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California State Assembly

PETROLEUM AND GASOLINE SUPPLY



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Wednesday, September 18, 2024
1:00 p.m. – 1021 O Street, Room 1100

INFORMATIONAL HEARING

California's Petroleum Economy: The Current Market and the Future Fuels Transition Plan

California has ambitious greenhouse gas (GHG) reduction targets to facilitate emissions reductions across virtually every sector and region. These targets were last updated by Assembly Bill 1279 (Muratsuchi, Chapter 337, Statutes of 2022), which established a statewide net neutrality goal and increased the GHG reduction requirement to at least 85% below 1990 levels by 2045, surpassing the interim goal of 40% reductions below 1990 levels by 2030 (Senate Bill 32, Pavley, Chapter 249, Statutes of 2016).

The California Air Resources Board (CARB) through its Scoping Plan lays out a sector-by-sector roadmap to achieve these targets. The 2022 Plan was the first to outline how carbon neutrality can be achieved, although it has faced criticism for its lack of strategy.¹ As part of the 2022 Plan, CARB noted “to achieve California’s air quality and climate goals, we must end our dependence on petroleum.”² The Plan then assumes phasedowns in both oil and gas extraction as well as petroleum refining in line with the anticipated reduction in finished petroleum demand.

Gasoline demand in California peaked in 2005, and is expected to decline markedly over the next two decades.³ This downward trend is driven by the state’s decarbonization strategies to increase zero-emission vehicles on the road, prohibit sales of internal combustion engines,⁴ and encourage more transit-oriented, dense development. Under such assumptions and demand projections, CARB finds in its 2022 Plan a reduction of approximately 85% refining

¹ Legislative Analyst’s Office, *Assessing California’s Climate Policies: The 2022 Scoping Plan Update*, January 4, 2023. <https://www.lao.ca.gov/Publications/Report/4656>

² Pg. 100, CARB, *2022 Scoping Plan for Achieving Carbon Neutrality*, December 2022.

³ Pg. 1, CEC, *Transportation Fuels Assessment*, August 2024; CEC-200-2024-003-CMF.

⁴ Governor Gavin Newsom, EO N-79-20; <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>

emissions in 2045 relative to 2022 levels, and notes more reductions may be achieved through carbon capture technologies.⁵

Yet even under the most aggressive scenarios put forward by the California Energy Commission (CEC), millions of petroleum-fueled vehicles are anticipated to remain on California's roads beyond 2035 and will need fuel to operate.⁶ Demand, while declining, is not going away. CARB acknowledges this, noting in the 2022 Plan that "the modeling indicates that demand for petroleum will persist through 2045."⁷ Moreover, many of the petroleum-fueled vehicles that remain will likely be owned by individuals and families unable to access newer or cleaner options. Ensuring gasoline is available, affordable, reliable, and equitable will be critical as the state makes its transition over the coming decades.

This effort will be challenging. Especially so in California, where its petroleum industry is already concentrated. The petroleum refining industry has relatively few market participants due to high fixed costs and other barriers to entry. In California, the required formulation of gasoline alongside other policies seems to have concentrated the market further. According to the CEC, in Northern California, a single refinery outage would represent up to a 45% reduction of regional refining capacity; in Southern California, the same scenario would reduce capacity by 35%.⁸ In addition, while connected geographically to other states, California's fuels market is relatively isolated. Supply of these fuels is constrained to in-state refining of crude and marine imports of refined products. As demand is anticipated to fall over the next decades, supply is likely to adjust to match it; a traditionally bumpy process. Currently, most of the State's consumed gasoline is refined in state, with a limited portion imported.⁹ However, as demand continues to decline, the market is likely to further thin leading to less in-state capacity and more reliance on imports. If thinned, a market mismatch – as might occur with a system outage – would have greater consequences, such as enhanced price volatility. Such a scenario is likely to result in a market more sensitive to events that historically were absorbable, given the dearth of participants in the system.

Today's informational hearing will lay the groundwork for discussions around these potential trends in California's transportation fuels market. The focus will be on understanding the basics of the petroleum market as it stands today, and what makes California's market unique. The hearing will provide an overview of the petroleum supply chain from crude entering the refinery to finished gasoline at the pump. In addition, the hearing will provide an overview of California's fuel decarbonization strategy and transition plan. This hearing is the first of two hearings examining California's transportation fuels market. The second hearing will build upon this foundation and provide insight into what currently impacts supply of transportation fuels, what is anticipated to impact future supply, and how to manage the market to withstand these impacts.

A Production Overview. Gasoline begins its journey to consumers as crude oil at petroleum refineries and then moves through stages of refining, transport, storage, and blending until final delivery to retail fueling stations. The inputs into the system could be imported or

⁵ Pg. 106, *Ibid.*

⁶ Pg. 1, 2024 *Transportation Fuels Assessment, Ibid.*

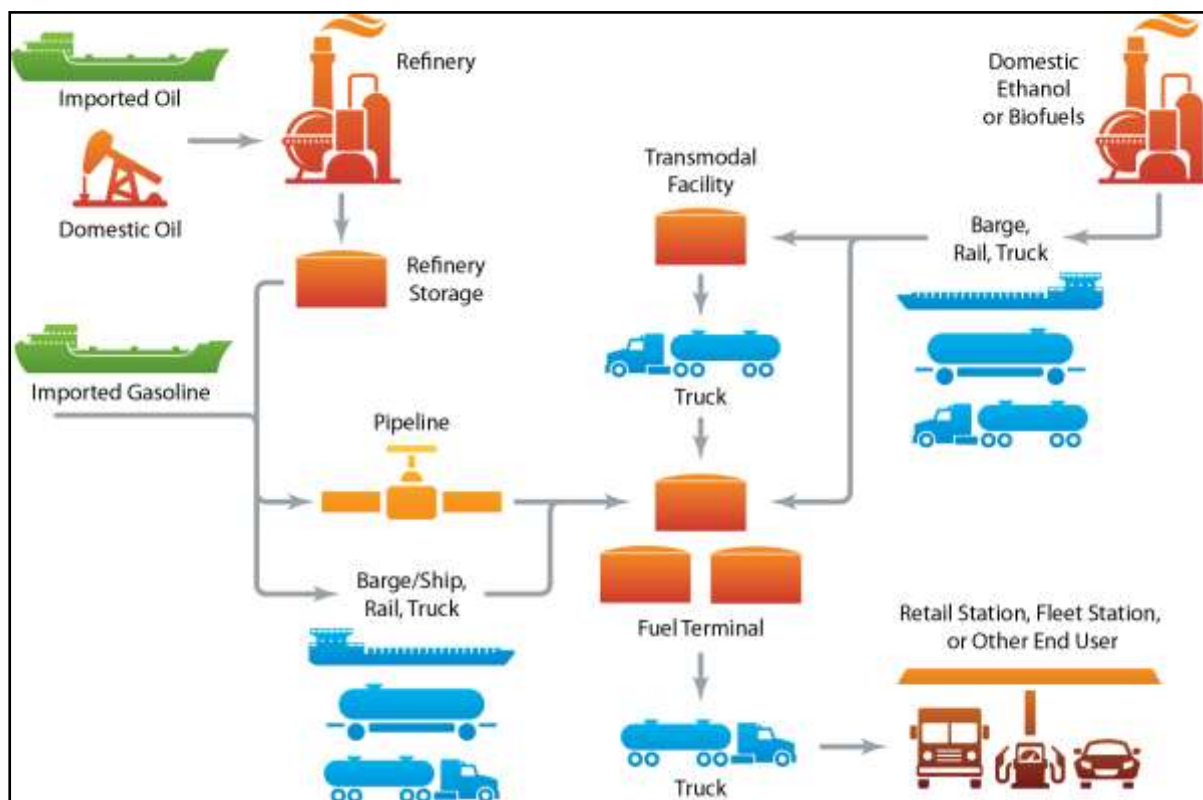
⁷ Pg. 108, 2002 *Scoping Plan, Ibid.*

⁸ Pg. 3, 2024 *Transportation Fuels Assessment, Ibid.*

⁹ Pg. 6, 2024 *Transportation Fuels Assessment, Ibid.*

domestic crude; or, when refinery operations are down, imported finished gasoline. The refined or imported product then travels along various transit – pipeline, barge, ship, rail or truck – before reaching fuel terminals and eventually the end consumer, as depicted in Figure 1 below.

Figure 1 - Well to Wheel production, refining, and distribution of gasoline.¹⁰



Origin of California’s Crude Oil. Crude oil is the raw material that is refined into various transportation fuels – from gasoline, diesel, and jet fuel – as well as residual products. More than two-thirds of the crude oil processed in California’s refineries comes from out of state, with 59% sourced from outside of the U.S.¹¹ Fluctuations in the cost of crude oil make California’s gasoline prices vulnerable to global disruptions, including supply chains or geopolitical instability. Currently, Russia’s invasion of Ukraine is causing crude oil prices to increase and remain volatile. Gasoline prices are highly sensitive, so any shift in supply and demand changes what you pay at the pump. Crude oil production in California has decreased in recent decades from a peak of 402.23 million barrels in 1986 (accounting for 59.4% of California’s refining output) to 135.15 million barrels in 2022 (25.9% of refining output), leading to increased dependence on crude oil imports from around the globe. Three countries (Ecuador, Saudi Arabia, and Iraq) accounted for approximately 50% of California’s crude oil imports in 2021.¹²

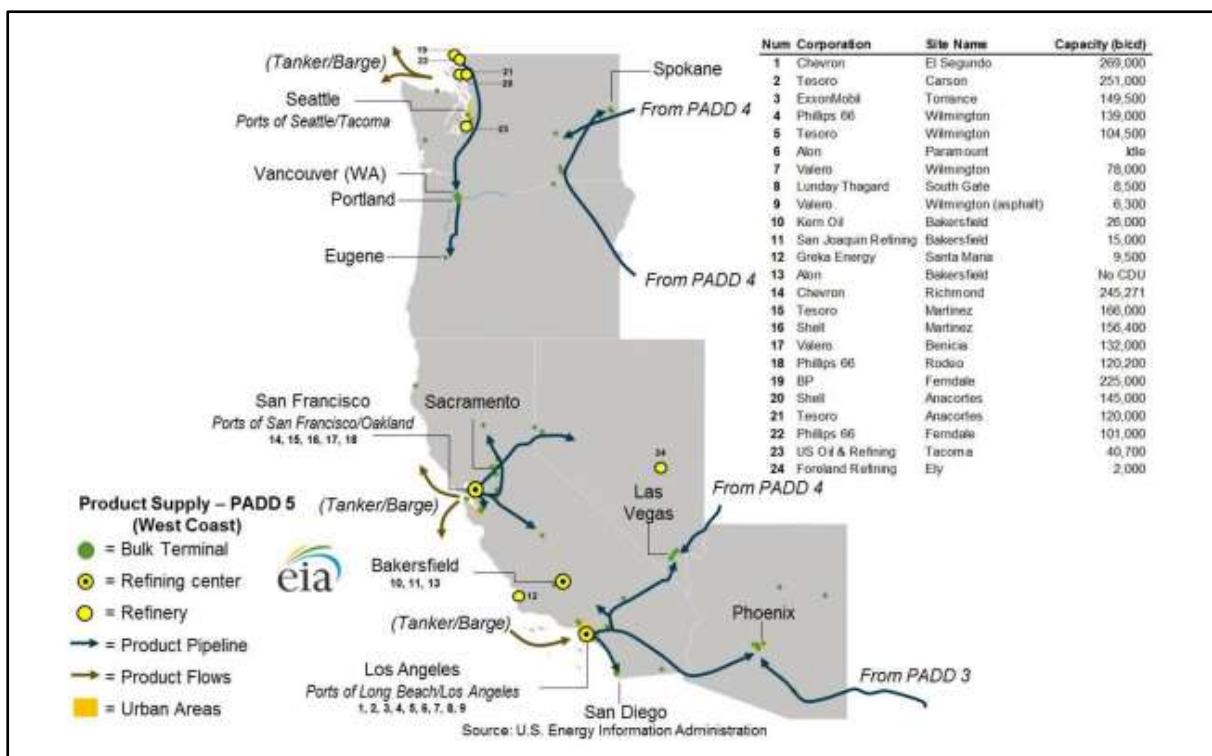
¹⁰ Dean Armstrong, National Renewable Energy Laboratory

¹¹ CEC; “Oil Supply Sources To California Refineries”; <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/oil-supply-sources-california-refineries>

¹² CEC; “Foreign Sources of Crude Oil Imports to California 2021”; <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/foreign-sources-crude-oil-imports-2>

Refining Crude Oil into Gasoline. California has 9 refineries that refine crude oil into gasoline fuel;¹³ the majority are located in and around the South Bay region in the Los Angeles Basin, some in the East Bay region of the Bay Area, and the smallest by volume produced is located in Bakersfield. These refiners produce transportation fuels, including the specially formulated gasoline that meets California’s air quality standards, known as California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB) gasoline. The CARBOB specifications are unique to California; therefore, gasoline used in neighboring states generally does not meet CARBOB specification and cannot be used as a substitute source of our supply. The state’s refineries process over 1.6 million barrels of crude oil per day for use in California (88%) or export (to other states as well as internationally, 12% combined). In 2021, California was the seventh-largest producer of crude oil among the 50 states, third-largest in crude oil refining capacity,¹⁴ and the second-largest consumer of motor gasoline.¹⁵ In addition to being isolated through the exclusive use of CARBOB, California’s gasoline fuels market is geographically isolated from other locations in the U.S. that produce refined fuel products, as shown in Figure 2.

Figure 2 - Western Refineries and Product Flows (in 2015).¹⁶ *Note: as of 2024, seven of the listed California refineries do not produce CARBOB gasoline, while two have since combined with other facilities, leading to the 9 total refineries often referenced.*¹⁷



¹³ As of March 2024; pg. 2; 2024 *Transportation Fuels Assessment*, *Ibid*.

¹⁴ as of January 2021

¹⁵ U.S. Energy Information Administration; “California State Energy Profile”;

<https://www.eia.gov/state/print.php?sid=CA>

¹⁶ U.S. Energy Information Administration, *West Coast Transportation Fuels Markets*, September 2015;

https://www.eia.gov/analysis/transportationfuels/padd5/pdf/transportation_fuels.pdf

¹⁷ <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries>

The relatively small number of California refineries makes our system vulnerable to unexpected disruptions. As shown in Figure 2, California’s oil refineries and fuel distribution centers are isolated by time and distance from resupply sources. There are no pipelines that ship finished gasoline products *into* California. While there are pipelines that connect California to other adjacent states, these pipelines only ship gasoline products *out* of California. As a result, refinery outages can more dramatically impact our supply and pricing. This was the case after the unexpected outage in February 2015 at the then-Exxon Mobil Torrance Refinery which was due to an explosion of the facility. The extended shutdown of the Torrance refinery, in combination with an earlier shutdown at the Tesoro Golden Eagle refinery, took 17.5% of California oil processing capacity offline, severely constraining gasoline supply. Gasoline prices were immediately affected, jumping substantially within days of the explosion and subsequent shutdown.¹⁸ The gross profits of California’s refineries rose in the first six months of 2015 to \$0.88 per gallon of gasoline, relative to the 15-year average of \$0.49 per gallon.¹⁹

Because the state’s refined gasoline market is nearly self-sufficient (imported gasoline and blending components account for only 3% to 7% of supply), supplies of gasoline and diesel fuel from outside the state are not routinely needed to balance supply with demand.²⁰ When unexpected supply disruptions occur, it can be difficult to find immediate alternative sources of supply due to California’s stringent CARBOB specifications and relative geographic isolation. The market frequently turns to imports brought in by ship to make up shortfalls, however, those can take 3 to 4 weeks to arrive in California.

Refining Going Forward. The bottleneck effect of the small number of California refineries adding vulnerability to our gasoline market remains concerning, particularly in the context of the increased adoption of electric vehicles and California’s stated goal of phasing out gasoline vehicles by 2035.^{21,22} These trends are expected to shrink the gasoline market, with a range of potential outcomes to the refining industry. As shown in Figure 3, California retail sales of gasoline have been declining over the last decade.

This declining demand may lead refineries to transition to refining renewable fuels, as was the case with the Marathon Martinez refinery in 2020²³ and more recently with Phillips 66 Rodeo in 2024, which converted from producing gasoline to refining renewable diesel.²⁴ However, the extent of this transition across the industry may be limited by the supply of suitable feedstocks to produce renewable fuels. The anticipated reduction in the California

¹⁸ Los Angeles Times; “Gas prices jump after Torrance refinery explosion”; February 2015; <https://www.latimes.com/local/lanow/la-me-ln-portion-of-refinery-ordered-to-shut-down-20150219-story.html>

¹⁹ Los Angeles Times; “California oil refineries’ gross profits nearly double in 2015”; July 2015; <https://www.latimes.com/business/la-fi-gas-profits-20150722-story.html>

²⁰ CEC; “What Drives California’s Gasoline Prices?”; <https://www.energy.ca.gov/data-reports/energy-insights/what-drives-californias-gasoline-prices>

²¹ Los Angeles Times; “Editorial: California electric car sales are zooming. Too bad they’re mostly Teslas”; January 2023; <https://www.latimes.com/opinion/story/2023-01-29/electric-vehicle-sales-tesla-equity#:~:text=They%20show%20that%2018.8%25%20of,sales%20in%20just%20two%20years.>

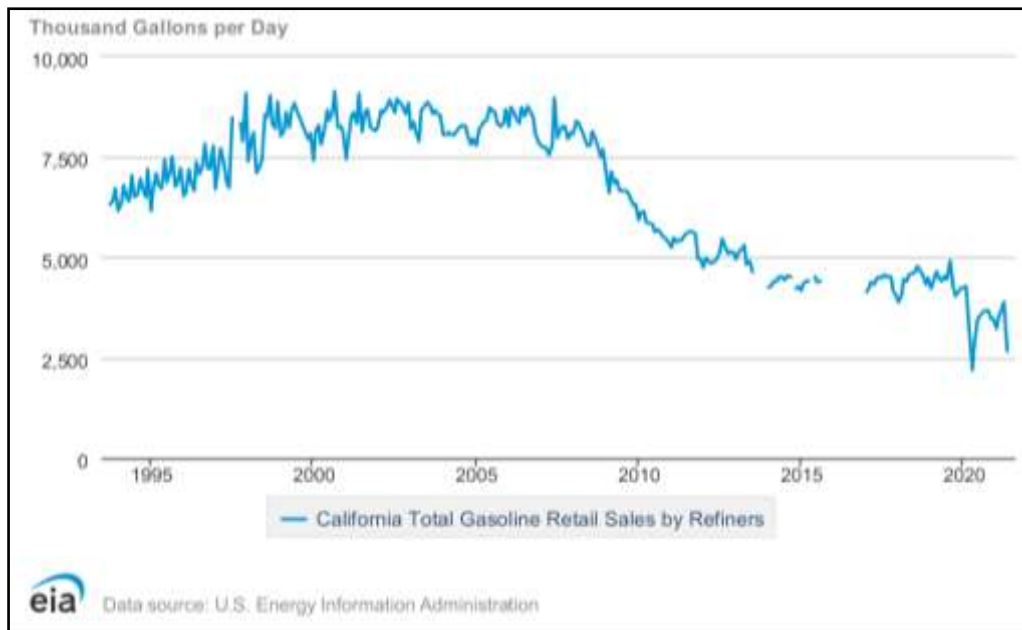
²² CARB; “California moves to accelerate to 100% new zero-emission vehicle sales by 2035”; August 2022; <https://ww2.arb.ca.gov/news/california-moves-accelerate-100-new-zero-emission-vehicle-sales-2035>

²³ Reuters; “Marathon partners with Neste on Martinez renewable fuels project”; March 2022; <https://www.reuters.com/business/sustainable-business/marathon-petroleum-partners-with-neste-martinez-renewable-fuels-project-2022-03-01/>

²⁴ Pg. 14, 2024 *Transportation Fuels Assessment*, *Ibid*

gasoline market may also lead refiners to change their business practices, potentially foregoing production upgrades or cutting costs where possible at the expense of production, similar to a driver that delays maintenance on an older car in anticipation of replacing the car entirely in the near future.²⁵ The most extreme response would be for some refineries, in the face of an evaporating market, to shutter altogether, though the profitability of the California fuels market suggests that is unlikely in the short-term.

Figure 3 - California Total Gasoline Retail Sales by Refiners (1993-2022).²⁶ *Note: Total sales to end users includes sales through retail outlets as well as all direct sales to end users that were not made through company-operated retail outlets, e.g., sales to agricultural customers, commercial sales, and industrial sales.*



Distribution and Retail Sales. After it is refined, base gasoline is distributed via pipelines, ships, and barges to distribution terminals located in and around major metropolitan areas. Distribution terminals have large storage tanks that hold gasoline, with each tank containing base fuels from many different refineries and oil companies, meaning all gasoline in the tank is the same at this point. Gasoline is delivered to service stations by tanker trucks that can hold up to 10,000 gallons of fuel. When the tanker truck is filled at the distribution terminal, a specific fuel additive package may blend with the base gasoline, changing the generic base gasoline into a branded product, though whether branded gasoline constitutes a functionally different product has been questioned by the CEC.^{27,28,29} The branded wholesale gasoline

²⁵ CalMatters; “Who’s to blame for California’s high gas prices?”; October 2022; <https://calmatters.org/commentary/2022/10/whos-to-blame-for-californias-high-gas-prices/>

²⁶ U.S. Energy Information Administration, data release date June 1, 2022. <https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=A103650061&f=M>

²⁷ AAA; “Where Does Gasoline Come From”; <https://www.aaa.com/autorepair/articles/where-does-gasoline-come-from>

²⁸ Branded and unbranded gasoline: branded gasoline refers to fuel that is sold under a brand name (such as BP, Shell, Exxon, Chevron, and Valero), and will include proprietary fuel additives. Unbranded gasoline is typically sold by single-station retail outlets, small chain retailers, and supermarkets chain stores (such as Costco and Safeway). CEC; “Estimated Gasoline Price Breakdown and Margins”; <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/estimated-gasoline-price-breakdown-and-margins>

²⁹ CEC; “Additional Analysis on Gasoline Prices in California”; October 2019; https://www.energy.ca.gov/sites/default/files/2019-11/Gas_Price_Report.pdf

price is based on the average statewide branded refined "rack" price: the price paid at the point where tanker trucks load their fuel from a distribution terminal's loading rack.³⁰ Most branded franchise retailers purchase gasoline at a delivered price called the "dealer tank wagon" price that is typically higher than the branded rack price. The gasoline is then delivered to fueling stations throughout California for retail sale.

Retailers selling branded gasoline are contractually obligated to purchase from the branded supplier, giving the branded refiner leverage to charge a higher price for gasoline that will likely be passed on to consumers.³¹ Alternatively, if a retailer signs a branded contract that locks in a long-term low price for wholesale gasoline, the retailer may still be incentivized to raise their retail price if the overall average retail price of gasoline rises, increasing their profit margin without risk of losing sales to lower-priced competitors. This restriction to a single brand of wholesale gasoline may introduce artificial scarcity into the market. The system of contracts between gasoline distributors and retailers is complex and highly varied in contract terms and duration, which poses a significant barrier to regulators investigating the impact of the distributor-retailer interface on retail gasoline prices.

Distribution and retail margin, which includes distribution costs, marketing costs, and profits, is an analogous metric to refining margin. It is calculated by subtracting the wholesale gasoline price and taxes from the weekly average retail sales price. Retailers are responsible for covering the costs associated with running many businesses, including rents, wages, utility rates, and equipment maintenance, as well as costs more unique to the retail gasoline sector, including CARB-mandated equipment upgrades, environmental fees, and permitting fees. The average annual distribution and retail margin in California has been above the U.S. average every year since 2011, which may reflect higher operating costs in California as well as any additional profit being collected.³² At the end of the day, the retailers set the price at the pump, and retailers selling a well-regarded brand of gasoline or those operating fueling stations with prime locations may be incentivized to set high prices.³³

Playing the Spot Market. Market participants buy and sell gasoline for physical delivery within a short time frame on "spot markets." These spot markets transactions are referred to as "physical" trades because market participants use them to obtain supplies of actual product. As a result, physical markets are located at or near refinery hubs and the trades consummated on the spot market designate a delivery location and delivery timeframe. Refiners sell gasoline to distributors at a price set by the spot market: an exchange controlled by the five oil refiners that account for 98% of California's gasoline supply, along with a small group of traders. California's gasoline spot market is remarkably opaque. There is no public ledger of trades on the gasoline spot market, only voluntary reports to the Oil Price Information Service (OPIS), an industry news service which publishes only a spot market

³⁰ CEC; "Estimated Gasoline Price Breakdown and Margins"; <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/estimated-gasoline-price-breakdown-and-margins>

³¹ Consumer Watchdog; "Legislation Targets Sky-High CA Gas Prices; Requires Oil Refiners To Disclose How Much They Make On Every Gallon of Gasoline Sold"; March 2022; <https://consumerwatchdog.org/energy/legislation-targets-sky-high-ca-gas-prices-requires-oil-refiners-disclose-how-much-they-make/>

³² Data through 2018; CEC; "Additional Analysis on Gasoline Prices in California"; October 2019; https://www.energy.ca.gov/sites/default/files/2019-11/Gas_Price_Report.pdf

³³ Los Angeles Times; "Why California gas prices are so high and vary so widely: 'Mystery surcharge' and more"; March 2022; <https://www.latimes.com/california/story/2022-03-14/gas-prices-vary-from-place-to-place>

price. There are no requirements to publically disclose trades, the quantity exchanged, the identity of those involved, or even the frequency of trades. This voluntary reporting system means a single reported trade can set the price of all gasoline in the state until the next trade is disclosed.

When the spot price is high, there is no incentive for the industry to report a trade that would immediately reduce the price of gasoline, even as the actual drivers of a price spike – whether global crude oil prices or supply disruptions – subside. This structure and lack of transparency makes the spot market vulnerable to manipulation, as the California attorney general’s (AG) office has alleged in past lawsuits.³⁴ In that suit, the AG claims energy traders manipulated the spot market after the Torrance refinery went offline in 2015. In a more recent example, according to Robert McCullough, an economist who has studied energy markets for decades, the spot price for gasoline didn’t change for two weeks during the gasoline price spikes in 2022, reinforcing concerns that the spot market was being exploited to extend the duration of the price spike.³⁵

Spot market deals in California generally range between 420,000 gallons (10,000 barrels) to 2.1 million gallons (50,000 barrels). The spot market price is the largest component of the price on the wholesale “rack market,” which is typically sold in gasoline truck volumes of about 8,000 gallons (approximately 190 barrels). The price at the rack market is typically reflected in the retail price within a couple of days. According to the CEC, spot market prices are the biggest driver of statewide gasoline prices, even though they represent a small portion of gasoline sales each day. According to OPIS, “Nearly every gallon of gasoline, diesel, and jet fuel sold on the West Coast references OPIS spot prices.”³⁶

Moving Toward a Decarbonized Economy. Transportation fuels include gasoline, diesel, natural gas, electricity, hydrogen, and renewable combustion fuels. Gasoline fuels most of the vehicle miles traveled in California, and gasoline price volatility impacts nearly all Californians through prices at the pump or through the transportation costs of products. Maintaining an overall affordable, reliable, equitable, and safe supply of gasoline during the transition to zero-emission vehicles will be a critical challenge in the coming decades. Like most product prices, gasoline prices should ideally obey the laws of supply and demand. However, for all the reasons noted above, supply dynamics in California’s transportation fuels market may differ from many other markets in the United States.

The 2022 Scoping Plan outlines the various technologies and energy needed to drastically reduce GHG emissions and meet our statewide decarbonization goals. Table 1 below shows the actions highlighted in the 2022 Plan that directly impact the transportation fuels sector, alongside the statewide policies driving this transition.

³⁴ *The People of the State of California v. Vitol Inc.*; Xavier Becerra, et al. “Complaint for Violations of the Cartwright Act and unfair competition law for damages, injunctive relief, civil penalties, and other equitable relief,” filed May 11, 2020, San Francisco County Superior Court.

<https://oag.ca.gov/system/files/attachments/press-docs/CGC-20-584456%20Public%20Complaint%20only.pdf>

³⁵ Los Angeles Times; “Opinion: Who profits from Southern California’s high gas bills? The problem is we don’t know”; March 2023; <https://www.latimes.com/opinion/story/2023-03-13/natural-gas-price-socalgas>

³⁶ OPIS West Coast Spot Market Report. <https://www.opisnet.com/product/pricing/spot/west-coast-spot-market-report/>

Table 1 – Actions for the 2022 Scoping Plan Scenario³⁷

Sector	Action	Statutes, Executive Orders, Outcomes
GHG Emissions Reductions Relative to the SB 32 Target	40% below 1990 levels by 2030	SB 32: Reduce statewide GHG emissions. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory
Smart Growth / Vehicle Miles Traveled (VMT)	VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	SB 375: Reduce demand for fossil transportation fuels and GHGs, and improve air quality. In response to Board direction and EJ Advisory Committee recommendations
Light-duty Vehicle (LDV) Zero Emission Vehicles (ZEVs)	100% of LDV sales are ZEV by 2035	EO N-79-20: Reduce demand for fossil transportation fuels and GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory 2035 target aligns with the EJ Advisory Committee recommendation.
Truck ZEVs	100% of medium-duty (MDV)/HDV sales are ZEV by 2040 (AB 74 University of California Institute of Transportation Studies [ITS] report)	EO N-79-20: Reduce demand for fossil transportation fuels and GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory

³⁷ Table 2-1, pgs.72-80, 2022 Scoping Plan, *Ibid.*

Aviation	<p>20% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045.</p> <p>Sustainable aviation fuel meets most or the rest of the aviation fuel demand that has not already transitioned to hydrogen or batteries</p>	<p>Reduce demand for petroleum aviation fuel and reduce GHGs.</p> <p>AB 197: direct emissions reductions for sources covered by the AB 32 Inventory</p> <p>In response to Governor Newsom’s July 2022 letter to CARB Chair Liane Randolph</p>
Ocean-going Vessels (OGV)	<p>2020 OGV At-Berth regulation fully implemented, with most OGVs utilizing shore power by 2027.</p> <p>25% of OGVs utilize hydrogen fuel cell electric technology by 2045.</p>	<p>Reduce demand for petroleum fuels and GHGs, and improve air quality.</p> <p>AB 197: direct emissions reductions for sources covered by the AB 32 Inventory</p>
Port Operations	<p>100% of cargo handling equipment is zero-emission by 2037.</p> <p>100% of drayage trucks are zero emission by 2035.</p>	<p>Executive Order N-79-20: Reduce demand for petroleum fuels and GHGs, and improve air quality.</p> <p>AB 197: direct emissions reductions for sources covered by the AB 32 Inventory</p>
Freight and Passenger Rail	<p>100% of passenger and other locomotive sales are ZEV by 2030.</p> <p>100% of line haul locomotive sales are ZEV by 2035. Line haul and passenger rail rely primarily on hydrogen fuel cell technology, and others primarily utilize electricity.</p>	<p>Reduce demand for petroleum fuels and GHGs, and improve air quality.</p> <p>AB 197: direct emissions reductions for sources covered by the AB 32 Inventory</p>
Oil and Gas Extraction	Reduce oil and gas extraction operations in line	Reduce GHGs and improve air quality.

	with petroleum demand by 2045.	AB 197: direct emissions reductions for sources covered by the AB 32 Inventory
Petroleum Refining	CCS on majority of operations by 2030, beginning in 2028. Production reduced in line with petroleum demand.	Reduce GHGs and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory
Low Carbon Fuels for Transportation	Biomass supply is used to produce conventional and advanced biofuels, as well as hydrogen.	Reduce demand for petroleum fuel and GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory

Each action, as noted by CARB in the Plan, not only seeks to reduce GHGs but also improve air quality, which primarily means transitioning away from fossil fuel combustion.³⁸ Having a clear, operational strategy in place to transition the transportation fuels sector will be critical in achieving these climate aims.

SBX1-2 (Skinner, Chapter 1, Statutes of 2023). SBX1-2 incorporates several policies to address gasoline supply and pricing. The main elements of the new law are the authority for the CEC to establish a maximum gross refining margin and penalty, enhanced reporting requirements across the entire sector, and the creation of a new Division of Petroleum Market Oversight. In addition, two reports are required in an effort to understand the changing dynamics of California’s transportation fuel sector: a transportation fuels assessment and a transportation fuels transition plan.

- 1) **Transportation Fuels Assessment.** Requires the CEC to submit an assessment to the Legislature by January 1, 2024, and every three years following, which identifies methods to ensure a reliable supply of affordable and safe transportation fuels in California. The Assessment shall include estimates for the level of transportation fuels regionally, statewide, and locally, and provide any proposals it deems appropriate for instituting mandatory reserve levels and the terms of a program to implement reserve levels. The Assessment shall evaluate the price of transportation fuels, and consider market demand at regular intervals, out to 20 years. It shall also include an analysis of refinery maintenance operations, and evaluate ways to manage necessary maintenance among the various facilities. Statute permits a civil penalty to be levied whenever a

³⁸ Pg. 71, 2022 Scoping Plan, *Ibid.*

person fails to timely provide information the CEC deems necessary to conduct the Assessment. [PRC §§ 25371-25371.1]

- 2) ***Transportation Fuels Transition Plan.*** Requires the CEC and the California Air Resources Board (CARB) to prepare a Transportation Fuels Transition Plan by December 31, 2024. The Plan shall include a discussion of how to ensure that the supply of petroleum and alternative transportation fuels is affordable, reliable, equitable, and adequate to meet the demand for those transportation fuels described in CARB’s most current Scoping Plan. The Plan shall identify mechanisms to plan for and monitor progress toward the state’s transition away from petroleum fuels. [PRC § 25371.3]

The distinction between these two documents seems to be that the Fuels Transition Plan will map how to decarbonize our transportation fuel sector, while the Fuels Assessment seeks to ensure the road is as smooth as possible. The contents and findings of the 2024 Transportation Fuels Assessment will be the subject for tomorrow’s hearing. Whereas the contents and findings of the Transportation Fuels Transition Plan, while subject to discussion during this hearing, will be received and discussion more fully at a later date.

Moving Forward. California is in a period of transition in its petroleum market. Supply is tightening, as demand has declined. These trends are unlikely to subside. Rather, more volatility – not less – is likely if the state does not strategize and appropriately plan for smoothing the transition. The passage of SBX1-2 has provided the opportunity for more transparency into the petroleum market, and the potential for better collaboration between the state and industry, market observers, participants, and analysts. However, much work remains. Petroleum has powered our economy for decades, and is likely to remain for decades to come. Moreover, those still reliant on gasoline in the coming decades may be the most vulnerable to its pricing volatility and its climate change impacts. Ensuring gasoline is affordable, reliable, and equitable will be critical as the state makes its transition

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