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BACKGROUND

Tuesday, May 5, 2026
1:30pm
1021 O Street, Room 1100

OVERSIGHT HEARING

Fueling Uncertainty: Assessing California's Petroleum Supply Resilience and Strategic Planning

Findings:

- *California is entering this hearing mid-disruption. The six-week shipping window from the February 28 start of the Iran war means the full supply impact from the Strait of Hormuz closure is only now materializing — and the state lacks the reserves, infrastructure, or standing emergency authority to manage it without improvisation, should a problem materialize.*
- *The near-term crisis and the long-term transition are the same problem on different timescales, and the window for deliberate action is narrowing.*
- *California must build the physical and regulatory infrastructure that a finished-product import model requires, as proactive planning is cheaper and more protective than repeated crisis response.*
- *California must put someone in charge. A single accountable entity with the authority, jurisdiction, and resources to manage a transition that currently touches a half-dozen government entities with overlapping and sometimes competing mandates.*
- *California must define a long-term vision for its fuel supply transition – not a collection of strategies, but a stated destination with milestones, tradeoffs acknowledged, and resources committed.*

A few days ago, Spirit Airlines – one of the U.S.'s primary discount carriers – shut down operations.[1] This was the first closure of a significant U.S. airline since Midway went out of business after the September 11 attacks,[2] over a quarter century ago. Spirit's Chief Executive Officer, Dave Davis, cited "the sudden and sustained rise in fuel prices in recent weeks" as

[1] Archie Mitchell, "Spirit Airlines shutting down after rescue talks collapse," *BBC,* May, 2026; https://www.bbc.com/news/articles/cqxlnrqjvzyo
[2] "Midway Air shuts down, cites terror attacks," *Travel Weekly*, September 12, 2001; https://www.travelweekly.com/Travel-News/Airline-News/Midway-Air-shuts-down-cites-terror-attacks

the reason for the closure.[3] However, Spirit was already in financial strain: it had filed for bankruptcy twice since 2024, but had reached a deal with creditors in March 2026 to emerge from its latest bankruptcy.[4]

While Spirit's collapse may have been likely, its accelerated timing speaks directly to the severity of the current global energy crisis. As Fatih Birol, head of the International Energy Agency (IEA), warned: we are currently in "the largest energy crisis we have ever faced,"[5] due to the "largest [supply disruption] in the history of the global oil market" arising from the ongoing closure of the Strait of Hormuz and destruction of Middle Eastern energy infrastructure brought about by the U.S.-Israeli war with Iran.[6,7] For a creditor already burning through cash, it was the worst possible moment for Spirit.

The Iran war and the effective closure of the Strait have sent an immediate shock through global energy markets – one felt most acutely, and most visibly, in the aviation sector. Jet fuel prices have risen nearly 84% since the start of the war on February 28,[8] and the head of IEA has warned of a risk of rationing of jet fuel across Asia and Europe.[9] Aviation is experiencing this acute impact because jet fuel is a finished product with no near-term substitutes[10] and sourced from a narrow global supply network.

California is no stranger to these issues. California's jet fuel demand is the highest in the nation due to it hosting some of the busiest airports in the country.[11] And California's refineries already produce almost double the jet fuel yield of refineries in the rest of the country.[12] Jet fuel imports in 2024 were 16% of total California jet fuel demand.[13] A considerable amount of those come from Asia, particularly South Korea, which has been curbing shipments as key crude oil cargoes from the Middle East are limited.[14] While California jet fuel stocks have remained adequate since the start of the war,[15] it is likely that

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[3] "Spirit Airlines shuts down after 34 years; cancels all flights with immediate effect as fuel price surge hits operations," *The Economic Times*, May 2, 2026; https://economictimes.indiatimes.com/nri/latest-updates/spirit-airlines-cancels-all-flights-with-immediate-effect-as-fuel-price-surge-hits-operations/articleshow/130711590.cms?from=mdr

[4] Mitchell, *BBC*, *Ibid.*

[5] Holly Ellyatt, "'We are facing the biggest energy security threat in history,' IEA chief tells CNBC, *CNBC*, April 23, 2026; https://www.cnbc.com/2026/04/23/oil-markets-prices-fuel-shortages-iran-war-iea-chief.html

[6] The use of "war" here is in keeping with the *Associated Press* and other news outlets, which adopted the term to describe the U.S.-Israeli hostilities with Iran. The federal administration has contested this framing – arguing that hostilities effectively ended when a ceasefire began in early April and have not sought war powers authorization from Congress.

[7] International Energy Agency "Oil Market Report," March 12, 2026, https://iea.blob.core.windows.net/assets/a25ddf53-cd6c-4910-ac90-16bfd28399e7/-12MAR2026_OilMarketReport.pdf

[8] Joanna Plucinska and Alessandro Parodi, "Iran war, jet fuel concerns cloud airlines' summer holiday plans," *Reuters*, April 28, 2026, https://www.reuters.com/business/iran-war-jet-fuel-concerns-cloud-airlines-summer-holiday-plans-2026-04-29/

[9] John Leicester, "Europe has 'maybe 6 weeks of jet fuel left,' energy agency head warns," *Associated Press*, April 16, 2026; https://apnews.com/article/iran-war-europe-jet-fuel-flight-cancellations-birol-6e67fafd493861b3858de5548aa77703

[10] While sustainable aviation fuel (SAF) is a substitute, it remains limited in scale and blending percentage, leaving aviation overwhelmingly dependent on conventional supply.

[11] Pg. 29, California Energy Commission and California Air Resources Board. *Draft California Transportation Fuels Transition Plan*. May 1, 2026. https://efiling.energy.ca.gov/GetDocument.aspx?tn=269790-1&DocumentContentId=106928

[12] Pg. 32, CEC-CARB *Draft CTFTP, Ibid.*

[13] Pg. 32, CEC-CARB *Draft CTFTP, Ibid.*

[14] Will Kubzansky, "California Jet Fuel Woes Deepen as Asia Flows Hit Decade Low," *Bloomberg,* April 29, 2026; https://www.insurancejournal.com/news/west/2026/04/29/867600.htm

[15] Jordan Blum, "California's oil and jet fuel supply is getting slammed by a perfect storm of unfortunate timing – and help is years away." *Fortune*, April 24, 2026; https://fortune.com/2026/04/24/fuel-shortages-iran-war-spread-california-west-coast-help-years-away/

more of the impacts from the war will materialize in the coming weeks, when cargoes that would have set out normally will no longer arrive. As a result, California refineries are "running hard," producing more jet fuel per barrel of crude, shrinking capacity away from gasoline.[16]

Jet fuel's current crisis is not an airline industry problem or even a problem isolated to wealthy airline travelers. It is a supply structure problem. California's gasoline market shares the same structure. Both are finished products, produced in fixed proportions from the same refineries, imported through the same ports, from the same narrowing pool of certified overseas suppliers. Jet fuel is impacted first because it was already more import-dependent, and middle distillates[17] like jet fuel were already under global supply strain.[18] In California, gasoline could easily be next in line. Historically, imports of gasoline and blending components have accounted for only 3-7% of supply,[19] compared to 16% with jet fuel. With the recent refinery closures in Wilmington and Benicia, roughly 22% of gasoline demand is estimated to need to be filled by imports.[20]

Imports are not new; they are the foundation of the state's fuel supply. California has been a net importer of crude oil since the 1980s. What has changed is where in the supply chain those imports arise, and what California loses as a result. For decades, the state imported crude oil, a fungible, globally traded commodity, and refined it domestically into finished fuels to its own standards, with its own ability to respond when disruptions hit. Accelerating refinery closures are ending that model. California is transitioning from importing a raw material it processes itself, to importing finished, specification-locked gasoline from a narrower pool of overseas suppliers at the end of long supply chains.

That transition is not a failure of policy. It is the predictable consequence of market forces, environmental goals, and global energy economics intersecting over time. What is an unfinished task is that California has not yet defined where it is going, built the infrastructure to get there, or organized itself to manage the journey. But its taking its first steps.

The purpose of this oversight hearing is to understand how vulnerable the state's fuel supply is at this precise moment, and to examine what can be done about it – if anything – within a realistic two-to-five year horizon. The hearing seeks to do this by connecting the immediate to the structural. Panel I examines California's present-day supply vulnerability: the forces shaping price and availability risk, and the tools available should a supply shock materialize. Panel II asks what it would take to reduce that vulnerability over a two-to-five year horizon, and whether the policies long credited with protecting California consumers – its distinct fuel standards, its in-state refining requirements, its limited import capacity – have become liabilities that need reexamination.

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[16] Natalia Katona, "California Refineries Max Out Jet Fuel While Gasoline Starves," *OilPrice.com*, April 29, 2026; https://oilprice.com/Energy/Energy-General/California-Refineries-Max-Out-Jet-Fuel-While-Gasoline-Starves.html

[17] Typically diesel, heating fuel, and jet fuel

[18] Shariq Khan, "US diesel futures surge to over 2-year high on Middle East supply disruptions," *Reuters*, March 3, 2026; https://www.reuters.com/business/energy/us-diesel-futures-surge-over-2-year-high-middle-east-supply-disruptions-2026-03-03/

[19] Pg. 6, CEC and CDTFA. *2024 Review of the Price of Gasoline in California and Related Effect on State Revenues* (2024 Joint Agency report); https://autl.assembly.ca.gov/system/files/2024-05/cdtfa_cec-joint-report-2024-gasoline-revenue-report_0.pdf

[20] Neale Mahoney and Ryan Cummings, *An Analysis of the Valero Benicia Refinery Closure on Gasoline Prices in California*. Stanford Institute for Economic Policy Research, June 20, 2025. https://nealemahoney.substack.com/p/an-analysis-of-the-valero-benicia

The release, on May 1, of two major California Energy Commission (CEC) reports underscores that this hearing is not about a single price spike but about a structural turning point: the draft Transportation Fuels Transition Plan lays out a near-to-medium-term supply reliability roadmap,[21] while the draft Senate Bill 237 Assessment goes further, making the case that California is now in a "mid-transition" – a period requiring active governance of fossil fuel decline, not just crisis response – and that the choices made now will determine who bears the costs of getting to the other side.[22] The near-term mitigation strategies and structural reforms before this Committee today are, in that context, not just about today's price spike. They are the foundational decisions that will determine whether California's mid-transition is managed or chaotic.

I. THE GLOBAL CONTEXT: WHEN THE WORST CRISIS MEETS THE CURRENT VULNERABILITY

A. The Middle East Conflict and Strait of Hormuz Closure.

The U.S.-Israeli war with Iran began February 28, 2026, with strikes that killed Iranian Supreme Leader Ali Khamenei and triggered immediate Iranian retaliation against Israel and U.S. military bases across the region. The conflict escalated rapidly: by March 11, Iran had begun striking vessels in the Strait of Hormuz, and its new supreme leader ordered the waterway choked off. On March 13, the U.S. bombed Kharg Island, responsible for roughly 90% of Iran's oil exports, while Israel struck Iran's South Pars gas field, which accounts for 70-75% of Iran's natural gas production. Iran retaliated by striking Qatar's Ras Laffan facility, the world's largest liquified natural gas (LNG) export plant. A two-week cease-fire took effect April 7 but held for less than 24 hours before Iran closed the Strait again and struck two vessels. As of May 1, the U.S. has extended the cease-fire but peace talks have broken down. The U.S. has rejected Iran's latest proposal, and the future of the conflict – and the Strait – remain unresolved.[23]

The war with Iran – which the CEC's Senate Bill 237 Assessment describes as "dramatically affecting global oil markets and supply routes"[24] – has sent shockwaves through the global petroleum system that reach well beyond gasoline prices. The Strait of Hormuz, which before the conflict carried more than 20 million barrels of oil per day – roughly one-fifth of global supply – has been effectively shut to commercial traffic.[25] Crude prices have topped $100 a barrel even after more than 30 countries announced emergency reserve releases.[26] As Energy Institute economist Severin Borenstein has noted, when the price of oil goes up $1 a barrel that translates to about 2.5 cents at the pump. With crude oil prices up about $30 per barrel since February 28, this translates to $0.75 increase per gallon of gasoline, which transfers roughly $3 billion per day from consumers to producers.[27] Most of that pain does not stop at the gas pump, but cascades into food, freight, fertilizer, and industrial supply chains that

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[21] California Energy Commission and California Air Resources Board. *Draft California Transportation Fuels Transition Plan*. May 1, 2026. https://efiling.energy.ca.gov/GetDocument.aspx?tn=269790-1&DocumentContentId=106928

[22] Keates, Theresa and Quentin Gee. 2026. *Senate Bill 237 Assessment: Supporting the Transition Away from Petroleum Fuels.* California Energy Commission. Publication Number: CEC-200-2026-007-LCD. https://efiling.energy.ca.gov/GetDocument.aspx?tn=269793&DocumentContentId=106933

[23] Ashley Ahn and Lynsey Chutel, *"*Key Moments in the U.S.-Israeli War With Iran," *The New York Times*, last accessed May 2, 2026; https://www.nytimes.com/article/iran-war-trump-us-oil-hormuz-key-dates-events.html

[24] Pg. 1, Keates and Gee, *237 Assessment, Ibid.*

[25] Butler, et al., "Why the Strait of Hormuz matters so much in the Iran war," *BBC*, April 7, 2026; https://www.bbc.com/news/articles/c78n6p09pzno

[26] Aaron Krolik, "Why Oil Prices Surged Even After the Release of Strategic Reserves," *The New York Times*, updated version from April 15, 2026; https://www.nytimes.com/2026/03/12/business/iran-oil-price-reserves.html

[27] *Borenstein, Severin* " The Energy Economics of War" *Energy Institute Blog, March 23*, 2026, https://energyathaas.wordpress.com/2026/03/23/the-energy-economics-of-war/

depend on petroleum at every stage. Asian refiners, cut off from key crude oil cargoes, have sharply curtailed exports of refined products,[28] compressing supply across West Coast markets and exposing just how interconnected (and fragile) the global petroleum trading system has become.

B. What This Means for California.

California's exposure to the global disruption stems from its position as a structurally dependent importer of finished gasoline and jet fuel. Even before the war, California's consumption exceeded in-state production by roughly 120,000 barrels per day, a gap filled by marine imports primarily from South Korea, India, and Singapore, according to Stanford economists Mahoney and Cummings.[29] With the closure of Valero's Benicia refinery in April,[30] that gap grows by ~75,000 barrels per day, to roughly 22% of California's daily 887,000 barrels per day demand. With every market that lost access to Persian Gulf supply simultaneously competing for the same reduced pool of refined product, California holds no formal priority in that queue: no pre-negotiated emergency supply agreements and no bilateral arrangements (aside from those already held by the oil majors) that would guarantee access during a period of global tightening.

C. The Weeks-Long Shipping Window.

The war began February 28, 2026. Vessels can take from 3-6 weeks to reach California from Asia. The last California-bound oil tanker to pass through the Strait of Hormuz before the war erupted is currently offloading at the Port of Long Beach.[31] That tanker is supplying crude oil from Iraq to Marathon Petroleum. And so far during the Iran war, crude oil deliveries to California have remained relatively steady. However, given this shipping lag, the true impact of the hostilities is only now materializing.

For refined products, a shipment of gasoline blending components from Asia takes approximately 3weeks to arrive, while shipments from Europe take roughly 4 weeks.[32] But those approximations are transit time once cargo is already loaded. The full end-to-end process of finding a qualified refiner capable of producing California's specific fuel blend, manufacturing a batch to specifications, and shipping it is likely weeks longer.[33]

The CEC's Days of Supply model – built from the data transparency tools created under SB X1-2(Skinner, Chapter 1, Statutes of 2023 Extraordinary Session) – estimates gasoline on hand in California on an approximately two-week forward-looking basis, integrating demand, inventory levels, import volumes, and anticipated in-state refinery production. In 2025, the average days of supply was 16.8, with a low of 13.2, and the CEC's own analysis indicates that supply levels below 15 days are associated with heightened risk of market volatility.[34] If the Strait closure extends another 30 to 60 days – not an implausible scenario – those

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[28] Siyi Liu, "Asia deepens refining cuts due to Iran war, putting diesel and jet fuel supplies at risk," *Reuters,* April 23, 2026, https://www.reuters.com/business/energy/asia-deepens-refining-cuts-due-iran-war-putting-diesel-jet-fuel-supplies-risk-2026-04-23/

[29] Mahoney and Cummings, *Valero Benicia Closure, Ibid.*

[30] Julie Small, "California's Fuel Fears Threaten Benicia's 'Just Transition' to Green Economy," *KQED*, April 30, 2026; https://www.kqed.org/science/2000877/californias-fuel-fears-threaten-benicias-just-transition-to-green-economy

[31] Blanca Begert, "California braces for uncertainty as last shipment of Persian Gulf oil arrives in Long Beach," *L.A. Times,* May 3, 2026; https://www.latimes.com/environment/story/2026-05-03/californias-last-oil-shipment

[32] Pg. 39, Droboniku, Gentian and Bryan Neff. 2026. *2025 Review of the Price of Gasoline in California and Related Effect on State Revenues.* California Energy Commission and California Department of Tax and Fee Administration (CDTFA). Publication Number: CEC-200-2026-006; https://efiling.energy.ca.gov/GetDocument.aspx?tn=269791&DocumentContentId=106931

[33] estimated at about 6 weeks; pg. 15, Gee, Quentin, and Aria Berliner and Alexander Wong. 2024. *2024 Transportation Fuels Assessment.* California Energy Commission. Publication Number: CEC-200-2024-003-CMF.

[34] Pg. 31, Keates and Gee, *237 Assessment, Ibid.*

indicators could move from manageable tightness toward a more serious supply gap. This could further push up California pump prices. In other words, the most acute supply pressure from reduced Asian exports has not yet fully materialized, as the gap left by curtailed March and April shipments would not fully register until May. That timing is precisely why the structural questions before this Committee – fuel specifications, import infrastructure, inventory requirements – are not long-range planning exercises; their lead times are measured in the same weeks now running down our import shipments.

II. A PETROLEUM MARKET PRIMER

This document slightly jumped ahead of itself, by framing the war prior to detailing California's ongoing mid-transition journey. As Mark Twain notes: "It is better to read the weather forecast before we pray for rain."[35] So, before returning to the storm already in progress, it is worth understanding the conditions that made California susceptible to it. A story not of sudden crisis but of cumulative structural change, years in the making.

A. How California's Fuel Market Differs from the Rest of the Nation.

California's fuel market operates with underlying conditions that distinguish it from most other states. As outlined in past background papers from this Committee,[36] the state can imprecisely be considered a fuel island. There are no pipeline inflows of finished gasoline; the pipelines connecting California to Arizona and Nevada move product outward, not in; and rail has not emerged as a viable alternative at any significant scale. The only practical avenue for outside supply is marine imports, which take three to six weeks to arrive from facilities capable of producing California-specification fuel.[37] That specification – California Reformulated Blendstock for Oxygenate Blending, or CARBOB – is unique among the states. This poses the second underlying constraint: gasoline meeting the standards of any neighboring state cannot substitute for California supply, and out-of-state CARBOB production is limited to a small number of refineries worldwide.[38] The third constraint is market structure. Petroleum refining is a high fixed-cost industry with significant barriers to entry. California's in-state refining has historically been concentrated among a small number of large producers. As the 2024 Transportation Fuels Assessment (TFA) noted, "the risk of market power appears to be more pronounced than in other states."[39]

In October 2024, Phillips 66 announced a planned closure of its Wilmington refinery by year's end 2025.[40] And in April 2025, Valero announced the planned closure of its Benicia refinery by April 2026.[41] These conversions and closures are not unique to the state, as nationally consolidation and closures are occurring.[42] However, the immediate impact in California is the real potential for significant supply constraints and likely price increases.

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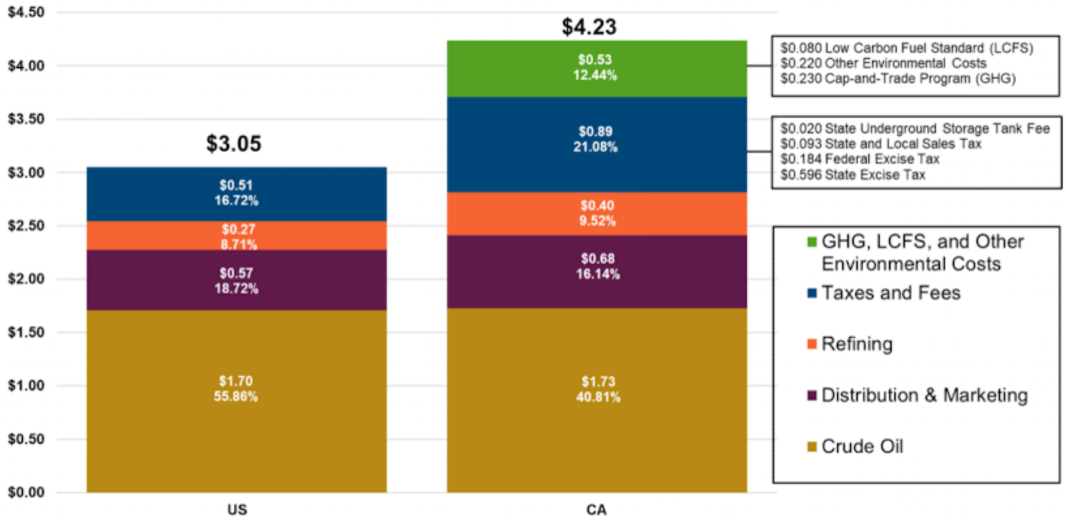
[35] Mark Twain, from *More Maxims of Mark*
[36] Among others, see May 28, 2025 hearing, "Outlook for California's Transportation Fuels Sector," https://autl.assembly.ca.gov/system/files/2025-05/05.28_petroleum-oversight-hearing-background.pdf
[37] Pg. 15, Gee and Berliner and Wong. *2024 TFA, Ibid.*
[38] Pg. 10 and 15, Gee and Berliner and Wong. *2024 TFA, Ibid.*
[39] Pg. 7, Gee and Berliner and Wong. *2024 TFA, Ibid.*
[40] Philips 66 news release; "Phillips 66 provides notice of its plan to cease operations at Los Angeles-area refinery;"
October 16, 2024; 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.
[41] Matthew Green; "Potential Valero Refinery Closure Leaves Benicia, State Officials Scrambling for Alternatives;"
KQED; April 26, 2025; https://www.kqed.org/news/12037668/potential-valero-refinery-closure-leaves-benicia-state-officials-scrambling-to-pick-up-pieces
[42] Such as LyondellBasell in Texas, Phillips 66 Alliance Refinery in Louisiana, and PBF Energy refinery in Paulsboro, New Jersey.

As of May 2026, seven refineries produce CARBOB in California, making an already concentrated market more so. To the committee's knowledge, infrastructure has not kept pace with these closures: dock facilities likely need upgrades; storage capacity may be lacking; and there is no known plan to build either at the needed scale. Little concerted planning has been undertaken to expand California's import capacity, and local governments have been reluctant to embrace the transition – unsurprisingly, given the tax revenue and jobs that terminal operations do not adequately cover compared to the loss of the refinery.[43]

B. The Cost Differential.

Retail gasoline prices are most usefully understood by breaking them into their component parts: crude oil, refining costs and profits, distribution and marketing, environmental costs, and taxes and fees. As shown in Figure 1, taken from the 2025 Joint CEC-CDTFA Report, California's cost stack in November 2024 looked different than a year prior – and different from the national average – across nearly every category.[44] Crude oil costs, which fluctuate daily, were lower than in November 2023. Refining costs and profits fell $0.13 per gallon year-over-year, from $0.52 to $0.40, and distribution and marketing dropped $0.19, from $0.87 to $0.68. Taxes and fees held steady, while environmental costs ticked up by a penny. The breakdown in Figure 1 is a useful baseline, but it assumes a market operating under something approximating normal conditions. The Iran war has thrown each of those components into flux simultaneously, with crude prices spiking, shipping costs rising, and supply disruptions rippling through the refining and distribution chain in ways that no recent historical snapshot fully captures.

Figure 1. Composition of a Gallon of Gasoline, November 2024, U.S. National Average vs. California[46]

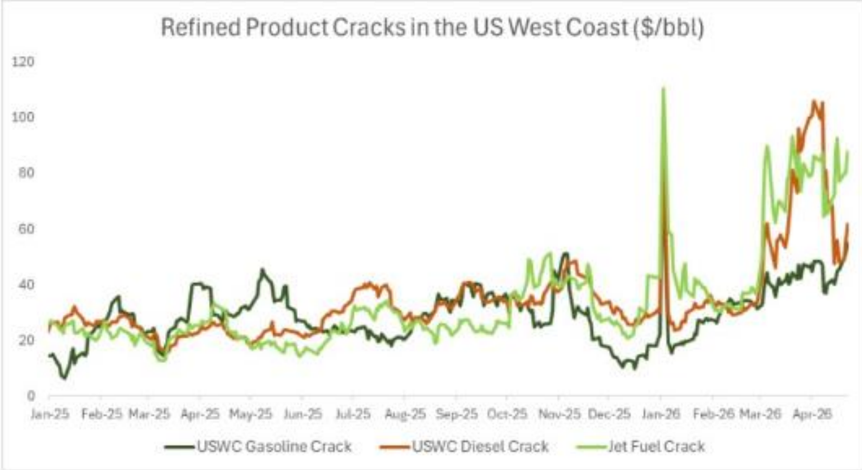


Source: EIA, CEC, CDTFA, and Legislative Analyst's Office (LAO)

A better real-time measure of how prices today are changing is the "crack spread" – the difference between the price a refiner pays for crude oil and the price it receives when it sells the refined product, essentially the refinery's gross profit margin per barrel. The name comes from the refining process itself, which "cracks" crude oil into its component fuels (more on this below). When crack spreads diverge sharply across fuel types, refiners typically respond by maximizing production of whichever product is most profitable and pulling back on the rest, within the limits of the refining process.

[43] Julie Small, *KQED*, *Ibid.*
[44] Figure 6, pg. 13 Droboniku and Neff. *2025 Joint CEC-CDTFA Report, Ibid.*

Figure 2. Refined Product Cracks in the US West Coast ($ per barrel)[45]



Such a production maximization is reported to be happening in California. In late February, before the war escalated, refinery margins for gasoline, diesel, and jet fuel were broadly in line with each other, all hovering in a relatively tight $33 to $39 per barrel range. By March, that alignment collapsed. As U.S.-Israeli operations in Iran intensified, diesel and jet fuel margins surged: diesel climbed to around $100 per barrel by early April, and jet fuel rose above $85, while gasoline margins moved up more modestly, to the $40 to $50 range, as shown in Figure 2. Faced with that spread, refiners did what the economics dictated: shift production capacity toward diesel and jet fuel.[46] The result was less gasoline being produced at the exact moment California's supply was already under pressure from import disruptions. And when refinery margins rise (or gasoline supply is restricted) those higher costs move downstream quickly, showing up within days at the wholesale rack and, shortly after, at the pump.

C. From Crude Importer to Finished-Product Importer: What's Actually Changing. California has long depended on imported crude oil to supply its refineries. Since 2005, in-state crude production has declined by about 50%. By 2025, approximately 77% of crude oil supplying California refineries came from outside the state.[47] What has changed is where in the supply chain that dependence now sits. Under the traditional model, California imported crude oil, a globally traded commodity available from a broad range of sources, refined it domestically to California specifications, and retained control over sourcing, timing, and quality. That processing step, done in-state, also provided effective inventory storage and the ability to substitute inputs when disruptions occurred.

As in-state refining capacity has contracted, however, imports have shifted in composition. As noted by the CEC, imports have moved "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."[48] Importing finished CARBOB, or the blending components that constitute it, means sourcing from a smaller number of overseas refineries capable of meeting California's unique specifications, with longer lead times and less processing flexibility in-state. As the 2024 TFA noted, "there are differences between crude import logistics and refined fuel import logistics that merit additional analysis."[49]

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[45] Image taken from article: Natalia Katona, "California Refineries Max Out Jet Fuel While Gasoline Starves," *OilPrice.com*, April 29, 2026; https://oilprice.com/Energy/Energy-General/California-Refineries-Max-Out-Jet-Fuel-While-Gasoline-Starves.html
[46] Katona, *Ibid.*
[47] Pg. 14, Keates and Gee, *SB 237 Assessment, Ibid.*
[48] Pg. 21, Keates and Gee, *SB 237 Assessment, Ibid.*
[49] Pg. 6, Gee and Berliner and Wong. *2024 TFA, Ibid.*

Think of it as the difference between a household that keeps a pantry stocked with staple ingredients versus one that relies entirely on meal kit deliveries from a single service. Now suppose the family has specific dietary requirements that only two services in the world can accommodate. Shipping the meal kit can take six weeks, and there's no corner store to run to when a delivery is delayed. A well-stocked pantry offers flexibility: substitution and improvisation when supply is interrupted. Pre-specified deliveries from a narrow set of suppliers are efficient and produce less waste, but offer fewer options. When disruptions occur, the outcomes are less forgiving.

D. Spaghetti in the Pot: Differences in Refined Products.
California refineries produce a mix of petroleum products from crude oil: gasoline (CARBOB, conventional, and RBOB[50]), diesel (CARB diesel, Environmental Protection Agency-diesel, and other diesel), jet fuel (commercial and military grades), various gases (butane, propane, etc.) fuel oil, and heavier products like lubricants and asphalt.

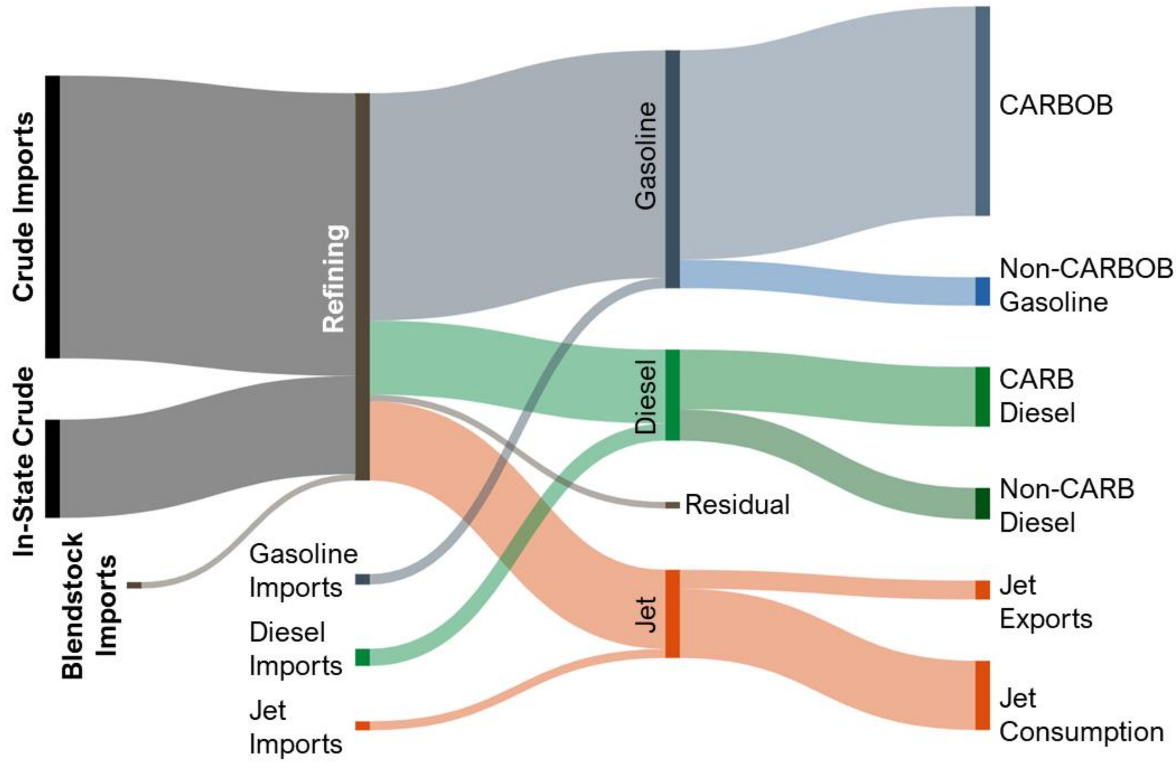
Crude oil contains a fixed mix of hydrocarbon chains. When you distill it – heating a mixture so different components boil off at different temperatures – each fraction (gasoline, jet fuel, diesel, etc.) comes off at different boiling ranges. So how much of each product a refiner produces is partly due to the crude's composition. The cracking process at refineries allows heavy, longer chain molecules to be broken into lighter ones. Hydrocracking in particular can produce jet fuel and diesel from heavier fractions that would otherwise become fuel oil. But it is a zero-sum barrel: producing more of one distillate usually means less of another.

Imagine a bowl of spaghetti with every possible strand length mixed together – that's crude oil. When you heat it up, the shortest strands float to the top first, like the broken, tiny pieces from the spaghetti box (propane, butane). As you go deeper into the pot, the strands get progressively longer and heavier. Refining is essentially reaching into that pot and pulling out the strand lengths you need, when they're done cooking. And if you want more of a particular length of spaghetti, you can cut the longer noodles down to size (cracking).

Figure 3 shows a Sankey diagram of the approximate magnitudes and import and export pathways of these various refinery products in California.[51] In 2023, approximately 42.3% of California refinery output was CARBOB. But approximately 5% was conventional gasoline, almost 17% jet fuel, and almost 19% other distillate products.[52] So every year, California refineries are producing other fuel types – outside of California specific blends – for export to other markets.

[50] Reformulated Blendstock for Oxygenate Blending which 12 states require to use in their fuel supply, burns cleaner than conventional gasoline and meets higher environmental standards. California's specific formula, CARBOB, is even cleaner than RBOB.
[51] Pg. 13, Gee and Berliner and Wong. *2024 TFA, Ibid.*
[52] Pg. 5, Droboniku and Neff. *2025 Joint CEC-CDTFA Report, Ibid.*

Figure 3. Approximate Fuel Pathways and Magnitudes for Crude and other Imports into California.[52]



IV. THE POLICY MENU: WHAT THE TFA PUTS ON THE TABLE

The 2024 TFA provides a host of mitigation options to be discussed during the hearing. A requirement of the CEC in SBX1-2, the TFA is a forum for the CEC to evaluate fuel prices, supply conditions, refinery closure impacts, and proposes policy options to address spikes unique to California. The 2024 TFA catalogs twelve distinct policy options across four categories each with scope estimates, tradeoffs, and unresolved implementation questions.

Importantly, the TFA provides a menu, not a recommendation. The sections below focus on the options with the most near-term impact and the strongest connection to this hearing's specific focus. However, since the TFA was published in August 2024, California's petroleum sector has grown more volatile, with rapid exits. Therefore, one might wish to approach the menu of options below with a degree of care, being mindful of the broader system impacts of any one action.

A. Expanding the Supply Pool: Fuel Specification Reform

The most consequential cluster of options in the TFA considered whether California's unique gasoline specification, CARBOB, remains the right standard for a market model built increasingly around finished-product imports rather than in-state refining.

CARBOB was designed for a self-contained refining system. Applied to an import model, it functions as a barrier: only a handful of certified foreign refineries – primarily in India and South Korea – can produce it. If those refineries are themselves stressed by geopolitical turmoil, as the current Strait of Hormuz hostilities highlight, the CARBOB requirement makes the resultant supply shock harder to manage. While similar refinery closures have been happening on the U.S.'s East Coast, moving PADD 1 into an import-dependent model, it is notable that those eastern states can draw upon a wide global market for finished product.[53] When California faces a disruption, it works a short list of certified suppliers.

Three TFA options address this:

1) *E15*[54] — Increasing ethanol content in CARBOB from 10% to 15% (E15) to effectively augment the supply pool. The TFA estimates E15 could add up to 40 thousand barrels per day, roughly a 5% supply increase. Last year, the Legislature passed an urgency statute – AB 30 (Alvarez, Chapter 247, Statutes of 2025) – to make E15 available statewide. In November 2025, the California Air Resources Board (CARB) updated its reformulated gasoline regulations to allow E15 to be legally sold for use as a transportation fuel, with requirements for specific retailer labeling and other documentation.[55] It is the Committee's understanding that implementation is currently in the hands of the Office of the State Fire Marshall which is undergoing vapor barrier testing for E15 blends at existing gas station pumps.

2) *Non-CARBOB Fee-Based Allowance*[56] – This option would allow non-CARBOB gasoline to enter the California market during a price spike or in anticipation of one, with a fee generating revenue for air quality improvement programs in affected communities. The TFA notes approximately 1,200 thousand barrels of non-CARBOB gasoline are already present in California refineries at any given time, and 100–130 thousand barrels of non-CARBOB production is ongoing in-state daily. A fee-based structure, where the fuel importer pays an additional fee to bring in the non-CARBOB, seeks to address the environmental tension: it discourages unnecessary use of lower-spec fuel while funding air quality offsets in the communities most exposed to the trade-off. The Union of Concerned Scientists have developed an analytical framework for how this kind of offset could work in practice.[57] They find that voluntary use of conventional U.S. gasoline in exchange for a 25 cents per gallon mitigation program supporting vehicle retirement would result in an overall decrease in pollution.

3) A*lignment of Gasoline Specifications for Western States*[58] – this option would establish a unified fuel specification across California, Nevada, and Arizona, in order to expand the effective import market and increase competition. The core supply benefit is that identical specifications across states could shorten import timelines and reduce supply shock effects in California, while providing opportunities for increased competition. The TFA is candid about the tradeoffs: getting multi-state agreement would likely be time consuming, and there's a heightened potential for a compromise blend to result in less stringent air quality standards for California.

However, all these points raise the potential for a broader discussion of CARBOB's benefits today. As noted in supplemental materials provided by Paul Machiele, of Fuel Policy Advisors, CARBOB specification reduced volatile organic compounds by 27% and NOx by ~6% compared to conventional gasoline when it was adopted. This has been an important public health gain. But the benefits of CARBOB have diminished since the 1990s: federal Tier 3 standards (effective 2017) brought national sulfur levels to 10 ppm – nearly matching

[53] PADD 1 also benefits from the huge volume of flows coming from the U.S. Gulf via the colonial pipeline and the close proximity to European refinery maritime shipments.
[54] Pg. 63, Gee and Berliner and Wong. *2024 TFA, Ibid.*
[55] https://ww2.arb.ca.gov/resources/fact-sheets/ab-30-frequently-asked-questions
[56] Pg. 65, Gee and Berliner and Wong. *2024 TFA, Ibid.*
[57] Jeremy Martin and Georgia Klein, *Fuel flexibility + cleaner cars*, Union of Concerned Scientists, March 2026;
https://files.ucs.org/2026/fuel-flexibility-mitigation.pdf
[58] pg. 67, Gee and Berliner and Wong. *2024 TFA, Ibid.*

California's ~6 ppm average – and modern vehicles with advanced emissions controls are far less sensitive to small changes in fuel properties than the fleet that the original CARBOB specs were designed for.

However, a complete overhaul of CARBOB would be quite a departure of California's current market trajectory. An abrupt relaxation of standards could disrupt refinery economics in ways that accelerate disorderly exit from the California market. Moreover, to actually do the rigorous work CARB normally requires to update fuel specifications[59] would likely to take years. However, as the writing on the mid-transition has raised: the window for deliberate action is narrow; once the market has restructure around a new supply model the leverage to shape it on favorable terms is largely gone. In other words, California may not be able to wait for the time it takes to evaluate a complete CARBOB overhaul.

B. Building the Buffer: A Strategic Storage Reserve

California's shift from a domestic refining model to a finished-product import model has eliminated the inventory cushion that refineries once provided. Domestic refineries could draw on stored crude and adjust production; import terminals generally cannot. The TFA identifies a range of storage options that, taken together, amount to a case for a California strategic reserve for finished petroleum products.

Three mechanisms are posed:

1) *Refiner and Terminal Stock Minimums*[60] -- Requiring refiners to maintain contingency reserves and allowing temporary release during supply shocks. Already partially implemented through AB X2-1 (Hart, Chapter 1, Statutes of 2024 Extraordinary Session), the CEC has temporarily paused regulatory development of the policy.[61] But the current draft minimums were calibrated for domestic refinery turnaround cycles, not the six-week import lead times that now define the refined fuels market.

2) *Leasing Non-Operating Storage at Closed Refineries*[62] – The recent closures of Phillips 66 Wilmington and Valero Benicia refineries have opened up storage infrastructure that could be leased for reserve purposes. For these facilities there is little new construction required, existing logistics pathways would be intact. The TFA estimates this could provide several hundred thousand barrels of buffer. Key complications include seasonal management of the gasoline specifications and competition from renewable fuels operations at some converted facilities. This option is particularly timely given that the Benicia and Wilmington facilities are newly available, and are both being operated as terminals, at least in the short-term.

3) *State-Owned Product Reserve*[63] – the proposal contemplates state-owned reserves in Northern and Southern California, sized for realistic 30-to-45-day disruption scenarios, with state-controlled release protocols that prevent the industry from treating the reserve as a crutch. This is analogous to how other countries manage strategic petroleum reserves (SPR), adapted for finished products rather than crude. The federal SPR covers crude only; there is no equivalent for the finished CARBOB California needs. The TFA notes a 2002 CEC study on product reserves that would need updating for current market conditions.

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[59] they would likely need to carry out a test program on modern vehicles, evaluate the efficacy of all 8 fuel property emissions measurements, build emissions models based on those findings, and fold that into air quality monitoring

[60] Pg. 60, Gee and Berliner and Wong. *2024 TFA, Ibid.*

[61] Alejandro Lazo, "California passed a law to curb spikes in gas prices. Why isn't it using those powers now?" *CalMatters*, March 13, 2026.

[62] Pg. 61, Gee and Berliner and Wong. *2024 TFA, Ibid.*

[63] Pg. 62, Gee and Berliner and Wong. *2024 TFA, Ibid.*

These three options exist on a spectrum of cost, speed, and control. And they all have their tradeoffs. However, leaving supply conditions solely to the market to manage has not proven to be the most cost-effective and stable for consumers in the past.

C. Securing Supply: A Formal Import Strategy

The TFA identifies many import mechanisms. The most realistic for the shorter-term horizon (2-5 years) this hearing is focused on is term contracts with qualified CARBOB suppliers.[64] California could develop formal, long-term supply relationships with overseas CARBOB refiners – primarily India and South Korean refiners – to bring regular cargo shipments that provide a baseline above expected domestic production. This is sometimes called the "Hawaii model": heavily import-dependent but managed through structured commercial relationships rather than spot-market improvisation. The TFA estimates one-to-two ships per week would provide meaningful supply cushion as domestic refining capacity declines. This is a transition-focused option that requires a state entity with the authority and capacity to develop and maintain supplier relationships — which, as discussed below, does not currently exist.

D. A Note on the Broader TFA Menu

Beyond the three categories above, the TFA examines additional categories worth acknowledging briefly. On the demand side, accelerated zero-emission vehicle (ZEV) access and vehicle-miles-traveled reduction strategies reduce California's overall supply exposure over time. These are genuine long-term tools but not supply-side fixes in a short, emergency time window. However, nothing led to as much demand destruction as the global COVID-19 pandemic. One strategy the state could consider developing is modest efforts to encourage work-from-home policies to enable managed reductions in fuel demand without the abrupt declines experienced during the pandemic.

IV. THE POLICY MENU: NEW INSIGHTS FROM TRANSITION PLANNING

As noted above, on Friday, May 1, two major CEC reports were released: 1) the draft Transportation Fuels Transition Plan (TFTP), which lays out a near-to-medium-term supply reliability roadmap,[65] and 2) the draft Senate Bill 237 Assessment, which makes the case that California is now in a "mid-transition" and that the choices made now will determine who bears the costs of getting to the other side.[66]

A. The Transportation Fuels Transition Plan (TFTP)

Developed jointly by CARB and the CEC under SBX1-2, the draft TFTP outlines a managed framework for reducing California’s reliance on fossil transportation fuels through the 2040s. It projects declining gasoline and diesel demand from ZEV adoption and low-carbon fuel policies, and highlights the current structural risk California is already experiencing: vehicle fleet turnover is gradual, but refinery closures create abrupt supply shifts that could cause volatility. In response, the TFTP proposes a range of strategies across three areas: regional and local planning, demand reduction, and supply stabilization, as shown in Figure 4. The plan picks up many of the recommendations from the 2024 TFA, and positions fuel system change as a governance and coordination problem, not just a market outcome. The TFTP also

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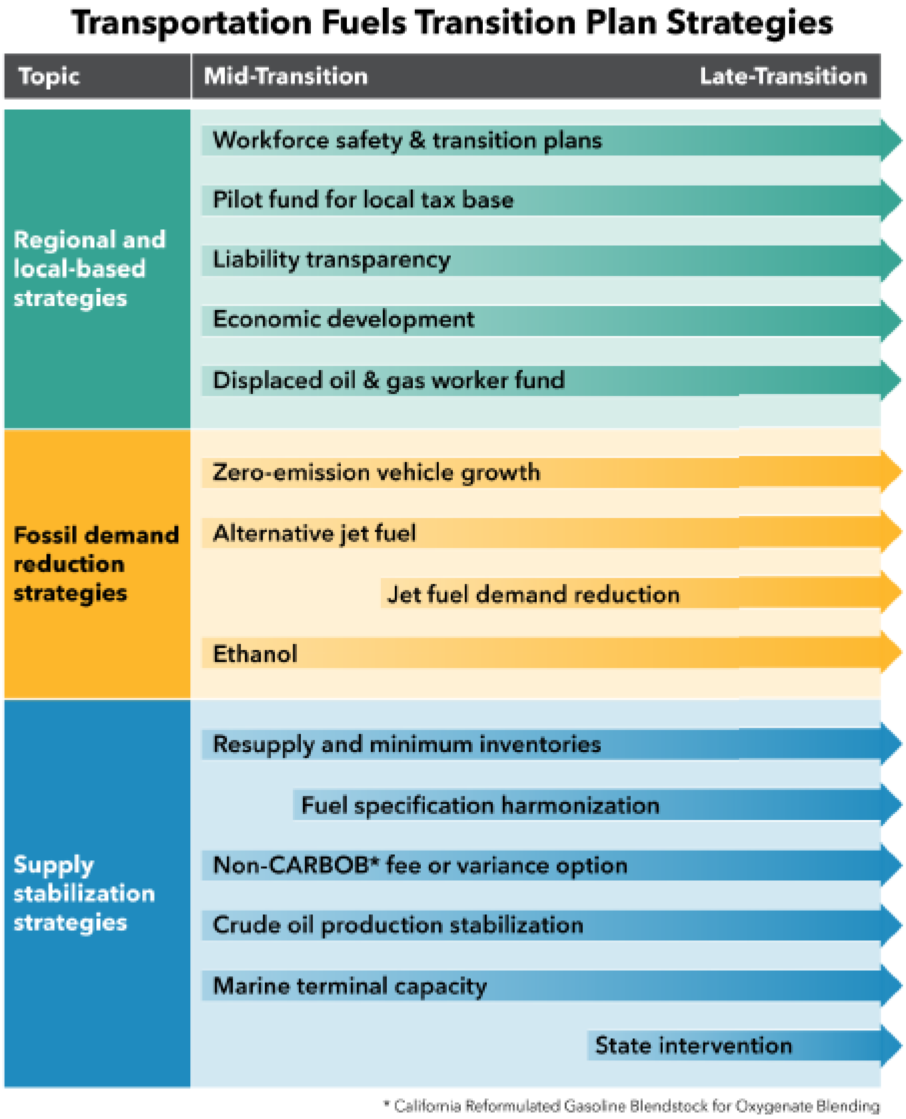
[64] Pg. 69, Gee and Berliner and Wong. *2024 TFA, Ibid.*

[65] California Energy Commission and California Air Resources Board. *Draft California Transportation Fuels Transition Plan*. May 1, 2026. https://efiling.energy.ca.gov/GetDocument.aspx?tn=269790-1&DocumentContentId=106928

[66] Keates, Theresa and Quentin Gee. 2026. *Senate Bill 237 Assessment: Supporting the Transition Away from Petroleum Fuels.* California Energy Commission. Publication Number: CEC-200-2026-007-LCD. https://efiling.energy.ca.gov/GetDocument.aspx?tn=269793&DocumentContentId=106933

highlights comparable transitions in Europe and Australia through which to view its strategies.

Figure 4. TFTP Strategies listed by topic area and approximate time horizon.[67]



B. The Senate Bill 237 Assessment

Prepared by the CEC under a mandate, as the name suggests, from SB 237 (Grayson, Chapter 118, Statutes of 2025), the Draft 237 Assessment evaluates how to manage California's petroleum fuels transition by organizing its analysis around a three-part governance framework (i.e., the "buckets"): reactive stabilization to address immediate supply disruptions, systemwide measures to sustain reliability through transparency and investment confidence, and proactive long-term governance covering workforce transitions, community impacts, infrastructure decommission, and land remediation. The assessment finds California has made meaningful progress through more oversight and coordination but identifies a significant governance gap in the third bucket, where the state lacks adequate tools for managing the timing of refinery exists, ensuring operator financial accountability for cleanup, and supporting displaced workers and fenceline communities. Like the TFTP, the 237 Assessment frames the mid-transition not as a market process to be monitored, but as a governance challenge requiring deliberate, simultaneous action on both the declining fossil

[67] Pg. 59, CEC-CARB, *Draft TFTP, Ibid.*

system and the emerging clean one, arguing that proactive planning is cheaper and more protective than repeated crisis response.

Both documents share a core argument: that California's petroleum transition requires active governance rather than passive market management. The TFTP is primarily a planning document, oriented toward the 2030s and 2040s, while the SB 237 Assessment is more diagnostic, evaluating what governance tools exist now and where the gaps are. Together they reveal a structural tension that neither fully resolves: the state is trying to simultaneously stabilize a declining private infrastructure system it does not own, accelerate its replacement,[68] and protect the communities caught between the two – all without a clear mechanism to coordinate the timing of private exit decisions. These documents evoke some longer-term considerations that are worth highlighting, even if not the focus of this hearing.

V. LONGER-TERM CONSIDERATIONS

A. The Governance Question.

The problem the TFTP and 237 Assessment circle without fully naming is one of governance. Currently, the state agencies seem to all be competently doing their own job, with few doing the state's job. The CEC plans but cannot direct supply or vehicle decisions; CARB controls fuel specifications and has robust statutory goals, but modest supply planning mandates; the Public Utilities Commission regulates common carrier oil pipeline costs but not much else in the petroleum market; the Division of Petroleum Market Oversight monitors the oil sector for market manipulation and potential price gouging; the state Lands Commission, local air districts, and Coastal Commission hold permitting authorities over refineries, terminals and port expansions; the Water Board has a role in refinery reporting obligations and water usage.[69] With the petroleum market touching on so many jurisdictions, it may prove hard for the state to have a uniform, coordinated strategy without clearly articulating a designated lead authority.

This governance problem, however, seems to have been addressed over 50 years ago in California's landmark 1974 Warren-Alquist Act.[70] The Act names the CEC as the entity that "shall carry out studies to determine if potential serious shortages of…other sources of energy are likely to occur and shall make recommendations…required to avert possible energy supply emergencies or serious fuel shortages." The Act goes on to note the CEC is empowered "to grant authority to specific governmental agencies or officers to take actions in the event of a sudden energy shortage, and to clarify and coordinate existing responsibilities for energy emergency actions."[71] This statute seems to suggest the CEC is the designated lead entity for these deliberations, which is in line with Governor Newsom's April 21, 2025, letter to CEC Vice Chair Siva Gunda directing him as "my Administration's lead representative on [the transportation fuels] issue."[72] However, further legislative and administrative clarity designating the CEC as lead authority with a clear mission, cross-agency coordination power, and decisionmaking autonomy, is necessary, especially in times not in declared emergencies. It is important to do so before the absence of such an entity produces the kind of unmanaged governance that both the TFTP and 237 Assessment warn against but neither document is empowered to prevent.

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[68] perhaps not explicitly but is in all the modeled scenarios of the impact of our climate goals

[69] See the Senate Environmental Quality Committee's extensive discussion on this point in the February 18, 2026 hearing, *Environmental Impacts of and Considerations for Refinery Closures.* https://senv.senate.ca.gov/system/files/2026-02/refinery-considerations-background.pdf

[70] Public Resources Code Division 15, §§ 25000-25997.7

[71] Public Resources Code § 25704

[72] https://cdn.kqed.org/wp-content/uploads/sites/10/2025/04/GovNewsomLetterCECGunda.pdf

B. The Destination Question.

The question neither document fully answers in one of destination. If the ZEV mandates have materially reduced gasoline demand by 2035, what does California's residual liquid fuels system look like? How large, who supplies it, who is responsible for its reliability? Without a clear answer to these questions, even well-designed individual reforms face the same implementation problem: agencies understandably optimize to their own mandates, coordination remains voluntary and episodic, and the system lurches from crisis to crisis, rather than moving along a planned arc. A pathway could be: in 1 year, commission an updated PADD 5 supply study, designate a lead agency, and open a CARB rulemaking on CARBOB harmonization; in 2 years, complete import infrastructure needs and cross-agency memoranda of understandings; in 3 years, permit needed terminal and storage construction; and set 2035 as the checkpoint at which the transition can be assessed. But any pathway only has traction if the destination is politically owned, not just analytically described. California has demonstrated its ability to build complex energy systems when it commits to a vision. What the TFTP gestures toward, without quite delivering, is the same quality of commitment in not just building something new but to retiring something old with care.

VI. CONCLUSION

The Iran war did not create California's fuel supply vulnerabilities. The structural conditions that make California exposed today – the narrowing refinery base, the specification-locked import dependence, the (seemingly) fragmented governance – were years in the making, and will not be resolved easily. What the current crisis has done is made vivid the cost of deferring decisions that were already overdue. The two CEC reports released on Friday (May 1) are the most serious analytical framework California has yet assembled for managing this transition, and they point toward the same conclusion: the choice is not between managing the transition and letting the market manage it. But between managing it deliberately and managing it badly. The nearer-term options to be discussed before the committee – fuel specification reform, strategic storage, import agreements – are not alternatives to a long-term vision, they are the foundation of one.

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