ENSURING CALIFORNIA'S GASOLINE SECURITY FOR THE 21ST CENTURY

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Introduction

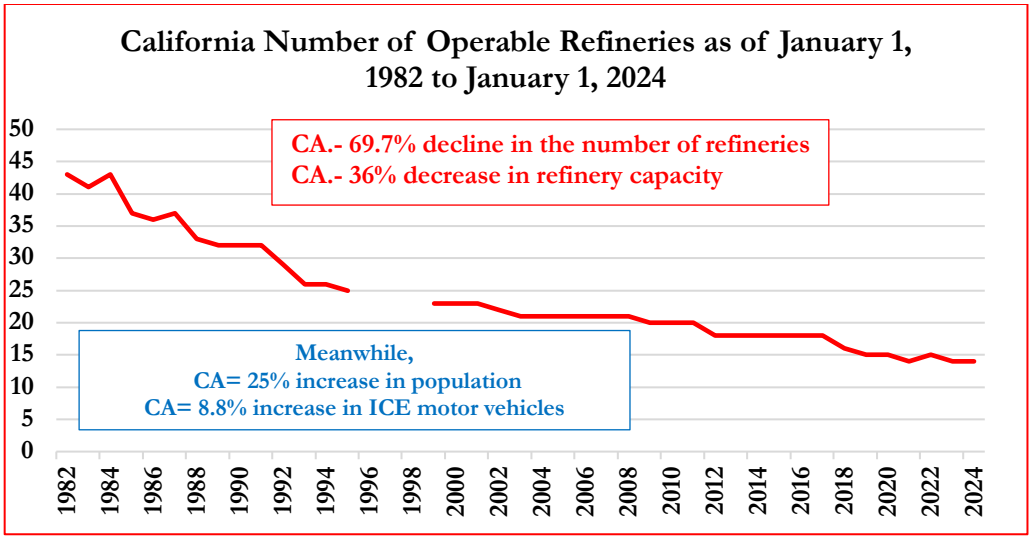
California can ill afford the loss of one refinery, let alone two. The pending shutdown of the Phillips 66 refining complex in Los Angeles will reduce daily refining capacity by 8.9%. The loss, although painful in terms of its impact on consumer prices, is absorbable and the deficit in production and gasoline levels will be compensated by imports of finished fuels from Washington State and perhaps Gulf Coast refineries.

The collective consequence of the pending refinery exits to the Golden State is potentially devastating to California's economic growth and status as the fourth largest economy, in nominal terms, in the world. With the announced shutdown of Valero's Benicia refinery complex accompanied by its $1.1 billion charge-off, California is confronting a potential 21% reduction in collective refining capacity from 2023 to April 2026.

Californians consume over 13.1 million gallons of gasoline a day and the percentage change in California's consumption is highly correlated with that of the overall U.S. (.926). California's oil and gas industry represents around 8% of its GDP and annual percent changes in California's GDP are correlated at .641 to the annual percent changes in gasoline consumption. The major periods of variation occurred during the Financial Crisis of 2008 and 2009 and COVID in 2019 to 2021. California's mandatory restrictions during COVID were the second longest in the nation; however, the "V" shaped rebound from COVID was also one of the fastest. Consequently, significant stress was placed on gasoline supplies.

Over the course of 40-plus years, the number of California oil refineries has dropped considerably.

Exhibit 1.0



Multiple models indicate that the shutdown of the two California-based refineries could possibly place the Golden State in a precarious economic situation and create a gasoline deficit potentially ranging from **6.6 million to 13.1 million** gallons a day, as defined by the shortfall between consumption and production. Reductions in fuel supplies of this magnitude will resonate throughout multiple supply chains affecting production, costs, and prices across many industries such as air travel, food delivery, agricultural production, manufacturing, electrical power generation, distribution, groceries, and healthcare. Additionally, a reduction in gasoline production and related price increases will likely have a dragging effect on the growth of California's GDP, and have a significant impact on the affordability of living in the Golden State, as well as personal and household spending patterns and saving behaviors. The loss of in-state gasoline production will also adversely affect corporate and personal income, sales, and excise tax revenues at a time when California's budget deficit is estimated to be as high as $73 billion, and state and local government debt at $1.6 trillion.

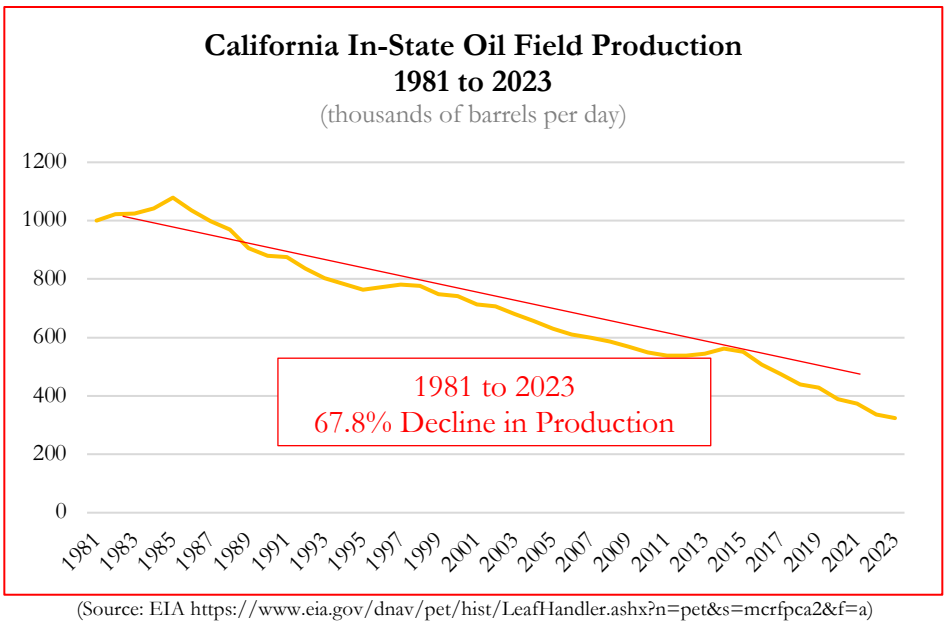
Exhibit 2.0

CA Refinery Capacity- CARB Fuels Only	2023	2024	2025	2026
Marathon Petroleum Corp., Los Angeles Refinery*	363,000	365,000	365,000	365,000
Chevron U.S.A. Inc., El Segundo Refinery	269,000	269,000	269,000	269,000
Chevron U.S.A. Inc., Richmond Refinery	245,271	245,271	245,271	245,271
PBF Energy, Torrance Refinery	160,000	160,000	160,000	160,000
PBF Energy, Martinez Refinery	156,400	156,400	156,400	156,400
Valero Energy, Benicia Refinery	145,000	145,000	145,000	0
Phillips 66, Los Angeles Refinery**	139,000	139,000	100,000	0
Valero Energy, Wilmington Refinery	90,200	85,000	85,000	85,000
Kern Energy, Bakersfield Refinery	85,000	26,000	26,000	26,000
Grand Total-Refinery Capacity- B/D	**1,652,871**	**1,590,671**	**1,551,671**	**1,306,671**
Percentage Change		-3.76%	-2.45%	-15.79%
Gallons Per Barrel = 42	69,420,582.00	66,808,182.00	65,170,182.00	54,880,182.00
Production- Gasoline Conversion Ratio = 49.64%				
49.64%	**34,460,376.90**	**33,163,581.54**	**32,350,478.34**	**27,242,522.34**
Percent Change in Production		-3.76%	-2.45%	-15.79%
Cumulative Percent Change in Refinery Production 2023-2026				-20.95%

Historically, when California needed gasoline to compensate for its in-state production shortages, it turned to Washington State refineries. However, Washington State's current capacity of 648,000 barrels a day is less than 40% of that of California's, and it does not appear that it has sufficient surplus capacity to compensate for the expected reductions in California's in-state gasoline production and shortfall in daily supplies. In addition to satisfying its own internal demands, Washington State provides gasoline to Oregon.

California was once a global leader and ranked fourth in the world in oil production. Today, California accounts for only around 2.5% to 2.7% of all U.S. crude production and is producing only 23.7% of its own in-state needs. For the 1982 to 2023 period, in-state oil production fell by 69% from its peak high in 1985 (398,280) to a historic low in 2023 of 123,947.

Exhibit 3.0



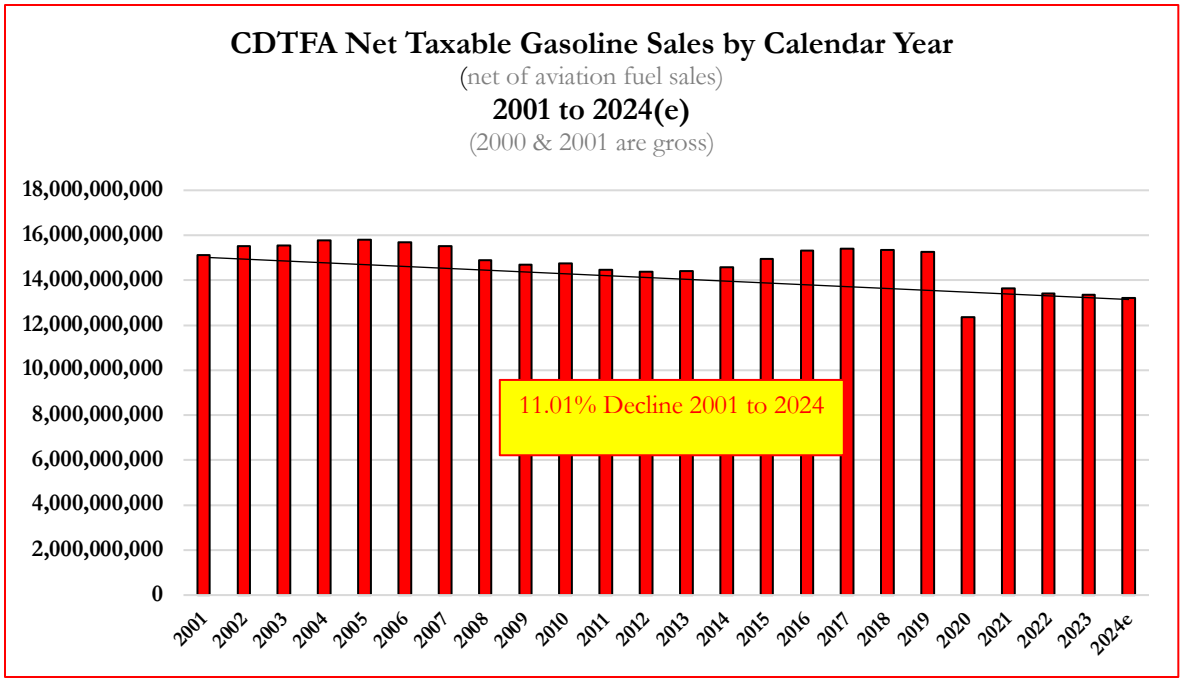
(Source: EIA https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=mcrfpca2&f=a)

To make up for the shortfall of in-state gasoline production and to ensure consistent and relatively affordable prices for the consumer, California will most likely have to look to the Gulf Coast refiners, and to Asia, including refineries in South Korea and China, as possible sources to satisfy consumer demands and fuel its economic growth. As a consequence of the two refinery closings, California will be at the mercy of out of state and foreign, non-U.S. refiners.

Additionally, since there are no inbound pipelines to California, the Golden State will be more dependent on marine vessels to transport the required gasoline to meet the daily demands of Californians. Port congestion, maritime lanes prioritization, maritime GHG emissions, additional transit days, and Panama Canal tolls will build on transportation costs, which invariably will be reflected in higher gasoline prices that the public pays at the pump. The logistical complexities of coordinating significant amounts of inbound gasoline from multiple sources via maritime vessels will be exponentially compounded by scheduling, seasonality, weather, the geopolitical landscape, the availability of vessels, most of which are foreign-flagged, and the compliance with the U.S. Jones Act. As of December 2024, there are only 55 maritime vessels that are compliant with the Jones Act, thereby placing further constraints on oil transportation from Washington State and Gulf Coast refiners.

Even if the surviving California refineries, which are some of the most sophisticated in the world, increased their production of California compliant gasoline, the increase would not completely compensate for the loss of two refineries. California's consumption of gasoline, which has declined by 11% since 2001, is not expected to suddenly drop by 20% in the next twelve months to achieve equilibrium with the shortfall of in-state gasoline production. The only times when California experienced rapid declines in consumption were in 1973, 1978, and more recently, the Financial Crisis of 2008 and 2009, and COVID in 2020.

Exhibit 4.0



(Source: https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts10.htm)

The options for California refineries are limited by the physics of production. There are 42 gallons in a barrel of oil. California produces jet fuel and gasoline not only for its own consumption but also for Nevada and Arizona, both of which are highly dependent on California refiners for their fuel stocks. California refineries also supply aviation fuels, gasoline and diesel fuels to U.S. military forces in California, Nevada and Arizona. Displacing and lowering the production of aviation fuels or reducing the exports of California products as a means of compensating for its own internal decline in production will most likely increase travel costs in and out of California and adversely impact our tourism trade. Reducing fuel supplies to Nevada and Arizona in favor of internal California needs will only result in the increase of wholesale and retail prices in those states, thereby contributing to regional inflation and negatively influencing the economic vitality and growth of those states. Reducing refinery capacity and fuel supplies to U.S. military forces will only serve to compromise their war readiness and national security.

Implications

Historically, California's average gasoline prices have always been higher than the U.S. average. Since 1984, the price differential between California and the rest of the U.S. averaged around 13%. However, the disparity between the U.S. and California prices began to widen and accelerate after the imposition of AB 23- Phase 2 Cap and Trade regulations in January 2015. Despite the litany of high-profile legislative actions targeting refiners with the intent to lower gasoline prices in the state, including banning of the sale of new gasoline powered vehicles in 2035, the price of retail gasoline in California has increased faster than the overall U.S. and, in some instances, moved higher when overall prices in the U.S. declined.

Exhibit 5.0

CALIFORNIA- LEGISLATIVE ACTIONS & GAS PRICES COMPARISON							
KEY CALIFORNIA INITIATIVES & GASOLINE PRICES							
CALIFORNIA LEGISLATIVE ACTIONS & GAS PRICES COMPARISON	Effective Date	CA Gas Price as of Effective Date(1)	CA Gas Price as of April 29, 2025 (2)	CA Percent Change	US Gas Price as of Effective Date (1)	US Gas Price as of April 29, 2025 (2)	US Percent Change
Ex. Ord. N-79-20	9/23/20	3.190	4.820	**51.097%**	2.160	3.168	**46.667%**
SBX1-2	6/1/23	4.756	4.820	**1.346%**	3.571	3.168	**-11.285%**
ABX2-1	10/14/24	4.548	4.820	**5.981%**	3.680	3.168	**-13.913%**
AB 23 (Cap & Trade)	1/1/15	2.728	4.820	**76.686%**	3.040	3.168	**4.211%**
(AB 23- Cap & Trade Phase 2- Gasoline & Transportation Fuels)							
(1- EIA Price; 2- AAA Price)							

Today, California's average retail gasoline prices are routinely 40% to 50% higher than the national average. Not surprisingly, California retail gasoline prices are also considerably higher than its neighboring states.

Exhibit 6.0

CALIFORNIA GASOLINE COMPARISON - PADD 5 & ADJACENT			
State	29-Apr-25	CA Premium	% Premium
CA	**4.820**	0	0
Washington State	4.277	**0.543**	**12.70%**
Nevada	3.852	**0.968**	**25.13%**
Idaho	3.323	**1.497**	**45.05%**
Utah	3.308	**1.512**	**45.71%**
Arizona	3.300	**1.520**	**46.06%**
Oregon	3.196	**1.624**	**50.81%**
New Mexico	2.831	**1.989**	**70.26%**
CA to Adjacent States	3.441	**1.379**	**40.08%**
All US Average (AAA)	**3.160**	1.660	**52.53%**

California mandated regulatory fees, costs, and taxes are the highest in the U.S. and add $1.47 to a gallon of gasoline. Even without the loss of two of its most important refineries, California regulatory actions could potentially increase the price at the pump by $1.182 a gallon.

Exhibit 7.0

MISCHE- ESTIMATED CA GASOLINE REGULATORY COSTS, FEES & TAXES					
Regulatory Cost Component		POTENTIAL REGULATORY COST INCREASES			
	AS-IS	W/ EXCISE ONLY	W/ LCFS- CARB	W/LCFS- USC	WLCFS/UPenn
	4/30/25	12/31/25	12/30/26	12/30/26	12/30/2026+
Existing Regulatory Costs					
Taxes					
State Excise Tax	0.5960	0.6320	**0.6496**	**0.6496**	**0.6496**
Local Sales Tax	0.0359	0.0359	0.0385	0.0385	0.0385
Sub-total:	**0.6319**	**0.6679**	**0.6881**	**0.6881**	**0.6881**
Environmental Costs & Fees					
Cap & Trade & Oth, Environmental Programs	0.5500	0.5500	0.6500	0.6500	0.6500
CA Special Blend- 2024 Standard- Cost	0.1500	0.1700	0.1850	0.1850	0.1850
CA- Seasonal Blend	0.1200	0.1200	0.1500	0.1500	0.1500
Underground Storage	0.0200	0.0200	0.0200	0.0200	0.0200
Sub-total:	**0.8400**	**0.8600**	**1.0050**	**1.0050**	**1.0050**
New/Pending Legislative Costs					
New CA LCFS	0.0000	0.0000	0.4700	0.5900	0.8500
New Gasoline Inventory- Holding Cost	0.0000	0.0509	0.0509	0.0509	0.0509
Sub-total:	**0.0000**	**0.0509**	**0.5209**	**0.6409**	**0.9009**
Refinery Closure Impact Costs (Gasoline only)					
Transportation of Gasoline (Inbound)	0.0000	0.0000	0.0596	0.0596	0.0596
Total All CA Fees, Costs & Taxes	1.4719	1.5788	2.2736	2.3936	2.6536
Federal Excise Tax	0.1800	0.1800	0.1800	0.1800	0.1800
GRAND TOTAL- EST. CA Regulatory Costs, Fees, & Taxes	1.6519	1.7588	2.4536	2.5736	2.8336

At no time has California ever faced a permanent 20% reduction in gasoline production. Multiple models indicate that the pending loss of two refineries and a corresponding reduction in gasoline production will result in higher retail prices, the only issue is the severity of the price increase. Over a 50-year period, there have been times in California when the price of retail gasoline has increased by double digits. Gasoline price spikes are usually associated with geopolitical events, increases in the cost of crude oil, spikes in demand, such as post-COVID, refinery, and gasoline supply disruptions, and legislative and regulatory actions. Notwithstanding the considerable pressure to adopt electric vehicles (EV) and zero emission vehicles (ZEV) in 2023, 2024, and early 2025, sales for both California and the U.S. have slowed and have fallen short of CARB 2026 projections. Given California's current economic conditions, and consumer preferences, it is simply unrealistic and irrational to expect or forecast that the demand for gasoline will decline by a comparable amount (20%) over the next 12-month period. Over the recent 2021 to 2024 period, California gasoline consumption fell by around 1% annually, based on CDFTA data.

The potential consequences of the closure of two of California's refineries are summarized below.

1- California in-state refinery production may decline by as much as 20.95% from 2023 levels to April 2026.

2- California in-state gasoline production may decline from 34.460 million gallons a day in 2023 to 27.242 million gallons a day by calendar year-end 2026. The decline estimate varies considerably based on such factors as the timing of oil crude stocks, assumed product slate and conversion ratios, refinery capacity utilization, the requirement to produce surplus fuels, and the new LCFS, etc.

3- Based on current assumptions and estimates, the result of the closing of two refineries, given static consumption (demand), the potential **shortfall**, as defined by the difference between California refinery production and California in-state consumption, could possibly range between **6.6** million gallons a day by calendar year-end 2025, to as much as **13.1** million gallons by calendar year-end 2026, depending on production mix and conversion ratios and other factors (demand).

Exhibit 8.0

GASOLINE AVAILABLE FOR CONSUMPTION & SALE (Gallons per day)	2023	2024	2025	2026
Production/Supply for Sale	**34,460,376.90**	**33,163,581.54**	**32,350,478.34**	**27,242,522.34**
CDFTA- Consumption Per Day at Reported	37,163,227	36,812,038	36,812,038	36,812,038
Estimated Daily Shortfall- CA Production	**-2,702,850.56**	**-3,648,456.43**	**-4,461,559.63**	**-9,569,515.63**
% Estimated Daily Shortfall- Existing Capacity	-7.84%	-11.00%	-13.79%	-35.13%
Known Sources & Inventories- Add Backs				
Washington State Imports (estimated)	2,020,000	2,020,000	2,020,000	2,020,000
Gasoline Available for Consumption- per day (minus=shortfall)	**-682,850.56**	**-1,628,456.43**	**-2,441,559.63**	**-7,549,515.63**
% Estimated Daily Shortfall- Known & Available Sources	-1.98%	-4.91%	-7.55%	-27.71%

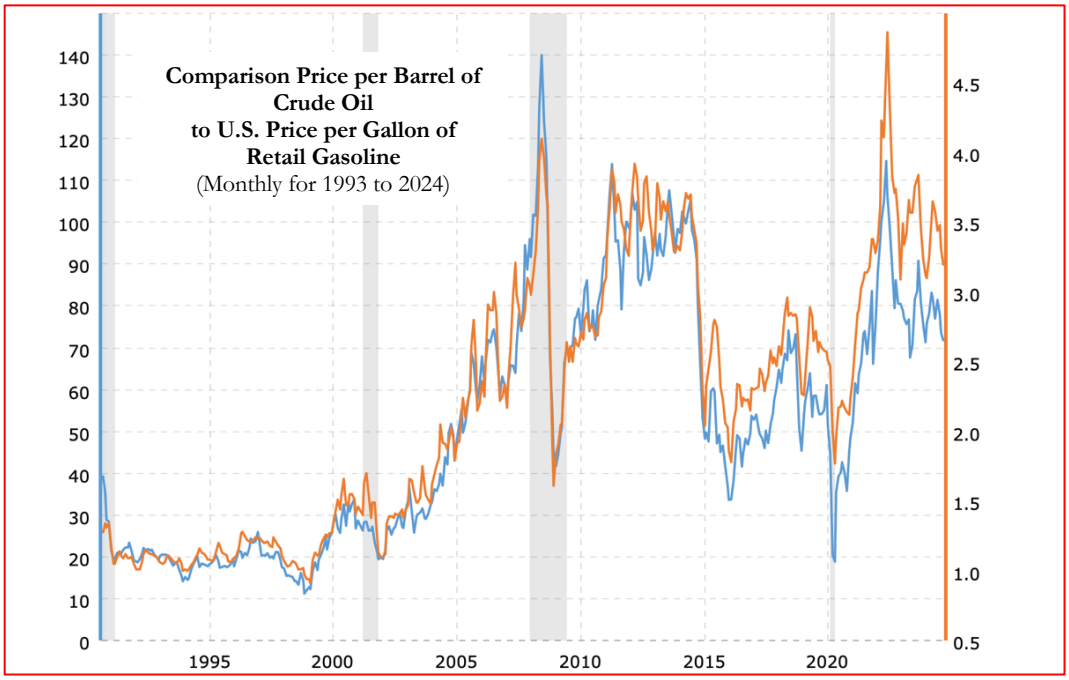
4- If California's surviving in-state refiners increased production by as much as 10%, they would not be able to make up the estimated shortfall due to two refineries closing based on estimated demand and consumption.

5- Based on current demand and consumption assumptions and estimates, the potential consequences of the Phillips 66 refinery closure scheduled for October 2025, the estimated average consumer price of regular gasoline in California could potentially increase by as much as **33.6%** from the April 23, 2025, price of $4.816 to **$6.045** to **$6.433** a gallon by calendar year end 2025. We can expect retail prices to be even higher in counties such as Mono and Humboldt.

6- Based on current demand and consumption assumptions and estimates, the combined consequences of the 2025 Phillips 66 refinery closure and the April 2026 Valero refinery closure, together with the potential impact of legislative actions such as, but not limited to, the new LCFS standard, increase in excise taxes, Cap and Trade, SBX1-2, and ABX2-1, the estimated average consumer price of regular gasoline could potentially increase by as much as **75%** from the April 23, 2025, price of $4.816 to **$7.348** to **$8.435** a gallon by calendar year end 2026. We can expect retail prices to be even higher in counties such as Mono and Humboldt.

Gasoline prices are highly correlated (.958) with global oil prices, and any significant increase or decrease in spot prices is reflected in retail prices. As California appears to be heading towards greater dependency on foreign sources, its vulnerability to disruptions, spot markets, and geopolitical events increases substantially. Any disruptions to oil and foreign gasoline supplies will exacerbate California's gasoline dilemma and drive-up prices. Any disruptions to maritime markets, routes, ports, operations, etc., will have a significant effect on California gasoline security and consumer prices, as well as prices in Nevada and Arizona.

Exhibit 9.0



There are many variables and assumptions that shape gasoline retail price modeling, and any change in the variables or assumptions will yield different results. For example, one variation of the model indicated retail prices exceeding **$10.00 a gallon**, and others yielded ranges in prices of $7.03 to $9.00.

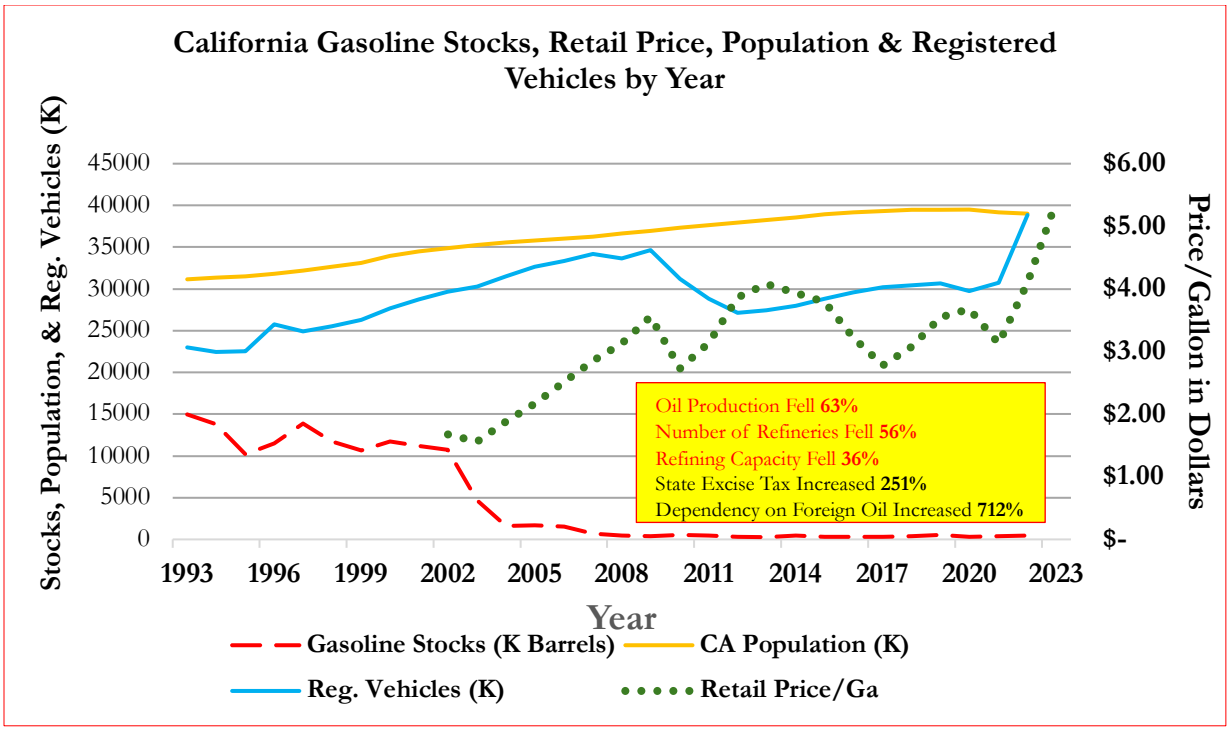
Irrespective of estimated prices, all models indicate that prices will increase unless the spot price of oil literally drops to historical lows.

The estimates provided herein are based on WTI spot prices. If Brent spot prices were used, a different result would have been generated. In general, Brent spot prices are as of April 30, 2025. For purposes of these initial models, the spot price was static at $62.70 (WTI), and the wholesale price for all formulations was static at $2.78. Production was calculated based on 2024 refinery output levels and adjusted accordingly. Demand (consumption) was maintained at a static level, below the 10-year average, and reduced by 3% in one model. No models contemplated increases in demand for gasoline. The conversion ratio, which indicates the amount of gasoline produced from one barrel of oil, varied for each model, ranging from the "California Slate" of 42.4% to 52.5%.

The Causes of California Gasoline Insecurity

The data and analysis are compelling and clear: California's high gasoline prices and pending gasoline insecurity and shortage are largely self-created. Over the last 30 to 50 years, the California state excise tax on gasoline has increased by 253%, the number of motor vehicles has grown by 38%, and our population has increased by 24%. Meanwhile, the number of refineries has declined by 56%, in-state oil field production has fallen by 63%, finished gasoline stocks have declined by 98%, in-state daily refinery capacity has decreased by 36%, average gasoline prices for all formulations have gone up by 253%, and imports of non-U.S. foreign oil increased 712%. Concurrently, a series of regulatory costs that have been layered onto refiners, distributors, and local operators have had a compounding effect on retail prices at the pump.

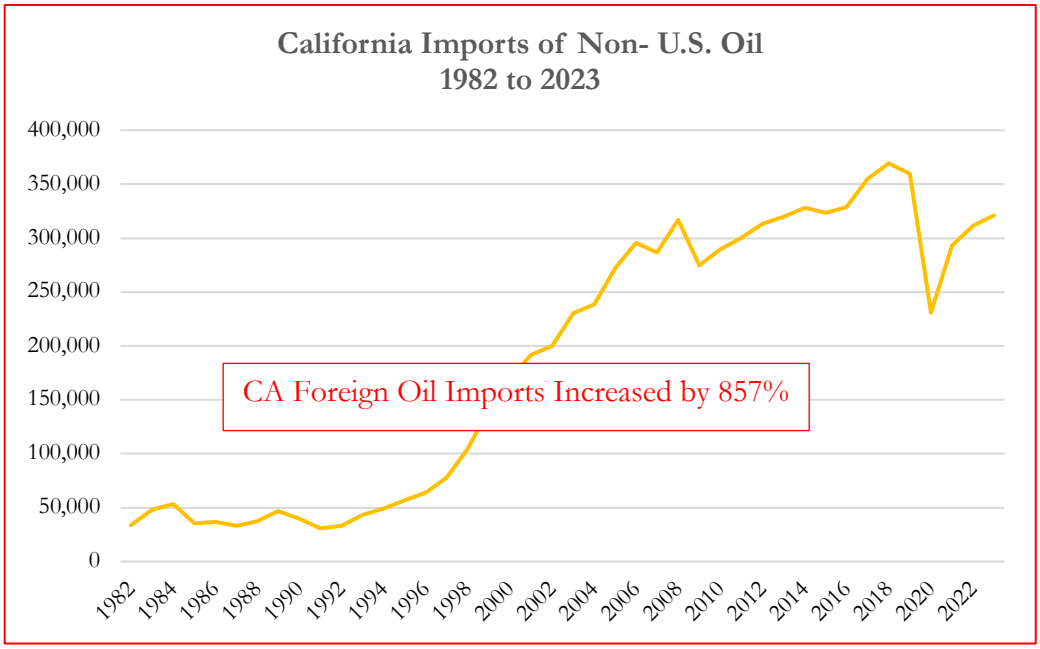
Exhibit 10.0



In 1982, California satisfied 62% of its petroleum needs from in-state oil producers. Today, the Golden State is held captive to foreign suppliers and imports over 60% of its petroleum needs from non-U.S.

foreign sources, including Iraq, Saudi Arabia, Brazil, and Guyana. Since 1990, California's imports of petroleum from non-U.S. producers have increased by a staggering 713%. While California was becoming more dependent on foreign sources, the overall U.S. became less dependent.

Exhibit 11.0



Despite political claims of price manipulation by refiners, there is simply no direct economic evidence of widespread price gouging or price or supply manipulation by California refiners, a conclusion that has been reached by the state's own Attorney General Office, the Federal Reserve Bank of Dallas, a Federal District Court in San Diego, and my own USC study. California's excessive gasoline prices can be directly traced to declining in-state production of both oil and decreasing gasoline supplies, increasing regulatory oversight, escalating regulatory costs, and fees associated with mandatory programs such as Cap and Trade, environmental initiatives, the California special gasoline blend (LCFS), and various taxes, which collectively, adds around $1.47 a gallon to the current consumer price. Even when the spot price of oil and retail gasoline prices have declined, California taxes on gasoline have increased.

California refiner crack spreads, margins and profits, as the State's CEC's Department of Petroleum Market Oversight (DPMO) observed, are consistent with those of the Gulf Coast, and swing wildly from year to year and are difficult to predict. The swings are consistent with overall industry behaviors, but price movements can be amplified by California's tight supplies, lack of surplus refining capacity and regulatory costs. When the spot price of oil, market demand, and capacity utilization (production) are high, refiner profits and margins are high. When spot oil prices are low, demand is stable or lower, and capacity utilization drops, refiner margins tend to drift lower. Irrespective of spot prices and refiner margins, California excise tax revenues exceed the recent net dollar profit per gallon of gasoline produced by the refiners.

California's own internal calculations confirm that refiner operating costs range from 25% to 38% higher than refinery costs in other states. The combination of escalating regulatory compliance cost burdens, a hostile political operating environment, and overall higher operating costs reduce

California's attractiveness to refiners. The high operating costs, together with what many consider to be a hostile political and regulatory environment towards refiners and the 2020 Executive Order N79-20 banning the sale of new internal combustion engine vehicles in the state, create an inevitable "death spiral" for the oil and gas industry. Consequently, refiners are exiting the Golden State.

Notwithstanding Governor Newsom's recognition and recent directive, California is confronted with several significant problems, chief among them include:

1. It's unclear as to where California could source the "make up" difference in gasoline production. If PADD 3 Gulf Coast and Asian refineries are used, then the maritime transit time is 10-32 days, and California port congestion increases – increasing both costs and GHG emissions.

2. The amount of gasoline that is needed to make up the deficit associated with the closure of two in-state refineries must be California compliant and must meet both the current LCFS…and proposed new CARB LCFS formula, if enacted. Some refineries simply may not find the production requirements, related costs, and margins associated with producing California special blend gasoline attractive enough, given that they are producing in bulk for the larger U.S. market and benefiting from greater economies of scale and more standardization of product. Conversely, other refiners who do elect to produce California compliant gasoline may do so with a premium, which in turn increases the wholesale and retail price of gasoline at the pump.

3. Assuming that make-up gasoline supplies could be sourced and secured, another important issue is…who pays for it? Given current operating conditions and prevailing political sentiment, it is doubtful that a surviving California refiner would pay for it unless, of course, the refiner could pass through all costs involved, generate an additional profit, and pass it all through to the consumer. Legislatively demanding that the surviving California refiners pay for imported gasoline to satisfy production deficits created by regulatory and legislative actions without an associated profit would likely only accelerate refiner exit from the California market and further drive gasoline prices and related costs higher.

4. To move gasoline at the potentially large volumes created by the exiting of two in-state refineries will require additional rail tankers and maritime vessel tankers delivering gasoline daily. Rail is twice as expensive as maritime and is generally more prone to incidents and environmental risk. Conversely, maritime is more efficient and less costly on a per gallon basis than rail, but it throws off considerably more GHG emissions most likely negatively impacting the net global and "well to wheel" GHG effect and California's GHG reduction ambitions.

5. The gasoline reserve requirement enacted by the legislature under ABX2-1 in late 2024 as a means to mitigate price spikes will most likely add to the retail price of gasoline. The holding costs for 14 days of surplus finished gasoline inventory are substantial. A secondary consideration is where the surplus "reserve" inventory will be stored. California refiners are already utilizing over 85% of their existing tank farms, and with 2035 looming, it is doubtful and unlikely that any surviving refiner would be inclined to incur the extensive capital costs to secure or build more capacity, assuming they would be granted a permit and survive the multitude of court challenges that would most likely be filed.

6. Irrespective of storage and whether the gasoline inventory should be a winter or summer blend, with the loss of two refineries, it is doubtful that the surviving California refineries would have the surplus capacity to produce a surplus inventory and satisfy demand.

Ten Action Steps That California Can Take to Ensure Gasoline Security and Lower Prices for Consumers

The pending closure of another refinery in California was anticipated and could have been avoided. Unfortunately, for Californians, it is inevitable that more refiners will exit the state. Chevron is terminating its headquarters in California in favor of Texas, and with the $4 billion write-off in assets, its two California refineries may be next.

The urgency of the current situation has not been lost on Governor Newsom who, after years of alleging that refiners were price gouging, has now, in a letter dated April 23, 2025, directed CEC Vice Chair Siva Gupta to "redouble the State's efforts to work closely with refiners on short-and long-term planning," to seek ways to "reinforce the State's openness to a collaborative relationship (with refiners)," and to reassure that "refiners can profitably operate in California." There's a perversion to this logic as only a few years ago the Governor boldly declared that the oil companies and refiners had been "ripping" off consumers for decades…now he's concerned with their profits.

Governor Newsom also noted that the LyondellBasell refinery in Houston is closing. That refinery is over 100 years old, and its closure was announced in 2023. It was well-known that LyondellBasell, as a company, has been rotating out of petroleum to concentrate on polymers and chemicals, so its departure from refining was anticipated. The LyondellBasell refinery is located in PADD 3, which has 20 refineries (more than twice as many as California) and, at over 7.2 million barrels a day in capacity, has the largest oil refining capacity in the U.S. Collectively, PADD 3 has 4.5 times the capacity of California today, and with the closures of two refineries, 5.5 times the capacity of the surviving California refineries. The LyondellBasell refinery represents less than 4% of the total PADD 3 capacity and is not consequential given the capacities and scalabilities of other refineries in PADD 3. Collectively, the closure of California's Phillips 66 and Valero refineries represents over 17% of California's refinery capacity and the refineries are essential to California. The Governor's comparison, although interesting, is a false equivalency.

Regrettably, the issue of refinery operations in California is no longer restricted just to profits, and it is naïve to think so. Refiners know how to operate. The issue is the California operating environment. Confronting the 2035 ban on the sale of new gasoline powered vehicles, a litany of new regulatory and potential actions, new restrictions, and a caustic political environment toward the oil and gas industry, refiners have an incentive or compelling need to stay in the Golden State.

The traditional approach of convening multiple task forces, endless commissions, and committees composed of those who have helped to precipitate, in various ways, the refiners' reactions and exit will do little to alleviate California gasoline insecurity and the potential related economic consequences that they helped to create.

In reality, the options available to refiners are limited by in-situ technologies, existing capabilities, the availability of capital, the looming 2035 mandate, and a multitude of local regulations and ordinances. California, could, as has been suggested, assume ownership, and/or operational control over surviving refineries. However, state-control over refinery assets hasn't worked out too well…as in the case of Venezuela. It is absurd to think that California has the financial assets to procure or lease the refineries,

possesses the managerial acumen to run the refineries, and has the competency to operate them. When a refinery is in need of major repair or technological upgrades, it is doubtful that the State could respond, given its current financial situation. More importantly, in the event of supply shortages, refinery malfunctions and accidents, oil and gasoline spillages, and tank and line ruptures, there is no corporation to "blame" and no corporation to fine…unless, of course, the State is inclined to levy a fine on itself.

Nonetheless, since legislation and regulation have essentially created the current situation, there are a number of legislative and regulatory actions that could be considered, specifically:

1- The most obvious action would be to approach both Phillips 66 and Valero refiners with a compelling business proposition to remain in California. However, both refiners have taken balance sheet and income charges in excess of $1.0 billion as related to their planned closures, and it is doubtful that the State could craft a "stay put" plan to compensate for the write-offs and increasing operating costs.

2- Immediate revocation of Executive Order N79-20, banning the sale of new gasoline powered (internal combustion engines) vehicles in California, which is scheduled for 2035, with a rollback of the ban to 2055. The imposition of this mandate is tantamount to a death sentence on California oil producers, refiners, the 10,957 gas stations (most of which are independently small business owned and operated), some 124,000 station employees, and consumers. Secondly, the imposition is a sinister way of limiting consumer choices and forcing consumers to convert to vehicles and technologies that they may not want or have a preference to adopt.

3- Immediate suspension of CARB's new LCFS that was introduced in late 2024, and a five-year adaptation of the 2024 CARB standard to help refiners stabilize production costs. According to its own estimates, the CARB's mandatory conversion to the new LCFS could increase retail gasoline prices by $0.47 a gallon. University of Pennsylvania studies indicate over $1.15+ a gallon, and my estimates of $0.62 a gallon.

4- Immediate elimination of the artificial profit margin cap imposed on refiners by SBX1-2 and the DPMO of the CEC. The imposition and enforcement of a margin/profits cap restricts the refiner's ability to invest in new technologies, additional capacity, discretionary maintenance, and repairs, as well as plan for the optimal deployment of capital in the interests of both consumers and shareholders.

5- Immediate rollback of the California State Excise Tax on gasoline to the national average of around $.33 a gallon. The excise tax, which is indexed to the California Consumer Price Index, is scheduled to automatically increase on July 1, 2025. Over the past 40 years, California's annual inflation rate has been greater than that of the overall U.S. and indexing the excise tax has been a clever way of increasing a component of retail gasoline prices. The increase is expected to add another $0.0185 to $0.023 cents a gallon on July 1, 2025, bringing the total excise tax to $0.633 a gallon. A rollback in the excise tax would have an immediate favorable impact on consumers.

6- A temporary suspension on ABX2-1 requiring refiners to produce, store, and finance surplus gasoline inventories. California currently maintains around a 14-day supply of finished fuels and is at 85% plus of its existing storage capacity. The imposition of additional days' supply of gasoline

will increase refiner holding costs for inventories. Those costs will most likely be reflected in the everyday price of gasoline at the retail pump. Depending on the grade of gasoline, seasonal blend, production schedule, and importantly, the number of days required to be held as surplus inventory, the cost could add anywhere from $0.044 to $0.057 a gallon. A suspension would have an immediate impact on lowering consumer prices.

7- A capitation of $0.65 a gallon on the Cap and Trade and other environmental fees and costs to refiners, which are ultimately reflected in the consumer price at the pump. Since its imposition in 2015, Cap and Trade have added substantial cost to the retail price of gasoline in the Golden State. A capitation of Cap and Trade, as related to gasoline prices would reduce retail prices for the consumer.

8- As of December 2023, California holds around 1.5 million barrels of oil in proven reserves or around 3.1% of all U.S. proven reserves, ranks fifth largest oil reserves in the U.S., ranks 7th in oil production among 32 oil-producing states, and is home to the Monterey shale reserve. Confronting the potential for severe shortfalls in gasoline supplies and increasing prices, it is an appropriate time for California to readdress and relieve the restrictions on in-state petroleum production and encourage in-state producers to increase California oil field production.
   a. Create Enhanced Production Zones by reducing regulatory restrictions on current in-state oil production operators, with particular emphasis on increasing California field production in Kern and Santa Barbara counties.
   b. Enact specific legislation requiring California producers operating in the state to "sell first" to in-state refiners as a condition for ITC qualification.

9- Provide for a refinery specific "investment tax credit" (ITC) somewhat similar in form to that designed and enacted by President Kennedy to provide California oil producers and refiners a 15% tax credit for every dollar of capital invested in <u>additional</u> oil and gasoline production, storage, and transportation capacity (pipelines).

10- Suspend, delay or nullify any enactment of AB-1866, AB- 2716, and AB-1448 eliminating the use of older and least utilized wells or the rehabilitation of older and underutilized wells and SB-1122 on restrictions.

California, or more appropriately, the people and businesses of California, may have to look to the Federal Government for price relief and gasoline security. One action could involve a Presidential Declaration or Order specifying California refineries as national security assets. Another could be the designation of California refineries as essential assets for the Department of Defense.