.3 million Californians breathe unhealthy air
- Non-Attainment
  - Contingency Measures
  - CAA Section 185 nonattainment fees
  - Bump-up to higher classification
- SIP Disapproval
  - Stationary Source Sanctions
  - Federal Implementation Plan
  - Highway Sanctions-*could delay or result in the* ***loss of billions of dollars*** *in federal transportation funding*



Supporting an Affordable Transition





CARB

California Water Boards Role in Petroleum Refinery Closure Cleanup

CALIFORNIA
Water Boards

State Water Resources Control Board - Division of Water Quality

State Water Resources Control Board and Nine Regional Water Quality Control Boards (Collectively Water Boards)

Vision:

A sustainable California made possible by clean water and water availability for both human uses and environmental resource protection.

Statutory Authorities

- California Water Code Sections
  - §13267: Technical/monitoring reports from dischargers
  - §13304: Cleanup and abatement of waste discharges
  - §13263: Waste Discharge Requirements for Waste Management Units

- State Water Board Resolution No. 92-49 Policies for investigation, cleanup, and abatement under Water Code §13304
  - Oversight and scheduling of remedial measures

Technologies for Assessment & Monitoring

- Assessment & Monitoring Tool Examples
  - Hollow-Stem Auger drilling
  - Groundwater Monitoring Well networks
  - Soil Vapor Sampling

- Monitoring Focus
  - Contaminant migration
  - Vapor intrusion risks

Remediation Techniques

- Common Methods
  - Excavation of impacted soil
  - Soil Vapor Extraction (SVE)
  - Pump & Treat groundwater
  - In-Situ Oxidation

- Monitored Natural Attenuation

  Allows the natural microbes to biodegrade the petroleum to a low risk state

Post Closure Considerations

- Limited site characterization in inaccessible areas
- New site assessment considered post-demolition to evaluate areas previously inaccessible due to refinery infrastructure (e.g., tanks, pipelines, subsurface piping)
- Potential need for new groundwater wells

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