California Energy Commission

LEAD COMMISSIONER REPORT

Senate Bill 237 Assessment

Supporting the Transition Away from Petroleum Fuels

May 2026 | CEC-200-2026-007-LCD

California Energy Commission

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ABSTRACT

Senate Bill 237 (Grayson, Chapter 118, Statutes of 2025) requires the California Energy Commission to submit an assessment to the Legislature and Governor that evaluates the recommendations and strategies put forward by the Commission's Vice Chair in his June 27, 2025, letter to Governor Gavin Newsom. The letter established a need for evaluating policies and strategies to ensure that "Californians have access to safe, affordable, and reliable transportation fuels and that petroleum refiners continue to see value in serving the California market..." This assessment evaluates these policies and considers other recommendations regarding permitting and working group authorities, as prescribed in the bill.

Keywords: gasoline, petroleum, refineries, transportation fuels

Please use the following citation for this report:

Keates, Theresa and Quentin Gee. 2026. *Senate Bill 237 Assessment*. California Energy Commission. Publication Number: CEC-200-2026-007-LCD.

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EXECUTIVE SUMMARY

California's transition away from petroleum transportation fuels is an industrial transition of historic scale. California's policies to address the urgency of the climate crisis and the global forces reshaping petroleum refining markets have already determined that the state's need for petroleum infrastructure will decline.

California's transportation sector is entering a new phase of decarbonization described in scholarly work as the mid-transition. For energy systems in this phase, the state must not only support the growth of new clean systems, but also facilitate the phase-out of their fossil-fueled predecessors. During this period, policymakers in California have the opportunity to reaffirm the state's commitment to achieving its climate goals, protect consumers, workers, and communities, and demonstrate leadership in energy transition governance.

Real-time events as of the release of this report are underscoring the importance of managing an effective and expeditious transition away from petroleum fuels. The conflict in Iran that began in February 2026 is dramatically affecting global oil markets and supply routes and underscores an energy security reason for why the state must reduce its dependence on petroleum and accelerate the build-out of domestic clean energy and a clean transportation sector.

This assessment, as required by Senate Bill 237 (Grayson, Chapter 118, Statutes of 2025), focuses on the transportation fuels system and evaluates the recommendations and strategies proposed by California Energy Commission Vice Chair Siva Gunda in his June 27, 2025, letter to Governor Gavin Newsom. That letter was written in response to direction from Governor Newsom in April 2025. It was the product of extensive research and engagement with the Petroleum Strategy Task Force, technical and academic consultants, and a wide range of stakeholders — industry, labor, environmental and environmental justice organizations, state agencies, and local governments. This assessment continues and enhances that process by grounding the findings in the expanded data authorities established through Senate Bill X1-2 (Skinner, Chapter 1, Statutes of 2023-24 First Extraordinary Session) and Assembly Bill X2-1 (Hart, Chapter 1, Statutes of 2023-24 Second Extraordinary Session) and building off the Transportation Fuels Assessment and the jointly prepared draft Transportation Fuels Transition Plan with the California Air Resources Board.

The Vice Chair's June 2025 letter proposed three concurrent strategies to support an orderly, managed transportation fuels transition: stabilize fuel supply; support investment confidence for safe, reliable operations; and develop and execute a holistic transition strategy. This assessment evaluates those strategies through a three-part governance framework:

- Bucket 1 - Reactive stabilization to address immediate disruptions: Targeted actions to mitigate impacts to fuel supply or prices in response to specific events.
- Bucket 2 - Sustaining systemwide reliability: Supporting infrastructure operations to maintain safety and reliability through governmental coordination and transparency, and promoting investment confidence.

- Bucket 3 - Proactive transition governance: Advancing the state's climate goals while managing structural changes and impacts, including workforce transitions, community impacts, safety and reliability, the phase out of infrastructure, and future uses of impacted land.

All three parts operate simultaneously, but the balance and focus shift over time.

Several findings emerge from this analysis:

- **California cannot manage this transition one asset closure at a time.** Reactive, asset-by-asset crisis management is more expensive, less durable, and less protective of workers and communities than proactive governance. The investments California makes in Buckets 2 and 3 directly reduce the frequency and severity of crises requiring reactive Bucket 1 responses. Accelerating systemwide and proactive transition actions is the most cost-effective and least harmful way to reduce the frequency of immediate challenges.
- **A managed transition protects consumers, workers, and vulnerable communities.** California's petroleum infrastructure is almost entirely privately owned, and the state cannot easily direct the pace or sequence of infrastructure retirement. What it can do is create the planning and regulatory frameworks, transparency requirements, and financial accountability structures that help align private decisions with public interests. The risks of an unmanaged transition may be borne disproportionately by certain groups and communities and are not only economic. Fuel price volatility falls most heavily on lower-income Californians, for whom transportation costs represent a disproportionate share of household budgets. Refinery closures and other asset transitions with transition plans in place can protect workers and communities.
- **A managed transition is essential to achieving the state's climate goals.** California has an opportunity to continue demonstrating that decarbonization and a reliable, affordable fuel supply are compatible goals — not competing ones. Managing this transition well is not slowing progress, but rather is the strategy most likely to advance California's clean energy future.
- **The state must proactively support infrastructure evolution in both the fossil and emerging clean system simultaneously.** Legacy infrastructure (such as crude oil production, pipelines, and refineries) and sufficient import and distribution infrastructure (such as marine terminals, refined fuel pipelines, and storage) should be maintained safely and reliably through this period to continue to provide necessary services. Sustained investment in deploying clean mobility alternatives is essential to moving through this transition period quickly. All require active government engagement in planning and coordination, not just reactive responses as individual issues arise.
- **Permitting coordination can deliver the efficiency and accountability the Legislature envisioned with voluntary, deliberate coordination among agencies.** Existing and emerging interagency venues, including the Petroleum Strategy Task Force and working groups with air districts and local governments, should

formalize their processes, especially on permitting coordination for petroleum import and distribution infrastructure, with dedicated resources, defined protocols, and public reporting.

California's decades of clean energy leadership have brought it further along in the energy transition than any comparable economy. Since 2000, greenhouse gas emissions have fallen 21 percent even as the state's economy grew 81 percent — proof that climate action and economic growth go hand in hand. California is uniquely well-positioned to demonstrate how to manage what comes next: managing the responsible decline of a large-scale fossil fuel system while simultaneously building its replacement. The frameworks being developed through this process have value well beyond petroleum and well beyond California. Through its climate partnerships with jurisdictions representing nearly two billion people, California has both the opportunity and the obligation to share what it learns. Other states and nations are managing this same transition, and California's frameworks, developed through this process, can inform how they do it. How California's policy makers invest in these governance tools — proactively or reactively, with adequate support for those acutely impacted or without it — will determine whether the costs and benefits of this transition are shared broadly or concentrated in their harms.

CHAPTER 1:
The Case for Managed Transition

California's petroleum transition is part of a broader global shift. Industrial systems across energy, manufacturing, and transportation sectors are undergoing structural changes as policy, technology, and market forces reshape demand.

Over the past two decades, California has begun the transformational process of decarbonizing the state's economy. California's innovative policies have jump-started new clean energy technologies, built new industries that employ tens of thousands of Californians, and improved air quality for communities across the state. Now, California must take a critical next step in governing the transition to a decarbonized future: charting a path for maintaining reliable, affordable, safe, and equitable access to transportation fuels and services through the transition and supporting the orderly and safe retirement of its legacy fossil systems. This is a major systemwide transition involving markets, regulation, infrastructure, labor, the environment, and local communities.

California's transportation sector is entering a new phase of decarbonization described in scholarly work as the mid-transition.[1] During this phase, the incumbent fossil system declines while the replacement decarbonized system is growing. The state must not only support the growth of new clean energy systems but also navigate the phase-out of their fossil-fueled predecessors. California's mid-transition period is not the result of a sudden market disruption or a singular policy decision. Rather, it reflects the cumulative outcome of decades of environmental leadership, technological innovation, evolving transportation patterns, and broader global energy market dynamics. Mid-transition conditions are unavoidable in a transitioning system and are not unique to California.

Over several decades, California has adopted policies designed to improve air quality, protect public health, and reduce greenhouse gas (GHG) emissions. These policies are working and have begun to reshape the state's energy system: clean energy has expanded, petroleum fuel demand has declined, and the state's economy has grown all at the same time.

While demand for fossil fuels declines, millions of Californians will continue to depend on them and the supporting infrastructure daily. To protect consumers, as well as communities, workers, the economy, and the environment, it is critical to ensure that fossil infrastructure and access to services remain safe and reliable throughout the transition. California's policy must achieve two goals at once: harness the state's current momentum to continue

1 Grubert, Emily, and Sara Hastings-Simon. 2022. "Designing the Mid-Transition: A Review of Medium-Term Challenges for Coordinated Decarbonization in the United States." *WIREs Climate Change* 13 (3): e768. Available at https://doi.org/10.1002/wcc.768.

accelerating the transition away from fossil fuels and establish safeguards to maintain supply and price stability for petroleum fuels before the services they provide have been replaced.

The mid-transition brings predictable pressures that California can address and manage with the right frameworks in place. Long-term capital investment in fossil fuel infrastructure slows. Workers need transition support as fossil fuel facilities approach retirement. Local governments face fiscal exposure as tax bases shift. And consumers remain sensitive to petroleum fuel price volatility, making reliable fuel supply essential.

Recognizing and managing these dynamics requires a governance framework that builds upon the state's environmental leadership and advances progress toward a safe and equitable decarbonized and clean energy future. This must be accomplished while also ensuring reliability and affordability, addressing the structural realities of an evolving energy system, and supporting Californians acutely impacted by the transition.

Global Context of California's Transition

Industrial transitions of this kind — in which a legacy system declines while a replacement system grows — are not unique to petroleum. They have occurred across energy, manufacturing, and transportation sectors in California and across the globe. Proactive planning can help policy makers anticipate challenges before they become crises, develop and align governance tools to manage the phases of transition, and minimize or avoid disruptions that can arise from an unmanaged transition of a major sector.

California can draw on a wide range of comparative examples of industrial transition, both within the fossil fuel industry and in other critical infrastructural sectors, to assess risks and benefits of different approaches. Such transitions are occurring in many places across the country and globe in response to a wide range of factors, including technological advancement, consumer choice, market competition, infrastructure age, and policies, and have occurred throughout the industrial past.

Refinery closures in Australia, several countries in Europe, and U.S. states including Texas and Pennsylvania; the decline of primary steelmaking in the United Kingdom; closures in the U.S. coal mining, gas utility, and passenger railroad industries; and U.S. military base closures all offer valuable lessons that can help steer California toward a safe, equitable, rapid, and least-cost transition from petroleum fuels. The ongoing example of transition in the U.S. coal mining sector, which has declined by 50% since 2008, is the most instructive: where transition went unmanaged, bankruptcies left workers without support, host communities without resources, and environmental obligations without funding.[2] California has the opportunity and capacity to

2 Macey, J., and J. Salovaara. 2019. "Bankruptcy as Bailout: Coal Company Insolvency and the Erosion of Federal Law." *Stanford Law Review*, 71 (879): 84. Available at https://corpgov.law.harvard.edu/2019/05/22/bankruptcy-as-bailout-coal-company-insolvency-and-the-erosion-of-federal-law/

demonstrate a different model. The lessons learned from coal and other industrial transitions are not a prediction of California's path, but a guide for how to chart a better one.

A wide range of factors stemming from multiple points along the petroleum value chain are accelerating the decline of the petroleum industry in many U.S. states, as well as in developed economies across the globe.[3] Across the United States, refiners experience softening demand for some refined products and competition from newer, more efficient mega-refineries in other countries. Investment decisions, including whether to continue operations, are driven by factors that can vary significantly between companies. For example, an analysis of historical data found that smaller U.S. refineries and those owned by multi-plant firms were more likely to close.[4] Geopolitical events and changing federal and foreign-government policies are also affecting industry outlook. In recent years, such factors have driven the closure of refineries in places as diverse as Australia, the United Kingdom, and multiple U.S. states. Public reporting from the International Energy Agency documents ongoing refinery consolidation across Organisation for Economic Cooperation and Development economies driven by aging facilities, declining demand growth, tightening margins, and environmental compliance costs. The U.S. Energy Information Administration similarly reports net reductions in U.S. refining capacity relative to pre-2020 levels.

Many U.S. refineries, including most in California, are more than 100 years old and face significant maintenance investment needs. California's in-state refining capacity is generally declining faster than its demand for refined products, especially gasoline and jet fuel, shaped by state dynamics and broader structural shifts in the global petroleum industry.[5]

The COVID-19 pandemic acted as a significant accelerant of petroleum system shifts: during 2020, global fuel demand declined sharply as economic activity slowed. Refinery utilization[6] rates fell dramatically, and several facilities worldwide were permanently closed or converted.

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3 Cha, J. M. 2020. "A just transition for whom? Politics, contestation, and social identity in the disruption of coal in the Powder River Basin." *Energy Research & Social Science*, 69: 101657. https://doi.org/10.1016/j.erss.2020.101657.

Geldner, Alan, Avanpal Sehmi Singh and Ashutosh Gaonkar. March 2025. "Global Refinery Closure Outlook to 2035." Wood Mackenzie, https://www.woodmac.com/news/opinion/global-refinery-closure-outlook-2035/.

4 Meyer, David, and Christopher Taylor. November 2015. "The Determinants of Plant Exit: The Evolution of the U.S. Refining Industry." Federal Trade Commission Bureau of Economics Working Papers. https://www.ftc.gov/system/files/documents/reports/determinants-plant-exit-evolution-u.s.refining-industry/wp328.pdf.

5 See Chapter 3 of this report, "The Context of California's Petroleum System," for discussion of demand trends and projections for gasoline, diesel, and jet fuel. Note that fossil diesel demand has dropped significantly with use of renewable diesel and biodiesel.

6 "Refinery utilization" in this context refers to the net proportion of operational time divided by the total time in a given period for a specific refinery. For example, if a refinery is non-operational for 36.5 days of a 365-day year, then it would have a refinery utilization of 90 percent.

Financial markets reassessed long-lived fossil infrastructure investments, while governments accelerated clean energy investment through economic recovery programs.

The state is now facing significant changes to its transportation sector and has an opportunity to reaffirm its policy leadership. If done well, the governance framework California implements to manage this consequential and economywide transition will have value well beyond petroleum and beyond California.

From Policy Success to Transition Governance Obligation

California's environmental leadership has successfully altered the trajectory of petroleum fuel demand, especially gasoline and diesel. That success now creates a new governance responsibility. As demand declines gradually over time, the state must support a coordinated infrastructure contraction to preserve reliability and protect consumers, and at the same time, continue to expand clean energy and clean transportation systems.

Policymakers face a set of interlocking issues that must be addressed together, including reliability and affordability of services, safety and reliability of infrastructure, employment security, community impacts, and advancing decarbonization. Energy security remains a critical anchor within this framework, with petroleum fuels continuing to support essential economic activity across freight, aviation, agriculture, and emergency services. Effective transition governance requires advance planning, stakeholder engagement, governmental coordination, and use of administrative and legislative tools in alignment with transition goals.

The clean energy transition, of which the transportation sector is a key part, is the single biggest opportunity California has to permanently lower energy costs for working families. The transition away from petroleum transportation fuels is critical to addressing the climate crisis – and can improve reliability, affordability, and public health, all while continuing California's economic growth.

CHAPTER 2:
Governing the Mid-Transition

The Three-Bucket Governance Framework

Petroleum system transition governance can be viewed as three operational categories: reactive stabilization, systemwide management, and proactive transition governance. Importantly, these "buckets" should not be interpreted as siloed or competing policy approaches. Rather, they represent complementary functions within an evolving governance system. All three operate simultaneously; what changes over the course of the transition is the relative emphasis and investment each demands.

Bucket 1 | Reactive Stabilization: Mitigating Immediate Disruptions

The first operational approach concerns immediate disruptions within the fuel supply system. This approach and the potential tools employed are often triggered by specific events such as refinery outages, supply interruptions, or sudden price spikes. It may include targeted interventions to mitigate the impact of such events. The primary objective is to stabilize markets quickly and protect consumers from acute volatility.

The reactive stabilization approach remains an important component of energy governance. Even well-functioning markets can experience unexpected disruptions, and policymakers must retain the ability to respond quickly to preserve reliability and protect consumers.

However, reliance on reactive measures alone carries an important limitation. If governance focuses primarily on addressing disruptions one facility or event at a time, the system risks entering a pattern of repeated crisis response. In such circumstances, policymakers may find themselves addressing individual incidents without addressing the structural dynamics that produce vulnerability in the first place.

For this reason, reactive stabilization should be understood as a useful but limited tool for mid-transition governance. Over time, effective transition management should reduce the frequency with which such strategies must be deployed.

Bucket 2 | Systemwide Maintenance: Sustaining a Reliable System Through Transparency, Coordination, and Supporting Investment Confidence

The second operational approach focuses on improving the reliability of the fuel supply system as a whole. Rather than responding to individual disruptions, these measures aim to strengthen the institutional structures that support transparency and coordinate policy tools to achieve state objectives.

Recent legislative actions reflect this approach. Enhanced transparency authorities have expanded the state's ability to collect and analyze market data. The creation of the Division of Petroleum Market Oversight (DPMO) has strengthened the state's analytical capacity to

monitor fuel markets, detect and deter misconduct, and understand the role that market power plays in causing price spikes and price increases.

The CEC's first Transportation Fuels Assessment, required every three years under SB X1-2 , built on previous work from a systemwide perspective.[7] By examining relationships between inventory levels, refinery outages, and price movements, the Transportation Fuels Assessment demonstrated how structural factors can amplify volatility within fuel markets. These findings underscore the value of transparency and analytical capacity in informing policy decisions.

Systemwide transparency and regulatory measures therefore represent an important step beyond reactive crisis management. They provide policy makers with better information, improved coordination across agencies, and enhanced ability to anticipate market developments and prevent abrupt disruptions.

At the same time, an important limitation of this approach is that if systemwide stabilization focuses exclusively on maintaining the existing petroleum system, it may inadvertently slow development of the emerging clean transportation system. Stabilization should not be confused with preservation. The objective of mid-transition governance is not to maintain the current configuration of the petroleum system indefinitely. Rather, it is to manage the evolution of that system responsibly and maintain safe and reliable access to services while supporting the continued expansion of cleaner alternatives.

Bucket 3 | Proactive Transition Governance: Advancing a Holistic Transition Strategy

The third operational approach focuses on aligning infrastructure and service evolution with the long-term trajectory of the energy transition. Unlike reactive or systemwide stabilization, proactive transition governance intentionally advances the state's policy goals while managing the structural changes and related impacts of the energy system.

This category includes policies and planning efforts that examine how demand trajectories, infrastructure investment decisions, workforce transitions, and community impacts play out over time. Rather than focusing solely on immediate disruptions or existing system stability, proactive governance seeks to guide the evolution of the transportation system in a manner that preserves reliability while advancing durable decarbonization.

The draft TFTP, prepared jointly by the California Energy Commission (CEC) and the California Air Resources Board (CARB) with input from DPMO, reflects this approach.[8] By examining

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7 Gee, Quentin, Aria Berliner, and Alexander Wong. August 2024. *Transportation Fuels Assessment: Policy Options for a Reliable Supply of Affordable and Safe Transportation Fuels in California.* California Energy Commission. Publication Number: CEC-200-2024-003, https://www.energy.ca.gov/publications/2024/transportation-fuels-assessment-policy-options-reliable-supply-affordable-and.

8 California Air Resources Board and California Energy Commission. 2026. "Transportation Fuels Transition Plan." Will be available at docket 23-SB-02, https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-SB-02

demand trajectories, infrastructure needs, and impacts of infrastructure decline, the planning process seeks to ensure that the transition is managed thoughtfully.

Proactive transition governance also includes consideration of workforce transitions, infrastructure repurposing opportunities, environmental remediation needs, land reuse, and fiscal implications for local communities. These issues cannot be addressed effectively through reactive crisis response alone; they require forward-looking planning and sustained coordination across multiple agencies and stakeholders.

Importantly, strengthening proactive governance can reduce the need for reactive interventions over time. When system change and infrastructure evolution are anticipated and coordinated, the likelihood of sudden disruptions diminishes.

California's Governance Response: Building the Framework in Practice

The three-bucket framework describes governance work California has already been doing — sometimes by deliberate design, sometimes in direct response to immediate pressures — and it maps where that work must go next. Viewed through the bucket framework, the legislative and institutional actions of the past several years trace an arc from immediate response, toward systemic management, toward the proactive transition governance that the scale of this challenge ultimately requires. While many governance tools already exist, the strategies must tie together as part of a holistic plan.

This three-bucket framework was developed from discussions with a range of impacted stakeholders, including representatives from industry, labor, environmental and environmental justice organizations, and state and local authorities. While not all groups align in their preferred strategies to address the challenges the state faces, there is shared recognition of different constituencies' priorities and common goals and the importance of an informed plan.

From Crisis to Systemwide Response: Bucket 1 to Bucket 2

California's mid-transition governance response began, as it often does in complex systems, with a crisis. Extraordinary gasoline price spikes occurred in 2022 and 2023. California retail gasoline prices diverged sharply from national averages, leaving consumers with limited explanation and recourse. These spikes exposed a fundamental gap: the state lacked the tools to understand in real time what was driving price behavior in its own fuel markets. The policy response was swift. Two special sessions of the Legislature produced SB X1-2 and AB X2-1 , which together marked the state's most significant expansion of its petroleum market authority in decades.

These actions could be considered Bucket 1 governance: targeted, event-driven, and focused on stabilizing a system under stress. What is important to recognize, however, is that the Legislature did not stop at crisis response. SB X1-2 and AB X2-1 did something more durable than addressing the immediate price spikes: they built oversight and transparency that Bucket 2 governance requires, as well as planning efforts to support Buckets 2 and 3.

The Bucket 2 progress California has built since 2023 includes the following:

- Expanding data collection authorities
- Establishing DPMO
- Performing analysis to deeper understand price and supply dynamics
- Analyzing the appropriate use of new regulatory tools authorized
- Establishing coordination venues between governmental agencies
- Establishing a crude oil production permitting pathway for Kern County designed to address the rapid production decline and associated consequences to infrastructure viability through SB 237.

These actions were taken under real pressure, responding to price spikes, refinery closures, and market uncertainty, rather than emerging from a preplanned governance roadmap. Reactive governance is a normal pattern of how institutional capacity to manage complex systems matures. By producing durable tools, not just addressing the immediate disruption, the policy arc of 2022–2025 represents a genuine and significant governance advance, though much work remains to be done to execute the petroleum fuels transition successfully.

Toward Bucket 3: The Governance Gap

The Bucket 2 steps California has taken are real and consequential. At the same time, supporting systemwide reliability has an inherent limitation: it is designed to manage the existing system, not to guide the transition or build the new system. As refinery capacity continues to contract, as refined fuel imports grow, and as the infrastructure transition accelerates, Bucket 1 and Bucket 2 tools alone are insufficient. They help stabilize the platform; they do not determine where it goes.

A critical dimension of this governance gap is that California's petroleum infrastructure — including crude oil production facilities, pipelines, refineries, terminals, and storage facilities — is almost entirely privately owned. The state does not currently have the ability to control the timing or sequence of its retirement. What it can do is create the transparency, planning and regulatory frameworks, and financial accountability structures that provide clarity allowing all parties – including operators who will eventually exit the market – to plan responsibly. Such governance tools can better align market outcomes with public interests.

Bucket 3 is where the governance gap is most significant and where this assessment focuses the forward-looking analysis. The work of proactive transition governance includes:

- Advancing the clean energy systems and decarbonized mobility alternatives that will replace petroleum fuels, while supporting service stability throughout the transition.
- Anticipating how the petroleum system may evolve and facilitating the timing and order of infrastructure exits.
- Protecting workers and communities through the transition with durable, adequately funded, and effectively structured support mechanisms.
- Ensuring that the physical and financial legacies of petroleum infrastructure — such as decommissioning obligations, site remediation, and land repurposing — are responsibly addressed rather than left to the state as a payer of last resort.

California has begun this work in important ways. The draft TFTP represents the first dedicated report to examine California's petroleum system not just as a market to be managed, but a transition to plan holistically. The June 2025 letter from Vice Chair Siva Gunda to Governor Gavin Newsom, which this assessment evaluates, named the transition governance challenge explicitly, proposed a framework for addressing it, and created the political and institutional space for the more detailed work that follows.[9] This assessment is the next step in that work.

The state's actions of the past several years have shown progress — from crisis response, toward sustaining systemwide reliability and toward the proactive transition governance that the scale of this challenge requires. This assessment evaluates progress on that arc, identifies the gaps that remain, and recommends next steps in advancing it intentionally rather than reactively.

Integrating the Three Buckets

Understanding the relationship between these three categories is critical for effective transition governance.

Reactive stabilization tools will remain important to have ready for managing unexpected disruptions. Systemwide management measures improve the state's ability to monitor market conditions, coordinate responses, and support reliability. However, proactive transition governance provides the strategic direction that allows the first two categories to function effectively and the state's reliance on them to decrease.

The governance framework described in this chapter — the three-bucket structure, California's evolving policy responses, and the implementation tool categories they generate — provides the foundational structure for this assessment. Each bucket represents parallel categories of work: work that California has already begun building in some areas and work that remains to be developed and strengthened in others.

The next chapter grounds this framework in the specific market conditions, policy history, and structural challenges that define California's petroleum transition. Understanding that context is essential for evaluating what the state has already built, where gaps remain, and what this assessment recommends.

9 CEC Vice Chair Siva Gunda. June 27, 2025. "Response to Governor Newsom," https://www.energy.ca.gov/sites/default/files/2025-07/CEC%27s_Respone_to_Governor_Newsom%27s_Letter_June-27-2025_ada.pdf.

CHAPTER 3:
The Context of California's Petroleum System

California's petroleum sector is facing mid-transition challenges, especially in refining. California's in-state petroleum refining capacity has been declining faster than its demand for refined petroleum fuel, especially gasoline and jet fuel, requiring a rapid increase in imports of refined products. In the last five years, two California refineries, Marathon Martinez and Phillips 66 Rodeo, have ceased production of petroleum fuels and converted to renewable fuel production. The Phillips 66 refinery in Wilmington closed in the fourth quarter (October–December) of 2025, and Valero has announced its intent to idle, restructure, or cease refining operations at its Benicia refinery by the end of April 2026.

Recent federal actions and global events are creating further uncertainty in in-state demand for refined fuels and global petroleum markets. Ultimately, the retirement of refineries and other petroleum fuel assets is expected as part of the state's energy transition. These retirements can alleviate pollution burden from host and neighboring communities and lead to new economic development. However, without coordinated planning and a clear transition trajectory, the timing and sequence of exits could affect the state's ability to manage impacts. Proactive planning could not only prevent these potential challenges, but achieve a more just, least-cost, and faster transition to clean energy and decarbonized transportation while securing major benefits for fenceline communities,[10] consumers, petroleum industry workers, and the environment.

Petroleum Fuels in California

California refineries produce most of the refined petroleum transportation fuels that the state consumes. Refineries take crude oil and refine it into various petroleum products, primarily transportation fuels such as gasoline, diesel, and jet fuel. Other refinery products or by-products include asphalt, plastic feedstocks, petrochemicals, lubricants, and sulfur. There is some, but limited, flexibility with the proportions of different products refineries can produce.

California has more refining capacity than any state except Texas and Louisiana.[11] As of April 2026, there are eight gasoline-producing refineries operating in the state. Three are in Northern California, four are in Southern California, and one small refinery is in Central California. One in Northern California (Valero Benicia) is expecting to fully idle refining operations by the end of April 2026 but continue importing fuel.

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10 A "fenceline community" is a community adjacent to or very close to petroleum or fuel production facilities. They tend to be the most exposed to various environmental hazards associated with these facilities.

11 Energy Information Administration. 2025. Refinery Capacity Report, https://www.eia.gov/petroleum/refinerycapacity/.

Most crude oil that California's refineries process into fuels is imported. Since 2005, crude production in California's aging oil fields has declined by about 50 percent, and in 2025, about 77 percent of crude oil supplying California refineries was imported from outside the state.[12] Throughout the decline in in-state crude oil production, Kern County has remained the largest oil-producing county in the state, representing more than 70 percent of crude oil production.[13] Crude oil produced in California is generally transported to refineries by pipeline. With no crude oil pipelines to bring crude oil into California, imports are brought in via vessel.[14]

There are also no pipelines bringing refined fuel into the state. Currently, there are only pipelines exporting refined fuel directly to Arizona and Nevada, though there are proposed pipeline projects that could increase refined product connectivity in the western United States and into California.[15] Demand for refined fuel that cannot be met by California refineries is met through imported finished fuel or blendstocks, currently done via vessel. Much of the state's imported refined products come from Asia or the Pacific Northwest. There is no refined fuel pipeline connectivity between Northern and Southern California. All movements of refined fuel between Northern and Southern California must occur by ship. Because imports of refined fuel can take weeks to arrive in response to a disruption, refinery outages can dramatically raise prices in the short term, a problem in the California market already identified in the late 1990s.[16] Increasing marine imports to replace lost supply may be constrained by bottlenecks in import infrastructure.

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12 California Energy Commission. 2025. Annual Oil Supply Sources To California Refineries, https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/annual-oil-supply-sources-california.

13 Crude oil production data are available at CalGEM's WellSTAR Data Dashboard. https://wellstar-dashboard.conservation.ca.gov/.

14 Gee, Quentin, Aria Berliner, and Alexander Wong. August 2024. *Transportation Fuels Assessment: Policy Options for a Reliable Supply of Affordable and Safe Transportation Fuels in California.* California Energy Commission. Publication Number: CEC-200-2024-003. Available at https://www.energy.ca.gov/publications/2024/transportation-fuels-assessment-policy-options-reliable-supply-affordable-and.

15 See "System Resilience" section in Chapter 6 for information on proposed refined product pipelines in the Western United States, some with expected completion dates in 2029, that could provide refined fuel from outside California. This includes a proposal by a P66/Kinder Morgan joint venture would involve reversing the flow of a refined fuel pipeline currently transporting refined fuel from Colton, California, to Phoenix, Arizona. See westerngatewaypipeline.com.

16 Office of the California Attorney General. 2000. *Report on Gasoline Pricing in California*. Available at https://oag.ca.gov/sites/all/files/agweb/pdfs/antitrust/gasstudy/gasstudy2.pdf.

The particular specification of the state's gasoline standard introduces additional dynamics for securing supply. The fuel specification, California Reformulated Blendstock for Oxygenated Blending (CARBOB), was developed to address the state's distinct air quality challenges. There are refineries outside the state capable of producing CARBOB (or the blending components needed to make CARBOB) due to advancement in complex refinery capacity and increased convergence in specifications between California gasoline and other blends used throughout the country.

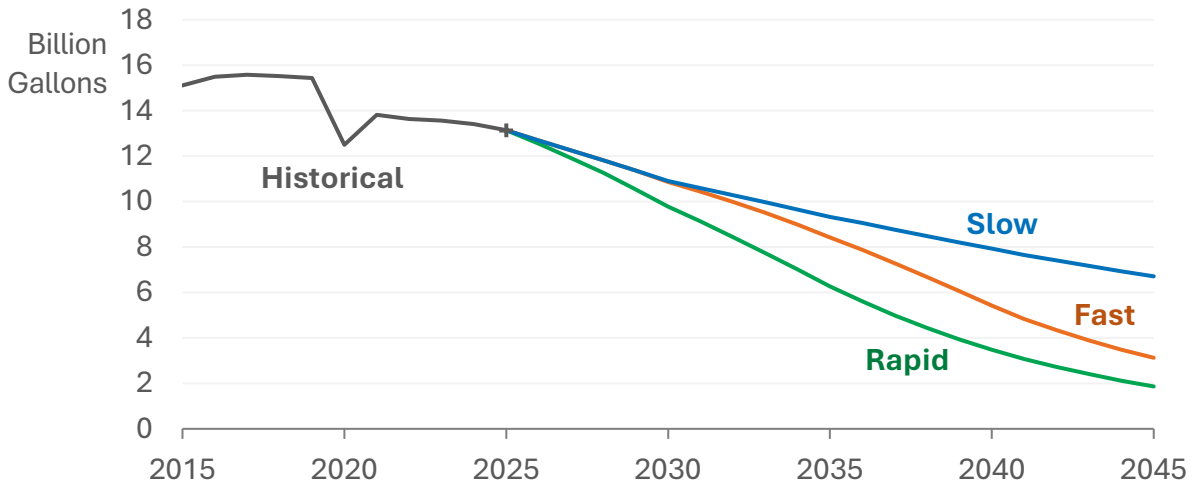
With increasing ZEV adoption and improved vehicle mileage, demand for liquid petroleum-based transportation fuels has been declining for years, and the CEC expects continued declines for gasoline and diesel. The range of possibilities is captured by rapid, fast, and slow ZEV adoption trajectories.[17] These trajectories are based on the latest Transportation Energy Demand Forecast in the CEC's 2025 Integrated Energy Policy Report.[18] Declines will be most directly seen in gasoline demand, although increasing use of renewable diesel means that demand for fossil diesel has already declined substantially. However, jet fuel demand is expected to increase. There is some uncertainty about jet fuel alternatives; in the draft TFTP, the CEC and CARB recommend exploring alternatives to fossil-based jet fuel.

Figure 1 shows historical and projected gasoline demand. Because of increasing preferences for ZEVs as well as increasing fuel efficiency and other developments, gasoline demand has declined recently and is expected to decline substantially over the next 20 years. Refiners are likely to use the current trends and various projections of gasoline to guide business decisions, especially because gasoline represents the majority of petroleum fuels by volume.

17 Some of the decline in each scenario is associated with increasing average fuel economy of the stock of gasoline-powered vehicles modeled in each projected year.

18 See https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report-iepr/2025-integrated-energy-policy-report. The Slow scenario is the baseline transportation energy demand forecast. The Rapid scenario is the "Additional Achievable Transportation Electrification Scenario 4," an enhanced scenario available for use in various electricity system planning efforts. The Fast scenario for gasoline is derived from the "Additional Achievable Transportation Electrification Scenario 2," which has slower electric vehicle adoption for the light-duty and medium- and heavy-duty vehicle sectors compared to Scenario 4. The Fast scenario for diesel is based on the average diesel demand between the slow and rapid scenarios. Jet fuel for all scenarios is identical, so only one projection is presented.

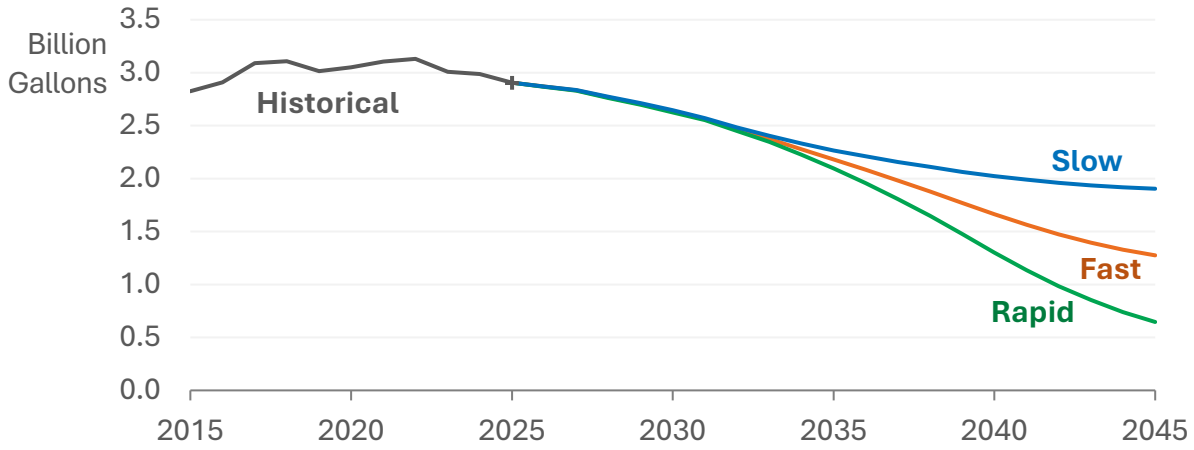
Figure 1: Gasoline Consumption in California — Historical and Scenarios



Source: CEC staff, CDTFA

Figure 2 shows historical and projected diesel fuel demand. Diesel fuel demand also includes renewable diesel and biodiesel. Both renewable fuels represent most of the diesel volume sold, although fossil diesel continues to comprise a significant portion.[19] This pattern in diesel consumption also influences petroleum refiners' decisions.

Figure 2: Diesel Consumption in California — Historical and Scenarios

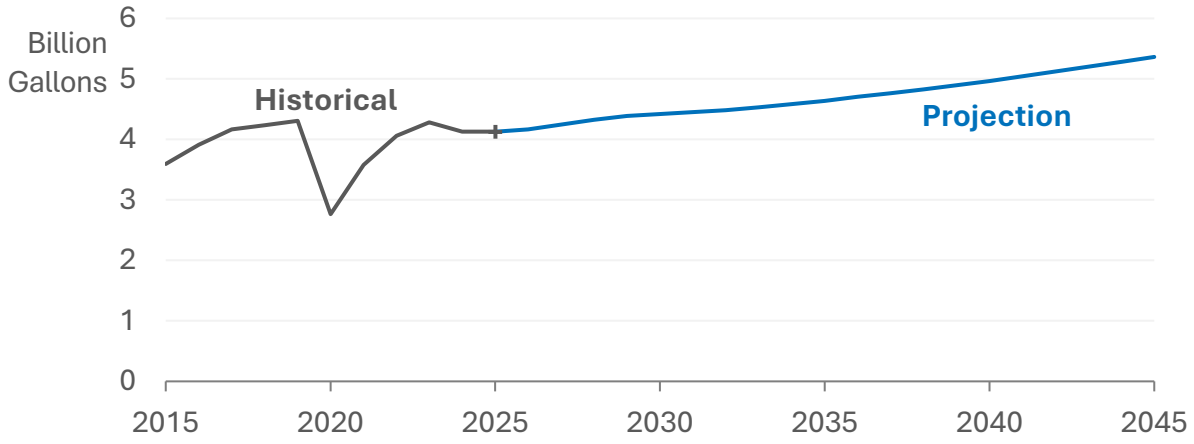


19 The proportion of diesel fuel sold that is composed of renewable or biodiesel changes quarterly, but the latest reporting from CARB's Low Carbon Fuel Standard Quarterly Reporting Tool Summaries indicates about 71 percent of diesel sold was either biodiesel or renewable diesel. See the LCFS Quarterly Data Summary Spreadsheet, available at https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterly-summaries.

Source: CEC staff, CDTFA

Figure 3 shows historical and projected jet fuel demand. Although drop-in[20] fuel alternatives to jet fuel are being researched, large volumes of these alternatives are not available on a large scale. If jet fuel demand is met by fossil jet fuel, the increasing demand of jet fuel, combined with declining fossil gasoline and diesel demand, will likely introduce new import dynamics if additional refineries close.

Figure 3: Jet Fuel Consumption in California — Historical and Projection



Source: CEC staff, CDTFA

California Policy Foundations

California's petroleum transition reflects decades of environmental leadership. Beginning in the 1960s, California implemented some of the nation's most stringent air quality standards, driving major public health improvements and technological innovation in fuel formulation and vehicle emissions standards. A second phase integrated climate policy into the regulatory framework. Assembly Bill 32 (Núñez and Pavley, Chapter 488, Statutes of 2006), Senate Bill 32 (Pavley, Chapter 249, Statutes of 2016), and Assembly Bill 1279 (Muratsuchi, Chapter 337, Statutes of 2022) progressively established GHG reduction targets through 2045 and the market mechanisms to achieve them.

A third phase, now underway, reflects actual technology substitution: vehicle electrification and alternative fuels are shifting demand patterns.

Oversight of the petroleum industry has a long history in the state but has expanded significantly in recent years and helped establish the foundation for designing transition policy. The 1980 Petroleum Industry Information Reporting Act (PIIRA) authorized the CEC to collect basic data from the petroleum industry that feeds into the Weekly Fuels Watch, including

20 A "drop-in" fuel is one that is chemically similar enough to the original fuel such that no modifications to the engine are necessary. Renewable diesel and sustainable aviation fuel are examples of drop-in fuels.

planned maintenance information, among other data streams. [21] Senate Bill 1322 (Allen, Chapter 374, Statutes of 2022) requires California refiners to provide detailed refinery costs disclosures.[22] To protect California consumers from extraordinary spikes in retail gasoline prices, such as those during 2022 and 2023, two special sessions of the Legislature in 2023 and 2024 resulted in the passage of SB X1-2 and AB X2-1.

These special session legislative efforts collectively accomplished the following:

- **Data collection:** Expanded the CEC's data collection authority that significantly increased transparency into various aspects of the petroleum market and helped identify the key factors that contribute to fuel price volatility
- **DPMO:** Established a new independent market oversight division, DPMO, responsible for oversight, investigations, economic analysis, and policy recommendations regarding the transportation fuels market
- **Reports:** Required development of two planning efforts: 1) a triennial assessment of California's transportation fuels market with potential strategies to address price spikes (the Transportation Fuels Assessment, with the first iteration published in 2024), and 2) the TFTP with CARB

Regulatory tools: Provided CEC with new regulatory authorities intended to protect consumers from retail gasoline price spikes: establishing a maximum gross gasoline refinery margin (GGRM) and penalty, setting minimum inventory requirements for refiners, and establishing resupply requirements for planned refinery maintenance events, all of which the CEC is actively analyzing for effective implementation. The Legislature required that the CEC carefully consider the impacts on consumers and the petroleum sector from implementing new regulatory authorities. The CEC has exercised caution by focusing on gathering the necessary information to develop a holistic view of the petroleum value chain and establishing the best ways to protect consumers during this transition.

Recent Developments in California's Petroleum System

The state's petroleum system has gone through changes in recent years. Marathon converted its Martinez (Contra Costa County) refinery to renewable fuels production in 2023. Phillips 66 converted its Rodeo (Contra Costa County) refinery to renewable fuels production in 2024. These transitions demonstrate that petroleum infrastructure conversions can continue operations at these sites and serve as a foundation for clean energy alternatives.

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21 The California Energy Commission's "Weekly Fuels Watch" is a weekly report that provides information on California's refinery production and inventory levels. Available at https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch.

22 California Energy Commission. California Oil Refinery Cost Disclosure Act Monthly Report, https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/california-oil-refinery-cost-disclosure.

In October 2024, Phillips 66 announced its intent to cease operations at its Wilmington (Los Angeles County) refinery in the fourth quarter of 2025.[23] In April 2025, Valero announced its intent to "idle, restructure, or cease refining operations" at its Benicia (Solano County) refinery by the end of April 2026. These two refineries represented 18 percent of the state's refining capacity.

Notably, neither company exited the California market. While Phillips 66 Wilmington ceased refining operations at the end of 2025, they continue to import refined fuel products in Southern California. Phillips 66's commitment to the California market extends further: on April 20, 2026, the company and Kinder Morgan announced they plan to advance the Western Gateway Pipeline, a new refined products corridor connecting Midwest and Gulf Coast refineries to California via pipeline — which would, for the first time, give California access to out-of-state refined fuel by pipeline rather than vessel alone.[24] Valero Benicia began idling through a phased approach in February 2026, expecting most refining process units to be idled by April 2026. The company publicly expressed commitment to fulfilling its contractual supply obligations in the California market and its intent to import additional gasoline to the San Francisco Bay Area in the near term.[25] Their continued market participation reflects the value of state engagement with refiners during the transition, and underscores the importance of sustaining it.

Figure 4 provides a comparison between approximate gasoline refining capacity and peak month in-state gasoline consumption and exports. The y-axis is the approximate gasoline production capacity of all refineries, assigned as a 55 percent proportion of each refinery's stated crude processing capacity.[26] Green bars represent refineries in southern California and blue bars represent refineries in northern California. Closed or converted refineries are represented by white bars. When the demand line rises above the capacity bars, California must rely on imports to meet peak demand. Temporary refinery outages may still mean that different historical years have had to rely on high levels of imports.

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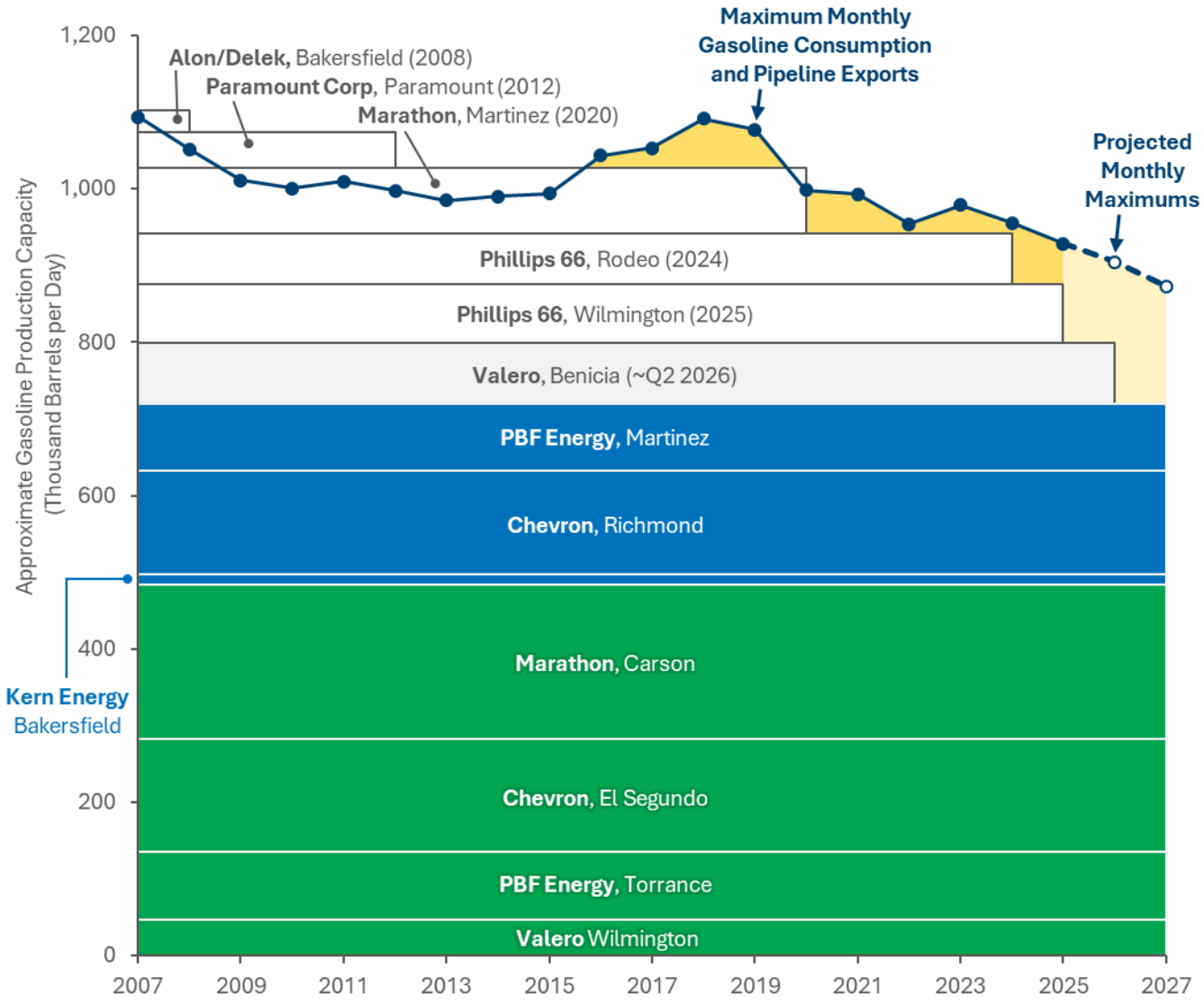
23 Phillips 66. October 16, 2024. News Release. "Phillips 66 Provides Notice of Its Plan to Cease Operations at Los Angeles-Area Refinery — Phillips 66 - PSX," https://investor.phillips66.com/financial-information/news-releases/news-release-details/2024/Phillips-66-provides-notice-of-its-plan-to-cease-operations-at-Los-Angeles-area-refinery/default.aspx.

24 Kinder Morgan. April 20, 2026. News Release. "Phillips 66 and Kinder Morgan Advance Western Gateway Pipeline Project Following Successful Open Season," https://ir.kindermorgan.com/news/news-details/2026/Phillips-66-and-Kinder-Morgan-Advance-Western-Gateway-Pipeline-Project-Following-Successful-Open-Season-2026-jnHolIuCAs/default.aspx.

25 Valero Benicia Refinery. January 6, 2026. News Release. "Update on Benicia Refinery," https://www.beniciarefinery.com/update-on-benicia-refinery.

26 Refineries are assigned an approximate gasoline refining capacity of 55 percent to represent an average, as refinery-specific detail on gasoline production is information protected under PIIRA..

Figure 4: Approximate Statewide Refining Capacity and Peak Annual Demand



Source: CEC staff, CDTFA

With the contraction of in-state refining capacity, California's fuel supply has continued to be met through additional gasoline imports. Figure 5 shows imports of all liquid transportation fuels and blendstocks over the last 15 years. California saw record volumes of refined fuel imports in 2025: about 20 percent of its gasoline demand was met by imports, with continued imports of diesel[27] and jet fuel. With record import volumes, retail prices in 2025 remained lower and more stable than in 2022, 2023, and 2024 — evidence that the import market is responding and adapting to supply California's fuel needs. Imports are also shifting in

27 Diesel imports primarily consist of renewable diesel or biodiesel.

composition – increasingly toward refined fuel products rather than crude oil, as the need to import crude oil into California decreases when refineries reduce or cease operations.

Figure 5. Out-of-State Imports of All Liquid Transportation Fuels and Blendstocks

Source: CEC staff

These shifts in California's petroleum system come with both opportunities and impacts that require active management. Refinery closures can reduce local pollution burdens and open land for new economic development, while also creating significant employment and local tax base impacts that communities and workers depend on the state to address. At the same time, greater fuel imports introduce supply chain considerations different from in-state production: marine shipments of refined fuel can take three to six weeks to reach California depending on available sources of CARBOB or its blending components, and imported supply has greater exposure to global market disruptions. Ensuring that sufficient infrastructure capacity — marine terminals, storage, and distribution systems — is in place to receive, store, and distribute fuel reliably is essential as California's import dependence grows.

Since the two special sessions and with the events that unfolded since, the state has taken several steps to address the stability and reliability of the petroleum fuels system and transition planning:

- **Intergovernmental coordination:** Convened in early 2025 by the California Natural Resources Agency (CNRA) and California Environmental Protection Agency (CalEPA) Secretaries, the Petroleum Strategy Task Force provides the first formal interagency coordination structure for state agencies whose jurisdictions include petroleum fuels. The CEC also engages with local agencies to coordinate on issues related to petroleum fuels.

- **June 2025 letter:** In response to a letter from the Governor,[28] CEC Vice Chair Gunda sent a letter to the Governor in June 2025 outlining concurrent actions to support an orderly, managed transportation fuels transition. [29]
- **Refinery maintenance reporting guidelines:** The CEC adopted resupply plan reporting requirements for planned maintenance events in August 2025, a first step toward the resupply rule authority granted under AB X2-1. The CEC continues to analyze the best use of the authorities granted by the special sessions in accordance with legislative direction.
- **GGRM deprioritization:** In August 2025 the CEC voted to adopt a resolution deprioritizing the adoption of a maximum GGRM while continuing to analyze the potential consequences of imposing a maximum margin, and to focus efforts in the near term on resupply planning and minimum inventory requirements, tools to support supply.
- **SB 237:** Among other provisions, SB 237 legislatively enabled a permitting pathway for Kern County oil and gas wells, recognizing that responsible, safe in-state crude production can support refinery operations and the pipeline infrastructure that serves the petroleum value chain. This targeted stabilization measure intends to create space and time for a managed transition while enforcement of health and environmental protections continue. SB 237 also required this assessment.
- **Transportation Fuels Transition Plan:** CARB and the CEC jointly prepared the draft TFTP required by SB X1-2. The TFTP discusses potential supply, affordability, equity, and workforce impacts, and provides strategies California could consider supporting a managed transition away from fossil-based transportation fuels.

While some foundations have been built, much work remains to be done, and state policies must achieve multiple objectives.

Policy Priorities for the Transition

In designing policies to manage the transition away from petroleum fuels, policymakers face a set of interlocking issues that must be addressed together to support a successful transition:

- **Reliability and affordability of services:** As described in this Chapter's "Petroleum Fuels in California" section, the state faces an unusually tight set of constraints on its access to crude oil and refined petroleum products due to its geography, infrastructure (especially pipelines), and its specialized fuel blend. California continues to diversify its fuel supply sources with imports of refined fuel playing a growing role. As infrastructure throughout the petroleum fuels value chain converts, idles, retires, or otherwise changes its operations, it is important that fuel supply is sufficient, resilient to

28 Governor Gavin Newsom. April 21, 2025. "Letter to Vice Chair Siva Gunda," https://www.gov.ca.gov/wp-content/uploads/2025/05/Newsom-Gupta-Letter-4.21.pdf.

29 CEC Vice Chair Siva Gunda. June 27, 2025. "Response to Governor Newsom," https://www.energy.ca.gov/sites/default/files/2025-07/CEC%27s_Respone_to_Governor_Newsom%27s_Letter_June-27-2025_ada.pdf.

disruptions, affordable, and has stable prices. Accelerating the transition to non-petroleum-based transportation also will help ease supply constraints and is key to long-term success in ensuring reliability and affordability of mobility for Californians.

- **Safety and reliability of infrastructure:** Refineries, as well as other segments of the petroleum fuels system, are high-hazard infrastructure that require regular investment in maintenance to protect workers and communities from accidents. Refinery owners are obligated to maintain safe operations for the full duration of their operations, regardless of their transition timeline. Deferred maintenance leads to heightened dangers for workers and communities alike, and refinery accidents and unplanned events also impact fuel supply and retail prices and lead to sudden or accelerated closures. Pennsylvania's PES Refinery, for instance, closed suddenly in 2019 after a major explosion caused by a corroded 50-year-old pipe.[30] California, too, has seen major refinery accidents, including the 2015 explosion at the then-ExxonMobil Torrance refinery[31] and the 2025 fire at PBF Martinez.[32] Releases and spills can permanently damage land and water, with acute and chronic public health, ecological, and economic consequences, including long-term withdrawal of land from use. It is imperative that appropriate investments in maintenance in refineries and other petroleum operations are made on a timely basis throughout the transition, and that safety regulations are effective and adhered to.
- **Employment security:** Recent refinery conversions and closures have revealed significant challenges for displaced workers in finding employment that leverages their skills and provides similar levels of security and welfare. Workers across the petroleum value chain, including crude oil extraction, similarly face continued job loss and difficult hiring conditions in a declining field. These workers' skills will remain critical for maintaining safe and reliable operations throughout the duration of the energy transition and beyond. Certainty that work will remain safe and that job transitions will be meaningfully supported will help retain these workers and their skills, which the state has a vested interest in doing until operations are fully phased out due to the high hazard and specialized nature of the work.
- **Community impacts:** Petroleum facilities, including refineries and oil extraction, impact the health and safety of fenceline communities, while also often playing significant roles in local economies through wages, indirect economic activity, and taxes. Many examples show that unmanaged decline can damage community safety, health, and environments, in some cases irreversibly. Proactive planning and resources will be necessary to prepare communities for a future without these operations,

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30 United States Chemical Safety and Hazard Investigation Board. October 2022. *Philadelphia Energy Solutions (PES) Refinery Fire and Explosions,* https://www.csb.gov/philadelphia-energy-solutions-pes-refinery-fire-and-explosions-/.

31 United States Chemical Safety and Hazard Investigation Board. May 2025. ExxonMobil Torrance Refinery Explosion, https://www.csb.gov/exxonmobil-torrance-refinery-explosion-/.

32 City of Martinez. 2025. PBF Energy Refinery Fire, February 2025, https://www.cityofmartinez.org/government/information-on-events-at-the-martinez-refinery.

including protecting against fiscal shortfalls, ensuring that environmental remediation is conducted promptly, completely, and transparently, and developing new economic activities that can replace lost jobs and revenues.

- **Smooth transition for successful decarbonization:** California has an opportunity to continue demonstrating that decarbonization and affordability go hand in hand in hand — that the state can reduce emissions, protect consumers, and support workers at the same time. The proactive governance strategies outlined in this assessment can build public confidence in California's climate and clean energy goals. Accelerating the transition to electric vehicles is itself a consumer protection strategy: each household that makes the switch is permanently insulated from gasoline price spikes and supply disruptions. An unmanaged transition, by contrast, would leave Californians exposed to higher fossil fuel costs and supply uncertainty for longer than necessary, undermining California's climate progress and the Californians depending on it.

These priorities are not only analytical objectives; they are choices in how costs and benefits of the transition are distributed. Fenceline communities that have borne disproportionate pollution burdens for generations, oil and gas workers facing concentrated job loss, local governments losing industrial tax bases, and lower-income consumers disproportionately exposed to fuel price volatility each bear different consequences depending on how the transition is governed. How California governs this transition — proactively or reactively, with adequate support for those acutely impacted or without it — will determine whether these distributional outcomes are addressed deliberately or allowed to occur by default. This assessment identifies governance tools available to make those choices intentionally.

Role of This Assessment

This assessment is one element of a broader analytical and planning architecture. The Transportation Fuels Assessment, required triennially under SB X1-2, provides an ongoing analytical foundation — monitoring supply-and-demand dynamics, tracking market structure, and analyzing price volatility drivers. The next Transportation Fuels Assessment will build on conditions that have evolved significantly since the 2024 Transportation Fuels Assessment, including the refinery closures and import dynamics of 2025 and 2026, and incorporate additional content directed by AB X2-1 and SB 237. The draft TFTP provides a long-term planning framework: how fuel demand is projected to evolve through 2045, implications for workers and communities, and policies to consider.

This SB 237 assessment occupies the middle ground: it provides a point-in-time evaluation of progress on the strategies and recommendations in the June 2025 letter and mapping out of next steps ahead. The four documents together represent the most comprehensive analytical framework California has assembled for managing its petroleum transition so far.

CHAPTER 4:
Bucket 1 — Reactive Stabilization: Mitigating Immediate Disruptions

California's petroleum transition is entering a new phase where individual infrastructure decisions – such as refinery conversions, idling, and closures – are reshaping the fuel supply system in real time. Bucket 1 addresses the state's capacity to respond to immediate disruptions and support orderly exits when specific assets approach the end of their operational life.

The experience of the last several years demonstrates that California's governance tools are working. When Phillips 66 announced the closure of its Wilmington refinery and Valero announced its intent to idle Benicia, the state engaged actively with both companies. Continued market participation by both operators, sustained import commitments, and retail prices that remained lower and more stable in 2025 than in 2022, 2023, and 2024 reflect the value of that engagement. California weathered a significant contraction in in-state refining capacity without the supply disruptions or price spikes that might have been expected.

SB X1-2 requires at least 12 months' notice in advance of intent to "permanently shut down, shut down to reconfigure, or sell a refinery in a transaction that may result in a refinery shutting down or reconfiguring."[33] This requirement helps state and local planning and allows the state to engage with operators, understand transition timelines, support workers and communities, and work with market participants to ensure import capacity is in place. The Valero Benicia process is an example of the state receiving advance notice under this framework.

In 2025, California also saw record levels of imported refined fuel, especially in Northern California, driven in part by unplanned outages at refineries — demonstrating both the market's capacity to respond and the importance of ensuring import infrastructure can absorb continued demand.

Refinery conversions and closures naturally generate significant public attention and political pressure, and the state has at times faced calls to intervene in specific assets to prevent closure. Case-by-case intervention without a broader system strategy carries real risks: high cost, unintended consequences, and precedents that are difficult to sustain. The stronger path is the one this assessment advances: proactive identification of critical assets, clear transition

33 California Public Resources Code 25354(p)(1), https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=25354.&lawCode=PRC.

pathways developed before closure announcements, and a system-wide strategy that reduces the conditions under which reactive intervention is necessary. California has demonstrated it can manage this transition and protect consumers. The goal now is to build the governance architecture that makes that true by design, not by reactive improvisation.

CHAPTER 5:
Bucket 2 — Sustaining Systemwide Reliability: Transparency, Coordination, and Investment Confidence

The transportation fuels transition requires infrastructure evolution in two simultaneous directions. Legacy infrastructure — such as crude extraction facilities, refineries, and pipelines — must be operated safely and reliably through the period when Californians still depend on it. Fuel import and distribution infrastructure — such as marine terminals, product pipelines, and storage — must be ready to compensate for lost production infrastructure if the loss outpaces demand reduction. At the same time, the clean transportation system must be rapidly scaled up to replace the services from the petroleum fuels system. Bucket 2 addresses the systemwide conditions designed to make this bidirectional evolution possible: market transparency, regulatory coordination across state agencies, and investment confidence that operators on both sides of the transition require to plan and act responsibly.

As established in Chapter 2, Bucket 2 addresses the systemwide conditions — market transparency, regulatory coordination, investment confidence — that influence whether the petroleum value chain remains sufficiently stable to support reliable and affordable fuel supply to meet demand throughout the transition. This chapter documents the specific strategies and current status of each major Bucket 2 workstream.

Crude Oil Production and Distribution

California's demand for crude oil has fallen over the past decades and is expected to continue to fall. Gasoline demand in 2024 was down 16 percent from a peak in 2004. During that same period, total crude oil consumed by refineries fell by 22 percent, and California crude oil production dropped by 52 percent.[34] To meet the difference, California refineries have used more imported crude oil and drawn from a broader range of sources, reducing dependence on any single supplier and introducing more competition into the market.

As crude oil production declines, related infrastructure, such as refineries, pipelines and processing facilities, faces its own transition. The need to use increased proportions of imported crude oil presents operational and economic challenges to many California refineries. Most refineries in California were designed to run California crude oil, which is typically "heavy, sour" crude, referring to a low American Petroleum Institute (API) gravity (high viscosity) and

34 Crude oil production data are available at CalGEM's WellSTAR Data Dashboard. See https://wellstar-dashboard.conservation.ca.gov/. Petroleum fuel sales data are available from the California Department of Tax and Fee Administration, https://cdtfa.ca.gov/taxes-and-fees/spftrpts.htm.

high sulfur content.[35] If the preferred crude oil is not available, refiners may blend imported crude oils to approximate the properties of crude oil they were optimized for or invest in new or modified processing equipment. The costs of importing crude oil via vessel are generally higher than receiving local crude by pipeline and some California refineries are not well set up to receive waterborne crude shipments. Lower pipeline throughput volumes have led to some pipelines having ceased or reduced operations as a result, affecting refinery operations downstream. These shifts are a normal part of the transition, but their pace and sequencing matter: premature infrastructure loss can increase costs and emissions and affect interrelated operations. SB 237's targeted stabilization of in-state production is partially designed to manage this interdependence — slowing infrastructure loss to a pace that maintains system reliability, and provides time to plan for what comes next, and protect workers and communities through the transition, all within the state's health and environmental protections.

SB 237

Recent legislation was designed to support targeted crude oil production stabilization. In 2025, the Legislature passed and the Governor signed SB 237, which took effect January 1, 2026.[36] The provisions of this law intended to stabilize the California transportation fuels market while protecting frontline communities. SB 237 aimed to support efficient permitting, as new drill permit issuance in the state had decreased substantially in recent years because of litigation over oil and gas permitting in Kern County. Specifically, SB 237 validates the Second Supplemental Recirculated Environmental Impact Report (SSREIR) for Kern County's adopted oil and gas permitting ordinance[37] for California Environmental Quality Act (CEQA) purposes through 2035, bringing that litigation to an end. This validation allows Kern County to take lead agency status under CEQA for oil and gas projects within its jurisdiction that are covered by the ordinance and the SSREIR.

The California Geologic Energy Management Division (CalGEM) assumes responsible agency status under CEQA and relies upon the environmental review and required mitigations of the SSREIR for its permitting process as directed by SB 237. Under this process, an application for a well permit must go through a review and approval process first by Kern County, then by CalGEM. Once CalGEM approves a permit, the operator is authorized to perform the work covered by the permit.

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36 Senate Bill 237 (Grayson, Chapter 118, Statutes of 2025), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB237.

37 Kern County Planning and Natural Resources Department. Comprehensive Environmental Impact Report Information for Revisions to the Kern County Zoning Ordinance — Focused on Oil and Gas Local Permitting, https://kernplanning.com/final-environmental-impact-report-revisions-kern-county-zoning-ordinance-2015-c-focused-oil-gas-local-permitting/.

SB 237 limits CalGEM to issuing up to 2,000 new drill permits per year in reliance on the SSREIR, unless the CEC makes a formal finding that additional permit issuance is necessary for in-state crude oil production to supply 25 percent of in-state refinery feedstock demand and that the production would likely help reduce costs for retail consumers of gasoline in the state. There is no quantity limit for other types of well permits issued (reworks, sidetracks, deepenings, and abandonments). The Kern County ordinance imposes measures to address potential environmental impacts associated with oil and gas production in Kern County, and SB 237 does not change or impact the protections in Senate Bill 1137 (Gonzalez, Chapter 365, Statutes of 2022) on issuance of well permits within a health protection zone.[38] Health protection zones are defined in statute as areas within 3,200 feet of a sensitive receptor, which includes homes, schools, health care facilities, and others.[39]

SB 237 Implementation

Since SB 237 was signed into law, CalGEM initiated and continues to support outreach and engagement efforts with industry, local government, tribes, and public stakeholders on SB 237 implementation. These efforts include consistent communication with Kern County as permit applications come in from operators.

As of March 31, 2026, Kern County issued 504 Job Cards for all types of well work under the Kern County ordinance. Of these, CalGEM received 277 new drill applications and have issued new drill permits for 192 of them under SB 237.

The CEC, in coordination with CalGEM, is closely monitoring permit issuance, drilling, and production outcomes. The agencies will use this information to evaluate whether the Kern County SSREIR validation component of SB 237 is resulting in its intended effect: stabilizing in-state production as California grows its clean energy supply, reduces fossil fuel demand, and responsibly phases down fossil fuel infrastructure.

While actual total in-state production levels will be the primary indicator of the outcomes from SB 237 implementation, the number of permits issued and new wells being drilled provides an indication of how quickly operators will begin seeing changes in production volumes. As of March 31, 2026, one new well permitted under SB 237 was drilled, with production expected to begin in the coming months. CalGEM anticipates drilling activity to slowly increase with peak drilling activity for 2026 occurring in the second half of the year. Many factors influence the decision by an operator about when to start drilling and producing from newly completed wells, including, but not limited to, rig and equipment availability, financing, oil price, weather conditions, site access, and overall field management. CalGEM will track and report on progress and anticipates there may be significant lag time between the issuance of the permit

38 Senate Bill 1137 (Gonzalez, Chapter 365, Statutes of 2022), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1137.

39 California Public Resources Code 3280, https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=3280&lawCode=PRC.

and reporting production volumes for those wells due to the operator's business/drilling plan and the reporting timeline requirements.

Ongoing Efforts and Transition Alignment

CalGEM maintains information on a wide range of programs related to its oversight of oil and gas operations on its website, including the following:

- Information on SB 237 implementation[40]
- Implementation of SB 1137's health protection zones[41]
- Requirements and compliance updates for the state's Idle Well Management Program[42]
- Bonding requirements and liability evaluations[43]
- Underground injection control regulations[44]
- Compliance and enforcement actions[45]

In SB 237, the Legislature recognized that communities located near refineries and oil and gas extraction infrastructure bear the brunt of pollution in the state and have disproportionate negative health outcomes. The law also recognized that state policies should protect communities, assist workers, and ensure the health and safety of the people of California in the transition. This recognition is especially true for communities near poorly maintained oilfields, where poor oilfield operation and management practices increase public health and safety risks through noncompliance with state laws and regulations. It is also of particular importance to protect public health and safety as new production increases. CalGEM regularly inspects and takes compliance and enforcement actions to protect public health and the environment. Prioritizing a robust and transparent inspection and enforcement program is critical for protecting workers, communities, and the environment during the transition.

Expeditiously reducing fossil fuel dependency is necessary to meet the state's statutory GHG emission targets and public health goals. Phasing out oil and gas operations near communities can have significant health and safety benefits. At the same time, contraction in domestic crude oil production can erode high-wage jobs and shrink local tax bases. As is the case for the refining sector, workers, communities, and local governments that are heavily impacted by crude oil extraction require a managed transition. A successful transition strategy will need

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40 California Department of Conservation. Senate Bill 237, https://www.conservation.ca.gov/calgem/Pages/SB237.aspx.

41 California Department of Conservation. Understanding California's Oil and Gas Safety Zones: Senate Bill 1137, https://conservation.ca.gov/calgem/Pages/SB1137.aspx.

42 California Department of Conservation. Idle Well Program, https://www.conservation.ca.gov/calgem/idle_well.

43 California Department of Conservation. Operator Financial Responsibility, https://www.conservation.ca.gov/calgem/Pages/Operator-Financial-Responsibility.aspx.

44 California Department of Conservation. Underground Injection Control, https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundinjectionControl(UIC).aspx.

45 California Department of Conservation. Office of Enforcement, https://www.conservation.ca.gov/calgem/Pages/Enforcement.aspx.

continued assessment of crude oil production, transportation, and use; strong and consistent enforcement of existing laws and regulations; and pathways to support affordable and stable fuel supply, health and safety, environmental protection, and the needs of acutely impacted communities and workers.

CEC Refinery Regulatory Tools

SB X1-2 was signed into law in March 2023 following gasoline price spikes in the summer of 2022. The bill gave the CEC additional data collection and transparency tools for the petroleum industry, which expanded data collection authority from PIIRA and SB 1322. Furthermore, it gave the CEC the authority to set a GGRM and a penalty for exceeding it. AB X2-1 was signed into law in October 2024 and gave the CEC the authority to design regulations around resupply planning for planned maintenance events and a minimum inventory requirement to provide petroleum fuel supply stability in the state.

Through the passage of this legislation, the Legislature equipped the CEC with a suite of regulatory tools designed to protect consumers from price spikes by addressing primarily transparency and price volatility related to market activity. The data transparency tools provided under SB X1-2 enabled the CEC to develop a Days of Supply model that estimates the amount of gasoline on hand in California The data transparency tools provided under SB X1-2 allowed CEC staff to develop a Days of Supply model that estimates the amount of gasoline on hand in California on an approximately two-week forward-looking basis. The model integrates four key variables — estimated demand, inventory levels, import volumes, and anticipated in-state refinery production based on maintenance schedules — drawing on business-sensitive information that allows the CEC to assess market liquidity with greater precision than publicly available data alone would permit. Because of its confidential inputs, modeling results cannot be shared in real time. The CEC uses Days of Supply estimates to inform its conversations with industry on market liquidity and import planning, and as an early indicator of conditions that could lead to price volatility. In 2025, the average days of supply was 16.8 days, with a high of 20.5 and a low of 13.2; analysis indicates that supply levels below 15 days are associated with heightened risk of market volatility. This analytical capability has been fundamental to the CEC's ability to understand and monitor California's transportation fuels market in real time.

In the period that followed the special session of the Legislature in 2024, Phillips 66 announced the closure of its Wilmington refinery, and Valero announced its intent to idle its Benicia refinery — announcements driven by the broader market and business dynamics reshaping the refining industry globally.

These developments, unfolding as the CEC was designing implementation of its new authorities, underscored the importance of ensuring that the tools are deployed with a full view of the transition underway: not just price behavior in isolation, but the structural dynamics of a market in active contraction. Accordingly, the CEC has approached implementation of these tools holistically — building the data foundation, analyzing how each tool interacts with supply dynamics in a changing market, how implementation would adhere

to the statutory guardrails, and sequencing deployment to account for the totality of the transition.

At Business Meetings in August 2025, the CEC took a number of actions on the tools granted by the recent legislation. At the August 13, 2025, Business Meeting, the CEC opened an order instituting an informational proceeding (OIIP) on petroleum supply stabilization. The Petroleum Supply Stabilization OIIP is the primary venue for the holistic analysis and for careful, sequenced implementation of these authorities and signals a focus on supply stabilization measures to stabilize gasoline prices for Californians. The Petroleum Supply Stabilization OIIP provides a forum for the public to understand what work needs to be done to develop petroleum supply stabilization tools, such as resupply and minimum inventories requirements.

At that same business meeting, the Commission also voted to adopt the second edition of the *Senate Bill X1-2: California Refinery Maintenance Reporting Guidelines*, which among other things introduced a requirement for refiners to provide a resupply plan for planned maintenance events.[46] Before the adoption of these Refinery Maintenance Reporting Guidelines, the CEC had very little and inconsistent data on how refiners resupply lost production because of a planned event. This resupply plan data collection is the first step to developing a resupply rule as authorized under AB X2-1.

On August 29, 2025, the Commission voted to deprioritize adoption of a maximum GGRM in the near term, directing staff to complete a holistic analysis of all three tools — GGRM, resupply, and minimum inventory — to ensure the implementation of these tools is consistent with the governance needs of California's mid-transition. The Petroleum Supply Stabilization OIIP is the primary venue for that analysis and for careful, sequenced implementation of these authorities.

In September 2023 and January 2024, DPMO's initial work highlighted the role that refinery outages, low inventories and limited resupply, and spot market volatility played in causing price spikes. DPMO continues its independent oversight and analysis of the transportation fuels market and recently published its first annual report. This annual report described the role that horizontal concentration and vertical integration play in facilitating gasoline price increases in California well above the rest of the U.S., even after accounting for taxes, fees and environmental programs.[47]

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46 California Energy Commission. "Senate Bill X1-2: California Refinery Maintenance Reporting Guidelines." https://efiling.energy.ca.gov/GetDocument.aspx%3Ftn%3D265577&ved=2ahUKEwiP7c-xr9KTAxXxOzQIHZqGKtIQFnoECBYQAQ&usg=AOvVaw0eNoQwTgFBmeaAkQEVTCwT.

47 Moreno, Gigi, Esther Shears, Wenche Wang, Varsha Sarveshwar, and Chase Madson. October 2025. *Division of Petroleum Market Oversight: 2024 Annual Report.* California Energy Commission. Publication Number: CEC-900-2025-001, https://www.energy.ca.gov/publications/2025/division-petroleum-market-oversight-2024-annual-report.

State Climate and Air Quality Regulations

California's climate and air quality programs and regulations are critical tools for the State to advance its transportation fuels transition, drive economy-wide decarbonization, and safeguard public health. The Cap-and-Invest Program is a central element in achieving the GHG emissions reductions that California's statutes require. The program is administered by CARB under its authority established by AB 32 and subsequent legislation. CARB is engaged in a regulatory process to implement the Legislature's direction in its reauthorization of the program through 2045 through Assembly Bill 1207 (Irwin, Chapter 117, Statutes of 2025) and Senate Bill 840 (Limón, Chapter 121, Statutes of 2025).[48]

Permitting and Coordination Between State, Regional, and Local Authorities

Much of the petroleum infrastructure in California must be carefully managed over the next decades to support the transportation fuels transition and maintain fuel supply to meet demand and price stability, system resilience, safety, and environmental protection. The scope of infrastructure is broad and includes wells and associated production facilities, pipelines, storage tanks, refineries, and terminals. Engineering and operations can vary significantly even among assets of the same kind, and they are geographically spread throughout the state, touching different jurisdictions. The construction, modification, operation, and decommissioning of this infrastructure, as well as future uses of impacted land, are regulated and permitted by numerous federal, state, regional, and local authorities with specialized expertise.

The Legislature's interest in permitting reform for key petroleum infrastructure — including the consideration of one-stop-shop models — reflects a genuine concern: that complex, multiagency permitting processes can produce delays, redundancy, and uncertainty that affect timing and predictability for facility operations and discourage investment needed to maintain safe and reliable fuel supply during the transition. This assessment takes that concern seriously and offers a recommended pathway.

Permitting Authorities

Local authorities play significant roles in permitting and regulating petroleum infrastructure, including land-use permits from cities or counties and air permits from air districts, which are of particular importance for refinery and terminal operations.

Local air districts have the primary authority to regulate all stationary sources of air pollution. CARB is primarily responsible for regulating mobile sources. Air districts develop rules to reduce emissions to meet state and federal requirements, issue operating permits, and enforce

48 California Air Resources Board. Cap-and-Invest Program, https://ww2.arb.ca.gov/our-work/programs/cap-and-invest-program.

compliance with permit conditions, rules, and regulations. Their authorities and requirements come from both the federal Clean Air Act and state air pollution control laws.[49]

Under the federal Clean Air Act, the U.S. EPA establishes National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants (particle pollution, ground-level ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead) that apply to outdoor air throughout the country. CARB sets California Ambient Air Quality Standards (CAAQS) for those six pollutants and four additional pollutants.[50] Regions that do not meet the national standards for any one of the standards are designated as "nonattainment areas."

The federal Clean Air Act sets deadlines for attainment based on the severity of nonattainment and requires states to develop state implementation plans (SIPs) to achieve these. A SIP is a collection of regulations and documents used to implement, maintain, and enforce the NAAQS and fulfill other requirements of the federal Clean Air Act. SIPs are federally enforceable. Failure to achieve NAAQS within the timelines established in the SIP, followed by failure to submit an approvable SIP, can have significant consequences. These consequences include the imposition of more stringent federal permitting requirements that affect the feasibility of permitting new or modified stationary sources, and well as potential imposition of federal implementation plans (FIPs) and withholding of federal funding for transportation projects.[51]

Air District Authorities

Air districts regulate air pollution from petroleum infrastructure — particularly refineries — because these facilities are among the largest stationary sources of air pollution in the state, with direct consequences for public health in surrounding communities.

- **Permits:** Air permits, including permits to construct and permits to operate, establish conditions under which a piece of equipment or process can operate to ensure compliance with a rule or regulation administered by the local air district. Refineries are subject to Title V permitting requirements, a comprehensive operating permit required by the federal Clean Air Act for a facility that is a "major source" of emissions, such as

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49 California Health and Safety Code 40000, https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=40000.&lawCode=HSC. United States Code Title 42, Sections 7401–7671, https://uscode.house.gov/browse/prelim@title42/chapter85&edition=prelim

50 California Air Resources Board. Outdoor Air Quality Standards, https://ww2.arb.ca.gov/our-work/programs/outdoor-air-quality-standards.

51 U.S. EPA. About Air Quality Implementation Plans, https://www.epa.gov/air-quality-implementation-plans/about-air-quality-implementation-plans#what-is-a-sip.

Selmi, Daniel P. May 2015. *Federal Implementation Plans for Controlling Carbon Emissions From Existing Power Plants: A Primer Exploring the Issues*. Columbia Law School Sabin Center for Climate Change Law, https://climate.law.columbia.edu/sites/climate.law.columbia.edu/files/content/Selmi-2015-05-FIP-Control-Emissions-from-Existing-Power-Plants%20(1).pdf.

refineries.[52] The program includes requirements to monitor emissions and make regular reports.[53] Title V permits must be renewed every five years, requiring a full review of all previously permitted equipment. It involves a rigorous public process and federal EPA oversight, including periodic audits and reviews. Many permitting requirements, including Title V and SIP obligations, are federally enforceable with limited modifications to timelines and processes possible at the state or local level.

- **Rules:** Local air districts are required under state and federal law to adopt and amend rules to reduce emissions to meet state and federal requirements and are required to consider cost-effectiveness and socioeconomic impacts.[54] Rules and regulations may differ regionally because of the attainment status of the air basin or other factors. Rulemaking by the air districts regulating the state's refineries includes outreach to industry stakeholders and the public, as well as opportunities for comment in individual meetings and in writing. Air districts are required to hold a public hearing where their governing boards hear public comments and vote to approve the proposed regulatory action.
- **Enforcement:** Air districts verify that operators are complying with permit conditions, rules, and regulations. This verification includes routine inspections, response to facility incidents, and annual full compliance evaluations for refineries as required by the U.S. EPA. Air districts have hearing boards, which are quasi-judicial panels that operate independently of the air district's governing board and are authorized to provide relief from air district regulations under certain circumstances. For example, during periods of sudden, unexpected noncompliance with permit requirements, a facility may seek a variance that allows a refinery to continue to operate critical equipment as they address the noncompliant operations, rather than shutting down equipment. There are special procedures accounting for emergency situations such as a fire or other incidents at a refinery.

Issuing air permits has been a core activity of air districts in California for decades, and they are continuously working to increase permitting efficiency. For example, in the air districts regulating the state's refineries:

- South Coast Air Quality Management District has implemented a Permitting Enhancement Program that includes a series of measures to improve permitting

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52 California Air Resources Board. Federal Clean Air Act — Title V Operating Permits, https://ww2.arb.ca.gov/our-work/programs/federal-clean-air-act-title-v-operating-permits.

53 Bay Area Air District. Major Facility Review, https://www.baaqmd.gov/en/permits/major-facility-review-title-v.

South Coast Air Quality Management District. What Is Title V?, https://www.aqmd.gov/home/permits/title-v/what-is-title-v-.

54 California Health and Safety Code 40910 et seq., https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=40910.&lawCode=HSC.

California Health and Safety Code 40728.5, https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=40728.5.&lawCode=HSC.

efficiency including updating its permitting system to track workflow, tools to simplify and communicate more effectively with permit applicants, and use of a Permit Streamlining Task Force.[55]

- The San Joaquin Valley Air Pollution Control District conducts quarterly permit stakeholder meetings focused on identifying process improvements and enhancing communication with applicants. The district also provides monthly reports to its governing board on key permitting metrics, including application timeliness and backlog indicators. The San Joaquin Valley District has also advanced internal process improvements, such as standardized permitting procedures, enhanced tracking of application status, and ongoing evaluation of workload and staffing resources to support timely permit issuance.
- The Bay Area Air District is undertaking a comprehensive update to its permitting program. Efforts include rulemaking to make permitting more efficient, updating information management systems to improve usability and tracking, significant and strategic staffing increases, creation of a permitting efficiency task force that includes industry and community stakeholders, and a backlog elimination initiative.

Regulations and permitting under various authorities are critical to meeting state and federal mandates, with significant consequences for noncompliance. Air district permitting decisions are governed by air quality, public health, and legal requirements – mandates that are particlarly important because refinery operations directly affect surrounding communities. Regulatory certainty, predictable processes, and efficient permitting timelines are one factor that help support the investment confidence inpetroleum infrastructure while maintaining rigor and public accountability in effective regulations.. Delays or uncertainty in permitting — at any level of government — can discourage the maintenance investment and operational continuity that keeps facilities safe and reliable.

Public process and transparency are important elements of rule development and permitting. Robust environmental review is needed to identify, minimize, and mitigate impacts. Litigation over insufficient analysis can also significantly delay projects. Efforts to improve permitting efficiency are intended to enhance process clarity and coordination and are not intended to reduce the rigor, completeness, or enforceability. Due to the complexities of petroleum infrastructure permitting, a major factor for permitting timelines at existing agencies is maintaining a well-staffed, specialized team.

Permitting Coordination: A Responsive Path Forward

The Vice Chair's June 2025 letter recommended forming an interagency workgroup — including the CEC, State Lands Commission, relevant local air districts, local governments, and ports — to improve coordination, establish clear communication on critical energy infrastructure projects, and identify efficiencies in permitting. This assessment evaluates that

55 South Coast Air Quality Management District. January 2025. "South Coast AQMD Launches New Digital Tools to Improve Permit Processing," https://www.aqmd.gov/home/research/pubs-docs-reports/newsletters/janfeb-2025/improve-permit-processing

recommendation, documents the progress made, and offers a path for continued development.

Research on cross-jurisdictional governance consistently shows that for complex, multiauthority systems — where no single entity holds comprehensive permitting power — coordinated collaboration among existing agencies achieves faster and more durable outcomes than structural consolidation of authority. A meta-analysis of 137 cases of collaborative governance across policy sectors found that what most determines success is not formal structure, but the quality of engagement: a shared understanding of the problem, active facilitative leadership, iterative communication, and genuine participation by the relevant agencies.[56]

Mandated participation can produce formal compliance but without real engagement. Voluntary coordination, when well-designed and actively led, builds the trust and shared situational awareness that efficient permitting requires. A complementary integrative framework for collaborative governance confirms that self-initiated coordination — where agencies choose to engage around a shared problem — consistently produces stronger accountability and deliberative quality than externally mandated structures.[57]

Examples of Governmental Coordination Models

This finding is consistent with California's own experience and with federal practice. The Tracking Energy Development (TED) Task Force — a staff-led effort at the California Public Utilities Commission (CPUC), CEC, California Independent System Operator (California ISO), and California Governor's Office of Business and Economic Development (GO-Biz) — tracks the development of new energy projects, identifies barriers, and coordinates action across agencies.[58] The Desert Renewable Energy Action Team (Desert REAT), a voluntary multiagency coordination structure,[59] reduced permitting timelines for utility-scale renewable energy projects in the California desert without consolidating authority. At the federal level, the Federal Permitting Improvement Steering Council (FPISC) was established as voluntary interagency coordination for major infrastructure projects.[60] Critically, FPISC began as

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56 Ansell, Chris and Alison Gash. October 2008. "Collaborative Governance in Theory and Practice." *Journal of Public Administration Research and Theory,* 18(4), 543–571, available at https://academic.oup.com/jpart/article-abstract/18/4/543/1090370?redirectedFrom=fulltext.

57 Emerson, Kirk, Tina Nabatchi, and Stephen Balogh. May 2, 2011. "An Integrative Framework for Collaborative Governance." *Journal of Public Administration Research and Theory*, 22(1), 1–29, available at https://academic.oup.com/jpart/article-abstract/22/1/1/944908?redirectedFrom=fulltext.

58 California Public Utilities Commission. Tracking Energy Development, https://www.cpuc.ca.gov/trackingenergy.

59 Desert Renewable Energy Action Team (Desert REAT), established 2008, is a coordinated multiagency permitting approach developed by the Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Fish and Game, and California Energy Commission.

60 Federal Permitting Improvement Steering Council. FY 2019 Annual Report to Congress. U.S. Department of Transportation Volpe Center, May 2020. "Our Mission & What We Do," https://www.permitting.gov/about/our-mission.

executive coordination before being codified into statute by the Infrastructure Investment and Jobs Act of 2021, once its value was demonstrated. This trajectory — build voluntary coordination, demonstrate results, formalize if warranted — is the model this assessment recommends for petroleum infrastructure permitting.

Table 1: Goals, Mechanisms, And Models Of Governmental Coordination To Support Permitting

Goal	Coordination Mechanisms	Evidence or Precedent
Reduce permitting delays	Coordinated timetables, early interagency alignment on requirements, milestone tracking across agencies	FPISC: avg. 18-month reduction in review times. Desert REAT: faster CA renewable project timelines.
Clearer communication	Designated coordination lead per project; shared tracking dashboard; interagency protocols with defined timelines	FPISC public dashboard provides full status visibility across all permitting tracks[61] Air district public dashboards
Preserve public accountability	Air districts and local governments retain mandates and community accountability relationships	Ansell & Gash (2008): mandated consolidation can undermine trust built over decades with local regulators[62]
Implementation speed	Builds on existing Petroleum Strategy Task Force — operational now; subcommittees and additional forums continue to be developed	Voluntary coordination is agile — adapts without requiring new legislation or rulemaking for each adjustment

Based on the success of these models, the substantive benefits for fuels infrastructure the Legislature envisioned through one-stop-shop permitting — greater coordination, reduced redundancy, clearer lines of communication, and faster identification of bottlenecks — could be substantially achieved through voluntary, deliberate coordination among existing agencies. This approach would achieve those benefits without displacing the specialized expertise and community accountability structures that effective permitting depends on.

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61 Federal Permitting Improvement Steering Council. "Permitting Dashboard," https://www.permits.performance.gov/projects.

62 Ansell, Chris and Alison Gash. October 2008. "Collaborative Governance in Theory and Practice." *Journal of Public Administration Research and Theory,* 18(4), 543–571, available at https://academic.oup.com/jpart/article-abstract/18/4/543/1090370?redirectedFrom=fulltext.

In 2025, the CNRA and CalEPA secretaries convened a Petroleum Strategy Task Force for coordination among state agencies whose jurisdictions touch petroleum fuels. A subgroup of the task force focuses specifically on petroleum infrastructure and associated permitting — including import and distribution infrastructure needs as in-state refining contracts. In addition, the CEC and CARB have a recurring coordination venue with the air districts regulating refineries, an essential focused group given the air districts' important mandates. The CEC has been engaging with relevant local governments on specific petroleum assets and infrastructure projects, especially those relevant to fuel supply stability, and is developing a coordination structure to bring together a broader group of state and local agencies.

This multilayered approach is designed to advance outcomes the Legislature is seeking: greater coordination across agencies, effective information exchange, improved transparency, and reduced delays. The approach advances these outcomes by leveraging existing expertise and protecting agencies' existing mandates and through a voluntary process that enables flexibility and the ability to respond quickly.

Table 2: Layered Governmental Coordination On Permitting, Participants, Efforts, and Products.

Layer	Participants	Coordination Efforts	Products
Strategic Layer Petroleum Strategy Task Force + Infrastructure Sub-Committee	CEC, CalEPA, CNRA, CARB, CalGEM, State Lands Commission, DPMO	Systemwide priorities for critical transition infrastructure; cross-agency planning; public reporting on coordination outcomes	Public reporting; identification of system-level bottlenecks; escalation recommendations if voluntary model proves insufficient
Technical & Regulatory Layer AQMD + CARB + CEC Working Group	South Coast AQMD, Bay Area AQMD, San Joaquin Valley APCD, CARB, CEC	Air quality permitting decisions affecting petroleum infrastructure; early alignment on technical requirements; emerging regulatory changes affecting investment decisions	Faster interagency alignment on complex permits; early issue identification; shared understanding of regulatory timelines affecting facility operations
Project & Local Layer Local Government Coordination (developing)	Relevant cities, counties, ports	Specific infrastructure needs at the local level; local permitting and planning coordination; community concerns	Communities engaged proactively; local permitting connected to state transition planning; reduced reactive responses to facility decisions

One-Stop-Shop and Consolidation Models: Context and Considerations

Concerns about ineffective local permitting processes have led to consideration of "one-stop-shop" permitting structures, which could refer to one entity holding responsibility for permit issuance or one entity responsible for coordination of permitting processes. Petroleum infrastructure permitting is governed by local, regional, state, and federal authorities, each with specialized technical expertise, enforcement capacity, and established accountability relationships with the communities in which they operate. Air districts hold deep institutional knowledge of regional air basins, specific facility operations, and local health conditions that cannot be quickly replicated at the state level. Communities and local governments have invested decades in building relationships with local regulators. That accountability structure has value that consolidation could inadvertently disrupt.

While various permitting efficiency and centralization measures have been considered and implemented in California in recent years — for example, for housing and clean energy development — petroleum infrastructure can often have greater potential impacts to the environment, public health, and neighboring communities.

Consolidating permitting authority at the state level would require significant new resources to rebuild what already exists and would take substantial time and resources to implement. Given the urgency of managing the mid-transition, the time and resources required may not act fast enough to respond to near-term challenges ahead.

While maintaining existing authorities, coordination among government entities can advance shared understanding and leverage existing expertise to identify bottlenecks and support robust and efficient permitting processes. Such communication can also put projects into local and statewide context and enable prioritization, where appropriate.

The impacts of California's petroleum transition are moving quickly, and the state's governance frameworks must be able to keep up. Permitting coordination is one of the places where this is most consequential.

Recommendations on Permitting Coordination

- Continue to prioritize and expand the Petroleum Strategy Task Force's coordination on permitting petroleum import, storage, and distribution infrastructure, with a focus on identifying bottlenecks and establishing early interagency communication on priority projects.
- Formalize coordination protocols between state agencies (including the CEC, State Lands Commission, and other key authorities) and relevant air districts and local governments, with clear accountability, defined response timelines for coordination requests, and public-facing reporting on project status — consistent with models like the TED Task Force and the Federal Permitting Council. Formalization should allow for flexibility to adjust composition and structure as the framework is developed and needs evolve, enable quick action, and minimize formal processes that would require significant additional resources.

- Ensure resources to support effective coordination, including staffing at the CEC and at air districts to participate in coordinated processes.

Interagency coordination is intended to improve communication and process efficiency and not alter or constrain any agency's statutory authority, discretion, or substantive review standards. This coordination model should be monitored and evaluated. If this model proves insufficient to address persistent bottlenecks for critical transition infrastructure, a more formalized structure — including potential legislative action — may warrant consideration.

CHAPTER 6:
Bucket 3 — Proactive Transition Governance: Advancing a Holistic Transition Plan

As established in Chapter 2, Bucket 3 focuses on proactively guiding how the petroleum system declines while protecting workers, communities, and consumers, and supporting continued decarbonization. This chapter addresses specific priorities within Bucket 3.

Community and Workers

Transition Support

Government support for acutely impacted communities and workers is key during a period of transition away from fossil fuels. There are multiple strategies and theoretical approaches for transition support, with increasing numbers of states developing local policies and strategies as fossil fuel assets transition. The primary categories of transition funding focus on workers and host communities. These issues are also explored and discussed in similar ways in the draft TFTP.

Worker support can focus on replacement jobs. Worker transition avenues could include offering fossil industry workers employment related to the transition and post-closure activities.[63] A 2025 analysis by the UC Berkeley Labor Center for Contra Costa County's refinery workers compared refinery occupations to comparable occupations in the regional economy, identifying which refinery occupations were at the highest risk of being unable to find a job with a comparable skillset, wages, and benefits.[64] Key findings included that comparable occupations outside the refinery industry are not anticipated to grow in sufficient numbers to absorb expected job losses from refinery closures and that wages for these comparable occupations and industries are around half of refinery worker wages. A critical component of successful worker transition in California is the creation of robust economic development strategies for regions with significant fossil fuel industry, with a focus on growing industries that create high-quality jobs that utilize the skillset of fossil fuel workers. Efforts such as the California Jobs First Initiative support economic development in regions

63 True Transition. 2022. *The Abandoned Well Administration,* https://www.truetransition.org/_files/ugd/0ad80c_8a2176c5bad94bc3b46fd61ad5fe4a89.pdf.

64 Hammerling, Jessie HF, Will Toaspern, and Laura Schmahmann. 2025. *Refining Transition: A Just Transition Economic Development Framework for Contra Costa County, California,* UC Berkeley Labor Center, Available at https://laborcenter.berkeley.edu/wp-content/uploads/2025/01/Refining-Transition.pdf.

64 Hammerling, Jessie HF, Will Toaspern, and Laura Schmahmann. 2025. *Refining Transition: A Just Transition Economic Development Framework for Contra Costa County, California,* UC Berkeley Labor Center, Available at https://laborcenter.berkeley.edu/wp-content/uploads/2025/01/Refining-Transition.pdf.

throughout the state, investing in key sectors to drive sustainable economic growth, innovation, and access to good-paying jobs.[65] The Contra Costa and Solano County Green Empowerment Zone focuses on regional growth of clean energy manufacturing.[66]

The guarantee of a future job can help keep workers in place at closing jobsites, ensuring that, for example, refineries do not experience rapid loss of skilled workers leading up to closure, making working conditions and operations more dangerous.

The Displaced Oil and Gas Worker Fund (DOGWF) pilot program was established through a one-time allocation of $30 million from the General Fund in the 2022–2023 budget.[67] DOGWF is administered by the California Employment Development Department in consultation with the Labor and Workforce Development Agency. The goal of the pilot program is to support workers displaced in the oil and gas industries by supporting their transition into sectors that match their skills and experience and offer comparable wages. The DOGWF Pilot Program has provided valuable funding to enable the creation of support programs to assist displaced oil workers, and an evaluation of the program is still pending. Outcomes of an evaluation could be used to inform future efforts to support displaced oil and gas workers.

Other worker support models focus on direct worker support. These concepts are based on the position that workers would benefit from direct financial support to overcome displacement challenges. Examples of this approach that have been recommended by stakeholders include salary or benefit replacement or both while workers seek other jobs, early retirement benefits for those who do not expect reemployment due to age, job reassignment, or training programs.[68] For context, according to the Bureau of Labor Statistics, petroleum refinery employment (NAICS 32411) generates about $1.7 billion a year in wages in California for about 8,500 workers (about $200,000 per full-time-equivalent worker per year).[69]

Nationally, refineries and pipelines collectively generate about $4 billion in property taxes per year.[70] Communities can be supported through revenue replacement, glide paths for fiscal

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65 California Jobs First, https://jobsfirst.ca.gov/

66 Green Empowerment Zone (GEZ), Contra Costa and Solano Counties, CA, https://www.greenempowermentzone.org/.

67 The DOGWF pilot program was funded at $40 million in the 2022-2023 budget: "Labor and Workforce Development." https://ebudget.ca.gov/2022-23/pdf/Enacted/BudgetSummary/LaborandWorkforceDevelopment.pdf. It was reduced to $30 million in the 2024-2025 budget. The 2026-2027 budget provides an overview, available at https://ebudget.ca.gov/2026-27/pdf/BudgetSummary/LaborandWorkforceDevelopment.pdf.

68 For example, BlueGreen Alliance Foundation. 2025. *Report and Recommendations of the Contra Costa Refinery Transition Partnership*, Available at https://www.bluegreenalliance.org/wp-content/uploads/2025/01/Contra-Costa-Refinery-Transition-Report-and-Recommendations-2025.pdf.

69 U.S. Bureau of Labor Statistics. "Quarterly Census of Employment and Wages," https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=1&year=2024&qtr=A&own=5&ind=32411&supp=0.

70 Raimi, Daniel, Emily Grubert, Jake Higdon, Gilbert Metcalf, Sophie Pesek, and Devyani Singh. January 13, 2022. *The Fiscal Implications of the US Transition Away From Fossil Fuels.* Resources for the Future,

stability, and recruitment of new activities or community adjustment. Public services stabilization funds could be designed to support communities transitioning from fossil fuel industrial activity.

Some region-specific analyses of community and workforce impacts of refinery closures exist.[71] For example, a study commissioned by the City of Benicia on the economic impact of the closure of the Valero Benicia refinery projected annual fiscal losses to the city exceeding $10.6 million (The city's general fund is roughly $60 million.) and the loss of about 400 direct jobs and up to 1,200 additional indirect jobs affected.[72]

Designing a transition support program requires decisions about how funding will be directed and how funding will be sourced. One important consideration when designing programs is matching funding availability with funding needs. In settings where transition funding is designed to provide immediate relief from disruptive, event-driven challenges (for example, from a facility closure), funding pressures are expected to decline over time as some workers are reemployed, municipal budgets adjust, and so forth.

This dynamic means that funding sources need to be able to deliver early, even if they decline over time. In this way, mechanisms like fossil fuel production or consumption taxes (for example, on extraction, imports, fuel sales, or emissions) that are expected to produce less revenue as fossil fuel use declines can be well suited to transition.

Formalized transition support in other states is often a combination of worker- and place-based community support. For example:

- Colorado's coal-focused Office of Just Transition declares these priorities: "The dual goals are to: 1) assist communities in retaining and developing family-sustaining jobs, broadening their property tax base, and increasing economic diversity, and 2) help coal industry workers transition to new family-sustaining jobs, relocate, or retire, so as to maintain their economic security in the manner that best suits each individual and their

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https://www.rff.org/publications/working-papers/the-fiscal-implications-of-the-us-transition-away-from-fossil-fuels/.

71 Examples include:

BlueGreen Alliance Foundation. 2025. *Report and Recommendations of the Contra Costa Refinery Transition Partnership*, Available at https://www.bluegreenalliance.org/wp-content/uploads/2025/01/Contra-Costa-Refinery-Transition-Report-and-Recommendations-2025.pdf.

Alexander, Ann. 2025. *Before the Last Drop: Lessons From the Phillips 66 Los Angeles Refinery Closure*. Available at https://apen4ej.org/p66/.

72 EconSolutions. 2025. *Economic Impact of Valero Refinery Closure: City of Benicia, CA*. Available at https://www.ci.benicia.ca.us/vertical/sites/%7BF991A639-AAED-4E1A-9735-86EA195E2C8D%7D/uploads/1._Economic_Impact_of_Valero_Refinery_Closure_Report.pdf.

family."[73] Funding comes from state appropriations and is roughly equally split between economic development and worker transition support, though funding is minimal compared to the wage base of workers the office seeks to support. Services include financial counseling, funds for training and education, business startup assistance, and direct financial support.

- New Mexico's Energy Transition Act established a Displaced Worker Assistance Fund targeting power plant workers.[74] Support includes one-time wage differential payments, direct training, education, and apprenticeship support. As with Colorado's system, funding is legislatively appropriated at levels substantially lower than lost wages.
- Alaska takes a fundamentally different approach, investing royalties from oil extraction into a state-owned and -managed sovereign wealth fund held in trust for the public with the explicit goal of protecting against shocks from a post-oil future, with most income distributed to all residents as an annual dividend.[75]

Expanding worker and community transition support is a critical component of a successful transition strategy.

Worker and Community Safety

Safe and reliable operations of petroleum infrastructure are essential for protecting workers and community members, preventing environmental damage, and supporting fuel supply and price stability. The primary responsibility for safe operations rests with facility operators. The state has established robust safety regulations; adherence to these standards is especially critical for aging infrastructure and when the prospect of upcoming closure may lead facility operators to choose to forego necessary investment in upgrades and maintenance. In the immediate lead-up to operations shutting down, staffing loss can also result in safety risks.

The California Department of Industrial Relations (DIR) and CalEPA enforce the state's process safety management regulations at oil refineries. DIR's regulations protect the safety and health of refinery workers. CalEPA's regulations are nearly identical and serve to protect the environment and local communities from catastrophic releases of hazardous substances from refineries. Petroleum refineries may also be subject to local industrial safety ordinances.

In 2012, the Chevron refinery in Richmond experienced a catastrophic pipe failure that released high-temperature flammable fluid. The resulting vapor cloud engulfed 19 employees, all of whom narrowly avoided serious injury or death, and the smoke plume that spread widely caused roughly 15,000 people in the surrounding communities to seek medical attention.[76] Following this incident, Governor Edmund G. Brown Jr. convened an Interagency Working

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73 Colorado Department of Labor and Employment. The Office of Just Transition, https://cdle.colorado.gov/the-office-of-just-transition.

74 See Energy Transition Act, https://www.dws.state.nm.us/ETA

75 See https://apfc.org/

76 California Interagency Working Group on Refinery Safety. February 2014. "*Improving Public and Worker Safety at Oil Refineries,"* Available at https://calepa.ca.gov/wp-content/uploads/2016/10/Publications-Reports-2013yr-RefineryRpt.pdf.

Group on Refinery Safety, which released a final report in 2014 with recommendations for improving public and worker safety at oil refineries.[77] An Interagency Refinery Task Force was created at CalEPA to coordinate agencies' activities and carry out the recommendations in this report.[78]

Additional refinery incidents have impacted worker and public health and safety and contributed to fuel price volatility for consumers, including the major 2015 explosion at the then-ExxonMobil Torrance refinery,[79] the 2025 fire at PBF Martinez,[80] and others.

Following on the efforts of the Interagency Refinery Task Force, California adopted more robust and comprehensive process safety management regulations in 2017 specifically to address the hazards of oil refineries. The expanded regulations require refineries to prevent accidents by going beyond engineering calculations. Among other things, the regulations require refiners to involve front-line employees in decision-making, integrate human factors and safety-culture assessments into safety planning, and perform thorough process-hazard analyses.

In 2019, the Western States Petroleum Association (WSPA) filed lawsuits in state and federal court to invalidate major provisions of DIR's and CalEPA's process safety management regulations. The lawsuits alleged the regulations violate the Administrative Procedure Act and are pre-empted by the federal National Labor Relations Act.[81] As a result of a September 2024 settlement with WSPA, DIR and CalEPA are engaging in regulatory action to amend the Process Safety Management standards. Both began formal rulemakings in 2025; CalEPA's rulemaking concluded in April 2026.[82]

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77 Ibid.

78 California Environmental Protection Agency. "Interagency Refinery Task Force," https://calepa.ca.gov/refinery/.

79 United States Chemical Safety and Hazard Investigation Board. May 2025. ExxonMobil Torrance Refinery Explosion, https://www.csb.gov/exxonmobil-torrance-refinery-explosion-/.

80 City of Martinez. 2025. PBF Energy Refinery Fire, February 2025, https://www.cityofmartinez.org/government/information-on-events-at-the-martinez-refinery.

81 Background information including the WSPA complain documentation can be found at Petroleum Refinery Process Safety Management Standards Rulemaking, https://www.dir.ca.gov/dosh/doshreg/Refinery-Process-Safety-Mangement/.

82 California Department of Industrial Relations. January 2026. Notice of Proposed Action on Process Safety Management for Petroleum Refineries, https://www.dir.ca.gov/oshsb/documents/Petroleum-Refineries-Notice-Jan2026.pdf.

California Environmental Protection Agency. April 2026. Final Proposed Regulation Text: Proposed Amendments to California Code of Regulations, Title 19, Division 5, Chapter 2, https://calepa.ca.gov/wp-content/uploads/2026/04/Final-Regulatory-Text.pdf.

For oil extraction, implementing robust regulations for, for example, leak prevention, monitoring, and spill response; conducting inspections; and taking enforcement actions will similarly continue to be important to protect workers, nearby communities, and the environment.

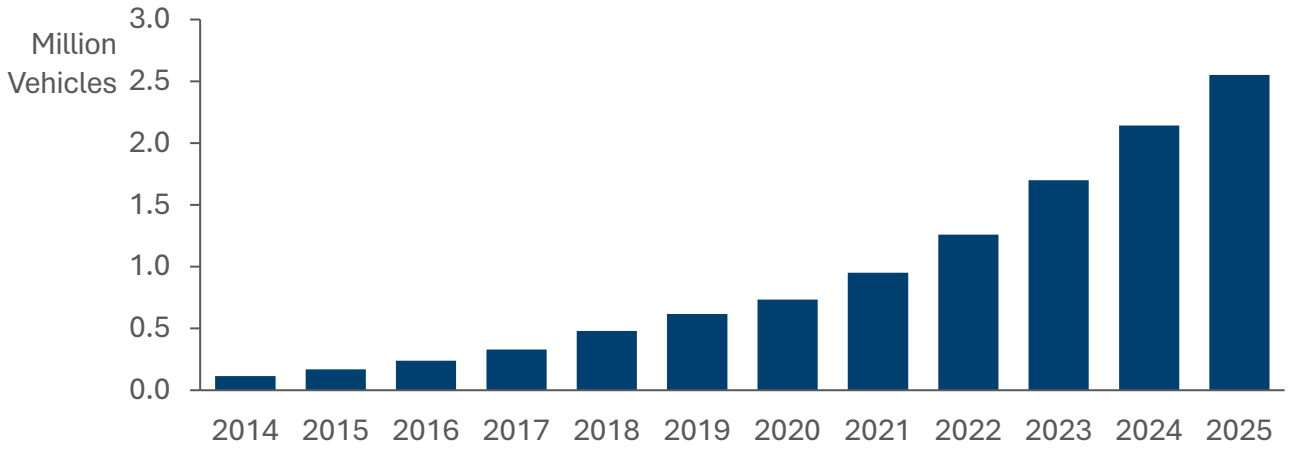
Robust health and safety regulations throughout the petroleum fuels value chain, and sufficient resources to support inspections and enforcement, will continue to be critical to protect workers and communities during the petroleum fuels transition.

Advance Decarbonization

Support California's Advancement of Clean Transportation

Recent federal actions have attempted to undermine California's ability to pursue a clean energy economy. These actions introduce new challenges for the state, but there has been strong momentum toward clean energy for all Californians. Drivers are already purchasing more ZEVs and demand for petroleum-based fuels is dropping. As of 2025, Californians have purchased more than 2.5 million new light-duty ZEVs (see Figure 6), significantly contributing to the reduction in gasoline demand.

Figure 6: Cumulative Light-Duty ZEV Sales



Source: CEC staff, California Department of Motor Vehicles

In response to federal actions, Governor Newsom signed Executive Order N-27-25 to reaffirm previous executive orders that call for increased ZEV adoption and direct state agencies to develop new strategies to pursue ZEV deployment. [83]

83 Governor Gavin Newsom. June 12, 2025. Executive Order N-27-25, https://www.gov.ca.gov/wp-content/uploads/2025/06/CRA-Response-EO-N-27-25_-ATTESTED.pdf.

State agencies responded to the executive order with a series of recommended actions.[84] These actions include continued clean fuels support, increased incentives for ZEVs, continued support for ZEV infrastructure such as electric vehicle charging, reducing refueling costs for ZEVs, additional development of regulations to support ZEV reliability and local air district authorities, and electrification of government fleets. Combined with Californians' increasing adoption of ZEVs and continued improvements in ZEV technology, the transition to a clean transportation sector will maintain momentum.

Other options for reducing fuel demand include increasing housing density, transit use, and rail use. These reduce the need for travel or otherwise provide a high level of mobility that can be more convenient. Recent legislation has provided for higher density near public transit infrastructure, increased infill development, and additional focus on mixed-use development.[85]

Continued support for policies and programs advancing the transition to clean transportation will be critical to advance the state's progress.

84 California Air Resources Board. August 2025. "Report to the Governor in Response to Executive Order on ZEV Deployment," https://ww2.arb.ca.gov/sites/default/files/2025-08/August%202025%20Report%20to%20the%20Governor%20in%20Response%20to%20Executive%20Order%20on%20ZEV%20Deployment%20FINAL_0.pdf

85 For example, see Senate Bill 79 (Wiener, Chapter 512, Statutes of 2025) on increased housing density near transit stations. Also see Senate Bill 477 (Chapter 7, Statutes of 2024) on increasing infill housing from accessory dwelling units, and Senate Bill 9 (Akins, Chapter 162, Statutes of 2021) on increasing housing density.

Supply Reliability During Decline

Fuel Specifications

During the transition, fuel supply reliability remains a key focus. California's gasoline standard (the CARBOB specification) protects public health and helps the state meet federal air quality requirements, particularly in the parts of California where most Californians live and where federal nonattainment designations apply. CARBOB is available from a more limited supplier base than gasoline used in other states, as it is specific to California.

As discussed in the draft TFTP, harmonizing fuel specifications with other western states or aligning with national specifications could increase the availability of fuel across each state and help each navigate potential outages or gaps in supply that can emerge. Among other legal and procedural requirements, CARB must conduct a multimedia evaluation (MME) of any new fuel specification. A non-CARBOB fee option or variance allows gasoline suppliers to pay a fee to add non-CARBOB gasoline into the state's fuel system to boost overall supply and help stabilize prices. This program may result in air quality or health impacts, particularly if non-CARBOB fuels are sold during time periods where the state is already experiencing poor air quality. As part of implementing SB 237, CEC and CARB will coordinate on a more complete assessment of alternative fuel specifications as part of the Transportation Fuels Assessment.

Related to fuel specifications is the ethanol content of gasoline produced at refineries. Signed into law in October 2025, Assembly Bill 30 (Alvarez, Chapter 247, Statutes of 2025) allows blends of gasoline containing 10.5 percent to 15 percent ethanol by volume (E15[86]) to be sold in the state for use as a transportation fuel. E15 provides a pathway for reducing the cost of fueling gasoline vehicles by increasing the ethanol content in retail gasoline, which tends to cost less than gasoline. Further implementation efforts are in development by CARB.

Supply and System Resilience

Sufficient and reliable fuel supply will be needed to meet demand. The sources of fuel and the infrastructure to support it are likely to evolve over time. Imports of refined products are expected to be needed to fill the gap between a loss of in-state production due to refinery outages, conversions, or closures and continued fuel demand. Import and distribution infrastructure must be readily able to receive fuel and deliver it to customers.

Storage adds resilience to the fuel supply system by offering a buffer that can be drawn down during supply disruptions. Statewide, data received by the CEC suggest that gasoline storage capacity for the state represents about two weeks' worth of demand. Storage facilities are owned by various entities, most commonly refiners at their respective refineries, at port reception points, and by pipeline operators.

Storage operators use storage for their own purposes rather than for any statewide buffering effect. For example, a refinery may run storage high in preparation for maintenance to meet contractual obligations, relying on the storage rather than ordering resupply imports. This

86 E15 is a 15 percent ethanol, 85 percent gasoline blend of fuel that can be sold at retail gasoline stations.

action would contribute to lower statewide storage and increase risk of spikes if maintenance goes long or an outage at another facility occurs. A fuel reserve that is managed by the state, as explored in the 2024 Transportation Fuels Assessment, is one option for supplementing industry-managed storage and providing an additional tool to stabilize supply during disruptions.

As overall petroleum volumes decline, operators and state agencies must work together to ensure the system retains enough flexibility and redundancy to absorb unexpected outages, supply disruptions, and climate-related shocks. Achieving a safe, reliable, and affordable transition will require policy makers to bolster the resilience of this system while managing the continued net decline in volumes, ensuring that Californians who still depend on petroleum fuels can continue to access them until alternatives have scaled.

Supporting sufficient capacity and flexibility as redundancy becomes more costly can improve system resilience as the transition progresses. Ensuring that marine oil terminals have the capacity to import sufficient volumes of refined products and that refined products can be effectively stored and distributed can lower the supply risk of a local refinery outage or closure. Converting underutilized crude transportation and storage assets, such as tanks or pipelines, to handle refined fuels can help provide capacity. Adapting and upgrading existing infrastructure to make it multipurpose can add flexibility, such as fuel transportation assets supporting bidirectional flows.

Several corporations have recently proposed new interstate refined fuel pipelines increasing fuel transportation capacity from the midcontinent to the western United States.[87] While no new pipeline construction into California is currently being contemplated, one of these proposals includes reversing the flow of the pipeline currently transporting refined products from Colton (San Bernardino County) to Phoenix.[88] If pursued, the pipeline operators expect completion near 2029. Such projects could improve system resilience by adding a refined fuel supply source that can supply the California market more quickly. Improving optionality to shift refined products between Northern and Southern California, such as enabling pipeline transportation, could also increase the state's overall fuels resilience.

Ensuring petroleum supply system resilience for a safe, equitable, and affordable transition can also improve the state's overall resilience to natural disaster or other major disruption.

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87 Penfield, Rick. September 25, 2025. "Open Season for Opportunity: Magellan's Sun Belt Connector Links Houston Supply to Phoenix Demand." Stillwater Associates, https://stillwaterassociates.com/open-season-for-opportunity-magellans-sun-belt-connector-links-houston-supply-to-phoenix-demand/.

HF Sinclair Corporation. October 29, 2025. "HF Sinclair Evaluates Strategic Pipeline Expansion to Western Markets," https://investor.hfsinclair.com/investor-relations/press-releases/press-releases-details/2025/HF-Sinclair-Evaluates-Strategic-Pipeline-Expansion-to-Western-Markets/default.aspx.

Also see, https://westerngatewaypipeline.com/.

88 See https://westerngatewaypipeline.com/.

Recent events have shown that some key components of the state's crude and refined product transportation systems are vulnerable to disruption, including by climate-exacerbated natural disasters such as increasingly intense wildfires.[89] Ensuring that backup power systems are in place at critical points such as pipeline pump stations and improving coordination and awareness between electric utilities and petroleum system operators can reduce the likelihood that a failure in one energy system causes a failure in another.

Ongoing state and regional-level petroleum planning, coordination, and emergency response will continue to be critical as climate risk increases and the petroleum fuels infrastructure system transitions. For example, the Western States Petroleum Collaborative under the National Association of State Energy Officials (NASEO) is a state-led initiative intended to enhance regional fuel planning and response among state energy offices and state emergency agencies through the development of catastrophic fuel response frameworks and consistent regional engagement.[90]

Chapter 5 discusses CEC's work under its AB X2-1 authority to introduce minimum inventory and resupply requirements. The CEC's triennial Transportation Fuels Assessment will continue to assess near- and long-term supply strategies for fuel supply and price stability.

Managed Decline and Decommissioning

State Roles for Managing Infrastructure Transition

As demand for petroleum fuels continues to decline, the state may consider different roles in balancing fuel supply and demand and infrastructure transitions to best protect Californians and achieve state policy goals. A proactive state plan that considers the context of the full petroleum value chain and prioritizes consumer, worker, community, and environmental protection would more effectively support a smooth transition.

The timing and order of asset retirements can impact supply, workers, and host communities. Petroleum asset retirement decisions are made by private actors. Coordination of asset transition cannot occur at the private level, given the varying alignment of private operators' guiding incentives, the antitrust protections that prevent collusion among private actors, and the complex mixture of public and private jurisdiction over transportation service provision. It would be prudent for policy makers to prepare proactively to support a smooth transition of infrastructure and services.

Different forms of government management of essential services and intervention in industries in decline, especially those identified as critical to safety or economic stability, have been implemented in different contexts around the world. These management strategies have

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89 Seba, Erwin and Shariq Khan. 2025. "Kinder Morgan Shuts Two Los Angeles Fuel Pipelines Due to Power Outages," Reuters, https://www.reuters.com/business/energy/kinder-morgan-fuel-pipelines-shut-due-power-outages-southern-california-2025-01-10/.

90 National Association of State Energy Officials. "Regional Petroleum Response Collaboratives," https://www.naseo.org/topics/petroleum-response-collaboratives.

included subsidies to support operations, legal obligations to operate, centralized planning of closures, utility regulation, public-private partnerships, and direct state management or ownership of assets. Lessons can be learned from actions taken in other industries and jurisdictions, and policy makers need to consider benefits and risks of any approach in the context of the petroleum fuels transition.

Some governments have opted for subsidies to support operations they consider essential. Australia, for example, which over the past 15 years has lost more than two-thirds of its domestic refining capacity, has opted for an import-heavy fuel supply, while introducing subsidies to retain a strategic minimum of domestic refining capacity. Tools to offer incentives for continued operations provide limited certainty. Alternatively, a greater government role in controlling investment and production decisions, whether a facility stays open or closed, and revenue from operations could enable asset operation, and eventual closure, that is informed by public needs rather than purely profitability. This greater alignment with public need could be achieved through true legal asset ownership by the state or another structure such as a form of public-private partnership. This and any other new state role in infrastructure management would require thorough analysis of benefit and risk.

As an example of sectoral transition planning, the U.S. Department of Defense's Base Realignment and Closure, or BRAC, process was developed to manage the timing and order of military facility closure. Like refineries and other major industrial facilities, military bases provide critical services that cannot be shut down without careful planning for replacement, and sites often come with significant land remediation requirements. Congress recognized during the twentieth century that establishing a transparent, universal, and impartial decision process for base closures was critical for retaining public trust, giving economic certainty to adjacent communities, and maintaining continuity of vital services during closure.

Forthcoming iterations of the Transportation Fuels Assessment can continue to develop options for the state to consider for managing infrastructure and supply transition.

Future of Impacted Land

As California and the rest of the world move toward the clean energy future, more retirements of petroleum assets are expected. Regardless of when those come, the state has interest in seeing the land impacted by petroleum industrial activity be responsibly remediated and repurposed. If this is done in a way that protects public health and the environment, diversifies local economies, and supports local governments, it could be a generational opportunity to uplift some of California's most pollution-burdened communities. An understanding of existing regulatory authorities, site assessments, cleanup cost and duration estimates, and applicable financial commitments would help support processes to realize the opportunities for the future of land affected by the transition.

Forward-looking policy considerations for decommissioning and clean-up are common in some sectors; several critical energy systems have subject-specific remediation planning and funding

commitment requirements. Coal mining,[91] oil and gas extraction,[92] nuclear,[93] and — in some states — solar and wind power,[94] have various degrees of requirements for establishing remediation plans and upfront financial commitments. If refineries in California are not subject to proactive, specific, and consistent requirements, it could leave public agencies attempting to ensure full and timely remediation for those sites on a case-by-case basis and challenge host communities' ability to envision and implement their post-closure future.

For refineries, remediation is governed primarily by California's State Water Resources Control Board and nine Regional Water Quality Control Boards.[95] The state Department of Toxic Substances Control (DTSC) also has remediation authorities, especially regarding closure and corrective action of hazardous wastes in hazardous waste management units.[96] The Water Boards have a range of statutory tools to ensure refinery site remediation, many of which stem from their general authority in the California Water Code to permit waste discharges, clean up waste discharges, and furnish technical or monitoring reports. These tools include issuance of cleanup and abatement orders, cost recovery agreements with site cleanup requirements, and a range of site monitoring and inspection authorities that can help establish the status and remediation needs of the site.

Successfully planning for and executing refinery and other petroleum industrial site clean-up and redevelopment will depend on a strong foundation of high-quality information and enforcement tools.

Site Assessments

Fully assessing the extent of contamination at a refinery or other petroleum infrastructure is a necessary precondition for developing a detailed plan for future land uses and values. Much of

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91 See United States Code, 30 USC 1258, 1259, 1268, 1269, https://uscode.house.gov/view.xhtml?path=/prelim@title30/chapter25/subchapter5&edition=prelim.

92 See Code of Federal Regulations, 43 CFR 3104, https://www.ecfr.gov/current/title-43/subtitle-B/chapter-II/subchapter-C/part-3100/subpart-3104.

93 See Code of Federal Regulations, 10 CFR 50.75, https://www.ecfr.gov/current/title-10/chapter-I/part-50/subject-group-ECFReadbe827381d095/section-50.75

94 Curtis, Taylor, Ligia Smith, Heather Buchanan, and Garvin Heath. 2021. A Survey of Federal and State-Level Solar System Decommissioning Policies in the United States. National Renewable Energy Laboratory. Available at https://docs.nrel.gov/docs/fy22osti/79650.pdf.

95 The Waters Boards' authorities are primarily established under the delegated federal Clean Water Act and California's Porter-Cologne Water Quality Control Act, as well as Senate Bill (SB) 1082 | California State Water Quality Control Board for decommissioning and remediation.

96 DTSC's remediation authority is primarily under the state's Carpenter-Presley-Tanner Hazardous Substances Account Act (often referred to as California's counterpart to the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the state Hazardous Waste Control Act (the state program implementing the federal Resource Conservation and Recovery Act (RCRA) and state hazardous waste requirements which can be more stringent than federal requirements).

the impacted land has been used for petroleum activities for a long time: oil and gas extraction has occurred in California since the late 1800s, and California's petroleum refineries have been in operation for many decades — most for over a century — in many cases predating today's laws governing the handling and disposal of petroleum contaminated media or hazardous materials. The remediation that will be necessary at the site of any given petroleum asset is determined by the operational history of each site and depends on the intended future use of the land. Contamination and reuse options can vary significantly across the different sites that petroleum infrastructure occupies.

At operating refineries, sampling and monitoring activities are generally in response to specific, known spills. More thorough, sitewide investigation is reserved until the closure and post-closure period after equipment has been removed. Even if more information becomes available after operations have ceased, more comprehensive, standardized, and transparent estimates of site remediation needs and methods ahead of time could enable the state and local communities to better prepare for and manage the myriad changes future petroleum infrastructure retirements will bring.

Cleanup Costs and Timeline Estimates

Remediation can take decades and cost hundreds of millions of dollars for some large, complex petroleum processing sites. Even planning for site cleanup and redevelopment can take years, which underscores the need public and private participants in that process have for proactive, reasonable estimates of cleanup cost and durations.

For refineries, asset retirement obligations (AROs) are reported in filings with the federal Securities and Exchange Commission, though these cost estimations are generally released only once a closure date has been determined and the filings do not generally describe the method or scope used to develop the AROs.[97]

The state, host communities, and investors would benefit from more transparency into the liability a company bears for decommissioning and remediation of a refinery or other major petroleum infrastructure site and how that is calculated. This transparency would help local

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97 Guy-Knapp, C. and R. Schuwerk. 2024. "Off the Record: Accounting Loophole Leaves Billions in Decommissioning Obligations Unaccounted For." *Carbon Tracker*. Carbon Tracker Initiative. https://carbontracker.org/reports/off-the-record/.

Phillips 66 reported a $231 million ARO for "asbestos abatement and decommissioning of assets" at the Los Angeles Refinery. Phillips 66, Form 10-K, annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2024.

Valero reported a $337 million ARO for the Benicia Refinery in 2025. Valero Energy Corp. — "Valero Announces Notice to the California Energy Commission Regarding its Benicia, California, Refinery," April 16, 2025, https://investorvalero.com/news/news-details/2025/Valero-Announces-Notice-to-the-California-Energy-Commission-Regarding-its-Benicia-California-Refinery/default.aspx.

communities start planning effectively, investors allocate capital wisely, and the state evaluate California's petroleum industries' financial situation accurately.

Financial Commitments

As described previously, many long-lived assets have cleanup obligations that owners and operators are committed to covering upon retirement. California has already experienced firsthand how these commitments can fall short in its oil and gas extraction sector, where without adequate preallocated funding, many sites have gone unremediated, falling by default to the state.[98] In SB 237, the Legislature recognized this risk with refineries, stating "absent any firm assurances to remediate these lands after a refinery's eventual closure, the obligations to fund cleanup are likely to fall on the state."[99]

This problem has been identified and approached in different sectors to varying degrees of specificity. As referenced above, in the nuclear power, oil extraction, and coal mining industries, federal and state laws require operators to put aside funding up front to cover the cost of remediation, in some contexts even setting a formula for the determination of minimum decommissioning and remediation costs and requiring ongoing payments into a dedicated fund over the course of operation.

History has shown repeatedly that no financial assurance is perfect, and the state could benefit from learning from these past lessons going forward. A comprehensive picture of the magnitudes and mechanisms of financial assurances that apply to the state's refineries and other petroleum infrastructure could help assess the state's risk of becoming the payor of last resort. It could also provide greater certainty to local governments and investors that the work will be done responsibly and in a timely manner.

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98 The State Senate recognized past bankruptcies in oil and gas shifted costs and remediation to California taxpayers and that this risk exists for the future in SJR 12 (Min, 2024) Bill Text - SJR-12 Oil and gas leases: bankruptcy. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SJR12.

See State Oil and Gas Well Plug and Abandonment projects (permanent closure and sealing) for orphan or deserted wells: State Oil and Gas Well Plug and Abandonments, https://www.conservation.ca.gov/calgem/Pages/State-Abandonments.aspx.

99 Senate Bill 237, Grayson, Chapter 118, Statutes of 2025, available at https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB237.

CHAPTER 7:
Findings and Recommendations

This assessment, developed through engagement with state and local authorities with relevant authorities and a broad range of stakeholders and grounded in the data authorities established through SB X1-2 and AB X2-1, offers the following findings and recommendations to the Legislature and the Governor.

1. **Continue to manage the transition deliberately.** California's statutory commitments to decarbonization are the foundational condition for rational and predictable planning by all parties — clean energy investors, petroleum infrastructure operators, workers, and communities. Continued, consistent policy commitment is the signal that all sides of the transition require to plan responsibly. This assessment finds no evidence that slowing the transition would improve reliability or affordability outcomes. The evidence points in the opposite direction: thoughtful, proactive governance of the transition is less costly and less disruptive than reactive, asset-by-asset crisis response or than a narrow focus on stabilization.
2. **Prioritize Bucket 2 and Bucket 3 to reduce the need for Bucket 1.** California cannot sustainably manage this transition through repeated crisis interventions at an asset-by-asset level. Each reactive stabilization measure, however necessary in the moment, is more expensive and less durable than the systemwide oversight and planning that would reduce the frequency of crises. The state should continue building the governance foundations established through SB X1-2 and AB X2-1 and support ongoing and growing planning and coordination venues.
3. **Build out the layered interagency coordination structure for permitting.** The Vice Chair's June 2025 letter recommended an interagency work group to improve permitting coordination for critical energy infrastructure, and the state government has begun acting on that recommendation. Efforts include the Petroleum Strategy Task Force, the CEC's coordination venue with air districts, and the developing local government engagement. Together they form a layered coordination structure designed to deliver transition policy and the Legislature's permitting goals — reduced delays, greater transparency, clearer communication — without displacing the specialized expertise and community accountability structures that effective oversight depends on. These structures should be resourced, formalized with defined protocols and public accountability reporting, and evaluated regularly. The Legislature may wish to consider whether dedicated funding for interagency coordination capacity is warranted as part of implementing these recommendations.
4. **Identify durable transition funding mechanisms.** Worker support and community transition support have been established as critical pillars of a holistic transition strategy. The scale and appropriate structure of transition support funding for workers and host communities — including funding sources —must be identified to support Californians already acutely impacted by the transition.

5. **Require transparency on remediation obligations.** California has experienced firsthand how decommissioning and cleanup obligations can fall to the state when financial assurances prove inadequate. The Legislature recognized this risk in SB 237, noting that legacy infrastructure remediation obligations are likely to fall on the state absent firm assurances and regulatory processes. This assessment recommends a comprehensive review of remediation needs, processes, and existing financial commitments for petroleum infrastructure to ensure that responsible parties appropriately conduct and fund remediation.
6. **Advance and resource the state's transition planning documents.** The State has several planning documents that help chart a transition path to a decarbonized transportation sector. The TFTP and the triennial Transportation Fuels Assessment each have distinct mandates and timelines. CARB's Scoping Plan, updated every five years, is a state- and economy-wide plan for achieving GHG emission reductions and carbon neutrality. Together they should function as a continuously evolving analytical framework for achieving state climate goals and managing the mid-transition. These documents should be adequately resourced and used as an opportunity to reassess conditions, sharpen the governance toolkit, and adjust course as the transition unfolds.
7. **Continue monitoring SB 237 outcomes.** CalGEM publishes ongoing implementation updates on its website. This assessment recommends that the state closely monitor key metrics including production volumes, pipeline viability indicators where available, compliance with health and environmental protections, and consumer price trends and their drivers as implementation progresses.
8. **Continue analysis of best use of regulatory tools provided by the special sessions.** SB X1-2 and AB X2-1 provided the CEC with a suite of regulatory tools — a maximum gross refining margin, minimum inventory requirements, and resupply planning authority — to protect consumers and stabilize supply during the mid-transition. The CEC has approached implementation holistically, building the data foundation, analyzing how each tool interacts with supply dynamics in a changing market, and sequencing deployment through the Petroleum Supply Stabilization OIIP. Continued analysis and careful, evidence-based implementation of these authorities remain a priority.
9. **Continue assessing fuel supply management strategies.** Future iterations of the Transportation Fuels Assessment should assess strategies to maintain safe, reliable, equitable, and affordable fuel access, incorporating new insights as market conditions evolve and developing recommendations for an adaptive governance toolkit to manage the transition.
10. **Further development needed.** As in-state petroleum infrastructure continues to evolve, further assessment of the state's toolbox to support a smooth transition and maintain infrastructure reliability is needed. A system-wide strategy including the circumstances under which the state should employ different tools, the criteria for determining the criticality of an asset, the appropriate triggers for intervention, the likely impacts, and how actions support the larger transition requires further development.

CONCLUSION

This assessment confirms that California has built a meaningful governance foundation for its petroleum transition. The transparency and data authorities established through SB X1-2 and AB X2-1, the creation of DPMO, the Transportation Fuels Assessment, the draft TFTP, the Petroleum Strategy Task Force and other coordination venues, and policy and legislative efforts already taken represent significant advancements in the state's ability to meet this challenge. These steps represent a deliberate arc from crisis response toward the system governance that the scale of this transition requires.

Yet the arc is incomplete and the petroleum transition will not wait for governance to catch up. As in-state refining capacity contracts, California has diversified its fuel supply through imports. The infrastructure needed to absorb what retiring assets can no longer provide — especially marine terminals, storage, and distribution networks — is being planned more reactively than the transition timeline warrants. The infrastructure and services of the clean transportation system need to be rapidly scaled to replace the contracting legacy system. Communities and workers facing accelerated impacts need durable, adequately funded and well-structured support mechanisms. The physical and financial legacies of petroleum infrastructure — remediation obligations that in other industrial sectors have repeatedly fallen to the public — require the same kind of forward-looking accountability that California has applied in other contexts.

The path forward is not to slow the transition. California's commitments to address the climate crisis make responsible planning possible, including by state and local government, communities, and businesses. Continuing the trajectory to a decarbonized transportation sector and building the transition governance capacity, including through the tools identified in this assessment, is the path of least long-term cost and the signal that markets on both sides of the transition need.

California has an opportunity to reaffirm its leadership and demonstrate that a large and well-regulated economy can manage the responsible decline of a major industrial system — protecting consumers, workers, and communities in the process — while staying the course on its decarbonization commitments. The frameworks and tools in this assessment are designed to ensure that the governance choices made in the coming months and years rise to that opportunity.

GLOSSARY

API	American Petroleum Institute. A trade association for the petroleum industry. API also defines or establishes certain key concepts in petroleum.
AQMD	Air quality management district. Districts in California that set various air quality standards for stationary sources within their respective districts.
ARO	Asset retirement obligation. A legal financial obligation associated with the retirement of assets such as refineries.
BRAC	U.S. Department of Defense's Base Realignment and Closure. A process developed to manage the timing and order of military installations.
California ISO or ISO	California Independent System Operator. Oversees the operations of California's bulk electricity system, used primarily by investor-owned utilities.
CalEPA	California Environmental Protection Agency. The main environmental oversight agency of the State of California. CalEPA houses other state boards, departments and offices, such as the California Air Resources Board.
CalGEM	California Geologic Energy Management Division. A division of the California Department of Conservation that regulates oil, gas, and geothermal industries.
CARB	California Air Resources Board. The state air pollution agency in California, housed in CalEPA.
CARBOB	California Reformulated Blendstock for Oxygenate Blending. A specific type of gasoline produced in refineries that meets California's air quality requirements. CARBOB can be blended with ethanol and sold at retail to consumers.
CDTFA	California Department of Tax and Fee Administration. Administers California's sales and use, fuel, tobacco, alcohol, and cannabis taxes, as well as a variety of other taxes and fees that fund specific state programs.
CEC	California Energy Commission. The primary energy policy and planning agency for California, housed in CNRA.
CEQA	California Environmental Quality Act. A law that requires certain environmental analyses and mitigations for projects.
CNRA	California Natural Resources Agency. The main natural resource oversight agency of the State of California. CNRA houses various state

	commissions, conservancies, and departments, such as the California Energy Commission.
CPUC	California Public Utilities Commission. California's regulatory agency that oversees privately owned utilities, such as electricity, gas, and telecommunications.
Desert REAT	Desert Renewable Energy Action Team. A voluntary multiagency coordination structure established to reduce permitting timelines for utility-scale renewable energy projects in the California desert.
DIR	Department of Industrial Relations. A department of the California Labor and Workforce Development Agency. DIR's mission is to improve working conditions for California's wage earners and advance opportunities for profitable employment in California.
DOC	Department of Conservation. A department of CNRA that has five divisions associated with the conservation of natural resources, including CalGEM.
DOGWF	California Displaced Oil and Gas Worker Fund. A pilot fund established through a one-time allocation of $30 million from the General Fund in the 2022–2023 budget. The mission of the program is to support workers displaced in the oil and gas industries by supporting their transition into sectors that match their skills and experience and offer comparable wages.
DPMO	Division of Petroleum Market Oversight. An independent division of the CEC established by SB X1-2 to provide oversight and analysis of the transportation fuels markets for the protection of consumers.
DTSC	Department of Toxic Substances Control, a department in CalEPA. DTSC's mission is to protect California's people, communities, and environment from toxic substances, to enhance economic vitality by restoring contaminated land, and to compel manufacturers to make safer consumer products.
E15	A mixture of 15 percent ethanol and 85 percent gasoline. This mixture is currently allowed in California, although the traditional mixture of gasoline is E10 (10 percent ethanol).
EJ	Environmental justice. As defined in the California Government Code 65040.12(e)(1), environmental justice is the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

Federal Implementation Plan	As defined by the U.S. EPA, a Federal Implementation Plan is an air quality plan developed by EPA under certain circumstances to help states or tribes attain or maintain (or both) the National Ambient Air Quality Standards for criteria air pollutants and fulfill other requirements of the Clean Air Act.
FPISC	Federal Permitting Improvement Steering Council. A voluntary interagency coordination effort for major infrastructure projects.
GGRM	Maximum gross gasoline refinery margin. As defined in SB X1-2, the difference, expressed in dollars per barrel, between the volume-weighted average price of wholesale gasoline sold by a refiner in the state and the average price of crude oil received by the refinery.
GHG	Greenhouse gas. Gases that can persist in the atmosphere and trap heat, resulting in an increase in global average surface temperature.
GO-Biz	Governor's Office of Business and Development.
International Energy Agency	An international organization that provides recommendations and insights on the energy sector of the economy. The United States is a member country of the agency, along with 31 other members.
NAAQS	National Ambient Air Quality Standards. Set by the U.S. EPA for criteria pollutants that can be harmful to public health or the environment.
NAICS	North American Industry Classification System. As defined by the United States Census Bureau, the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.
NASEO	National Association of State Energy Officials. A national nonprofit organization representing the governor-designated energy directors and their offices.
Organisation for Economic Coordination and Development	An international organization for that works to collaborate on general policies and programs to enhance human wellbeing. The United States is a member country of the organization.
OIIP	Order instituting an informational proceeding. A CEC action that establishes a public docket and series of other public activities such as workshops
PIIRA	Petroleum Industry Information Reporting Act. A 1980 law that authorizes the CEC to collect basic data from the petroleum industry. Subsequent

	amendments have expanded the CEC's data collection authority under PIIRA.
SIP	State Implementation Plan. A collection of regulations and documents used to implement, maintain, and enforce requirements under the federal Clean Air Act.
State Water Resources Control Board	The California State Water Resources Control Board is a department of CalEPA. The state board and the nine regional water quality control boards regulate wastewater discharges into surface waters.
SSREIR	Second Supplemental Recirculated Environmental Impact Report. A report for Kern County's adopted oil and gas permitting ordinance for CEQA purposes through 2035.
TED	Tracking Energy Development Task Force. A staff-led effort at the CPUC, CEC, California ISO, and GO-Biz that tracks development of new energy projects, identifies barriers, and coordinates action across agencies
TFTP	Transportation Fuels Transition Plan. A plan developed by CARB and the CEC in a public process required under SB X1-2.
U.S. Energy Information Administration	An agency that collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. The Energy Information Administration is a sub agency of the U.S. Department of Energy.
U.S. EPA	United States Environmental Protection Agency.
WSPA	Western States Petroleum Association. A trade association representing various actors in the petroleum and petroleum fuels market across six western states (Arizona, California, Hawaii, Nevada, Oregon, and Washington). WSPA engages in lobbying, legal actions, and public relations campaigns on behalf of the industry.
ZEV	Zero-emission vehicle. A vehicle that is capable of emitting no emissive pollutants in delivering motive power to the wheels. Common examples of ZEVs include electric vehicles and plug-in hybrid electric vehicles.