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WSPA Comments to ICFAC on TFA Update 23-ICFAC-01

Please see attached.

Additional submitted attachment is included below.

Jodie Muller
President & CEO

October 5, 2026

California Energy Commission
Docket Unit, MS-4
715 P Street
Sacramento, CA 95814

Uploaded to Docket 23-ICFAC-01

RE: WSPA Comments to ICFAC on Transportation Fuels Assessment Update [Docket #23-ICFAC-01]

The Western States Petroleum Association (WSPA) appreciates the opportunity to provide comments to the Independent Consumer Fuels Advisory Committee (ICFAC)[1] to help inform the California Energy Commission's (CEC) triennial update of the Transportation Fuels Assessment[2] per Senate Bill X1-2 (2023). WSPA previously submitted comments[3,4,5] regarding structural issues facing California's transportation fuels system, potential "pinch points," and opined on policy options presented in the April 2024 "Draft Transportation Fuels Assessment" as well as preceding and subsequent workshops. Many of these same policy challenges remain and still must be meaningfully addressed by policymakers to mitigate California's structural fuel supply shortages that can ultimately lead to consumer impacts.

California's transportation fuels market has changed significantly since 2024. The announced closure of two California refineries within a year of release of the 2024 Draft Transportation Fuels Assessment, when also combined with constrained in-State crude oil production and resultant pipeline challenges, only heightened the fact that California does not have sufficient refining capacity to meet its own demand. Yet the State has also acknowledged that conventional fuels – including marine and jet fuels – must be supplied for decades to meet consumer demand.

The State plays a critical role in providing holistic, long-term investment confidence necessary to stabilize its critical petroleum supply chain. We encourage the CEC to use this triennial update to evaluate real-world challenges impacting the competitiveness of California's critical petroleum sector. This includes any statewide energy policies that fail to strike an appropriate balance between environmental protection and fuel supply reliability that consumers can still afford. WSPA respectfully directs the Committee's attention to the following priority evaluation needs for the 2027 Transportation Fuels Assessment triennial update:

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[1] *See* CEC September 21, 2026, meeting of the Independent Consumer Fuels Advisory Committee "to review and discuss the Transportation Fuels Assessment;" available at: https://www.energy.ca.gov/ event/workshop/2026-09/independent-consumer-fuels-advisory-committee-meeting-transportation-fuels.
[2] *See* CEC 2024 Transportation Fuels Assessment: Policy Options for a Reliable Supply of Affordable and Safe Transportation Fuels in California; available at: https://www.energy.ca.gov/ publications/2024/transportation-fuels-assessment-policy-options-reliable-supply-affordable-and.
[3] *See* September 11, 2023, "Western States Petroleum Association Comments - on Transportation Fuels Assessment Report Workshop;" available at: https://efiling.energy.ca.gov/ Lists/DocketLog.aspx?docketnumber=23-SB-02.
[4] *See* May 17, 2024, "WSPA Comments on CEC DRAFT Transportation Fuels Assessment;" available at: https://efiling.energy.ca.gov/ Lists/DocketLog.aspx?docketnumber=23-SB-02.
[5] *See* also "Turner Mason & Company Comments - Transportation Energy Supply Chain Infrastructure and Investment Study (TESCII) [June 15, 2024];" available at: https://efiling.energy.ca.gov/ Lists/DocketLog.aspx?docketnumber=23-SB-02.

1) **Protect what remains.** Comprehensive policy solutions are needed to address punitive rules and permitting challenges across multiple levels of government – including local taxation policies – that collectively contribute to a costly and uncompetitive business environment in California. This reckoning began in April 2025 when State leaders publicly acknowledged the fragility of California's refining system: Governor Newsom directed the CEC to work closely with refiners to identify ways to both preserve refining capacity and encourage continued investment in California's fuel supply.[6] The CEC later acknowledged the need to address uncertainties and restore investor confidence if the State expected refiners to continue operating here.[7] However, WSPA firmly believes that further State policy measures are needed to stabilize investments in California's petroleum sector.

2) **Marine imports represent only one supply-side strategy – which is also constrained.** Minimal work has been done to assess statewide port capacity, marine terminal infrastructure and technological constraints, and cost impacts associated with the Ocean-Going Vessels At-Berth Regulation should be considered. That rule impacts tanker vessel calls at California ports that began in 2025 (for Southern California) and will expand in 2027 (for Northern California). These are critical issues if the State plans to transition California's transportation fuel system to a marine import-first model. The State cannot hope for sufficient port capacity and affordable real-world compliance options without addressing real world constraints that simultaneously prevent compliance pathways.

3) **Provide regulatory certainty beyond 2030.** California's ambitious energy and climate policies[8] requires the production of higher quality gasoline to help reduce emissions while also directing the State to minimize "leakage" and consider affordability, technological feasibility, and cost-effectiveness impacts. Doing so necessitates long-term, consumer-driven investment signals that can stabilize California's transportation fuel supply chain. Yet some of the most recent, and possibly most impactful, regulatory updates left industry without any meaningful long-term signal. For example, updates to California's Cap-and-Invest program delayed more difficult issues to 2030, forcing refiners to operate under persistent uncertainty, while still imposing programmatic tightening. Such short-term policies discourage long-term compliance strategies, undermines affordability, erodes investor confidence, and makes it harder to compete in a global commodities market.

4) **Avoid micromanaging petroleum assets.** WSPA continues to have strong concerns with any attempt by the State that could raise production costs. This includes asset operations, expert-led decision making, or any effort to impose resupply or minimum inventory mandates given the potential for unintended consequences – particularly since policies that reduce energy production investments for fuel products (including jet, diesel, and marine fuels) can be very difficult to reverse in California's already challenging business environment.

5) **Uncertainties will affect planning scenarios.** Significant implementation barriers exist to transition nearly the entire transportation system onto the electric grid (e.g., California's high electric bills, local power and charging infrastructure availability, high vehicle/equipment costs, geographic and socioeconomic constraints, etc.). The State must also consider additional uncertainty due to the revocation of federal electric vehicle tax

[6] *See* April 21, 2025, Governor Gavin Newsom letter to CEC Vice Chair Siva Gunda; available at: https://www.gov.ca.gov/ wp-content/uploads/2025/05/Newsom-Gupta-Letter-4.21.pdf.
[7] *See* June 27, 2025, CEC Vice Chair Siva Gunda letter to Governor Newsom; available at: https://www.energy.ca.gov/ sites/default/files/2025-07/CEC%27s_Respone_to_Governor_Newsom%27s_Letter_June-27-2025_ada.pdf.
[8] *See* Assembly Bill (AB) 32 (2006), SB 32 (2016), AB 398 (2017), AB 1207 (2025), and SB 840 (2025).

credits and the revocation of key federal regulatory waivers (e.g., Advanced Clean Cars II, Advanced Clean Trucks, possibly Ocean-Going Vessels At-Berth, Commercial Harbor Craft). This only inserts further doubt into potential planning feasibility in the real world. The CEC must account for these known barriers, as well as any affordable alternatives.

6) **Impacts to neighboring states must be considered.** WSPA is concerned that any decisions California makes could easily put the entire fuel supply chain at risk – including for Nevada and Arizona, whose fuel supplies are firmly dependent on the viability of California refineries.

CONCLUSION

We appreciate this opportunity to provide comments on fuel supply issues of critical importance to consumers dependent on California's fuel supply chain, who rely on affordable and reliable sources of transportation fuel every single day. We believe the State's petroleum sector – especially the remaining refiners – need strong signals to have the certainty necessary to continue making significant investments in California. The entire industry has been asking for a more predictable regulatory environment to provide the transportation fuels that will remain in demand for decades to come.

Please do not hesitate to contact me with any additional questions.

Sincerely,



Jodie Muller
President & CEO

CALIFORNIA ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

California Energy Commission

COMMISSION REPORT

Transportation Fuels Assessment

Policy Options for a Reliable Supply of Affordable and Safe Transportation Fuels in California

Gavin Newsom, Governor

August 2024 | CEC-200-2024-003-CMF

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ABSTRACT

The Transportation Fuels Assessment is a leading component of SB X1-2. This assessment identifies potential alternative methods to ensure a reliable supply of affordable and safe transportation fuels in California, evaluates the price of transportation fuels, considers supply conditions, assesses the impact of refinery closures, analyzes impacts on production from refinery maintenance and turnarounds, evaluates the feasibility of alternative methods to maintain adequate supply of fuels, and proposes solutions to mitigate impacts described elsewhere in the assessment. This report includes policy options that can help address price spikes that are unique to the California market. Each policy has an accompanying one-page summary table or set of tables with a summary of that policy.

Keywords: Transportation Fuels Assessment, SB X1-2, gasoline, price spikes, gasoline demand scenarios

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TABLE OF CONTENTS

Page

Policy Options for a Reliable Supply of Affordable and Safe Transportation Fuels in California 1
Both Supply and Demand are Key 2
Production 4
Storage 5
Imports 6
The Need for Information and Oversight 7
Californians Deserve a Strategic Transition Away from Petroleum Transportation Fuels 8
CHAPTER 1: Transportation Fuels in California 9
The Need for a Transportation Fuels Assessment 9
California's Fuel Landscape 9
Major Supply and Demand Drivers 17
The 2022 Gasoline Price Spike 18
Spot Market Concerns and Manipulation Risks 20
Longer-Term Challenges with Price Stability 20
Future Demand Disruption 23
Fuel Demand Scenarios Considered 23
Fuel Supplier Pathways in Response to Demand Scenarios 25
Pathway One: Reduced Gasoline Production 25
Pathway Two: Maintain Crude Runs and Export Non-CARBOB Gasoline 28
CHAPTER 2: Petroleum Basics 31
The Petroleum Industry Information Reporting Act of 1980 31
A Primer on Petroleum 31
Crude Oil Basics 32
Refining Crude Oil 33
California Gasoline 37
Moving Product 37
Pipeline Specifications 38
Pipeline Operations 38
Spot Markets 40
Product Racks 42
Branded Gasoline and Fuel Additives 42
Margin Basics 43
Refinery Outages 44
Seasonal Dynamics 45
Retail Dynamics 45
Ethanol 48

CHAPTER 3: Policy Options to Mitigate Price Spikes....50
Addressing the Supply Challenge....50
Equity Challenges and Tradeoffs....50
Impacts of Continued Refinery Operations....51
Emissions from Policy Impacts on Driving....52
Emissions due to Changes in Fuel Composition....52
Enhanced Mobility....53
Additional Policy Options to Mitigate Price Spikes....54
Shortcut for Framing the Policy Scope....54
List Summary of Additional Policy Options....56
Policy Options Targeting the Demand of Gasoline....56
Policy Options Targeting the Supply of Gasoline....56
Highly Complex Implementation Policies....56
Emergency Implementation Policies....56
Policy Options Targeting the Demand of Gasoline....57
Policy Options Targeting the Supply of Gasoline....60
Highly Complex Implementation Policies....72
Emergency Implementation Policies....76

LIST OF TABLES

Page

Policy Options for a Reliable Supply of Affordable and Safe Transportation Fuels in California....1
Both Supply and Demand are Key....2
Production....4
Storage....5
Imports....6
The Need for Information and Oversight....7
Californians Deserve a Strategic Transition Away from Petroleum Transportation Fuels....8
CHAPTER 1: Transportation Fuels in California....9
The Need for a Transportation Fuels Assessment....9
California's Fuel Landscape....9
Major Supply and Demand Drivers....17
The 2022 Gasoline Price Spike....18
Spot Market Concerns and Manipulation Risks....20
Longer-Term Challenges with Price Stability....20
Future Demand Disruption....23
Fuel Demand Scenarios Considered....23
Fuel Supplier Pathways in Response to Demand Scenarios....25
Pathway One: Reduced Gasoline Production....25

Pathway Two: Maintain Crude Runs and Export Non-CARBOB Gasoline....28
CHAPTER 2: Petroleum Basics....31
The Petroleum Industry Information Reporting Act of 1980....31
A Primer on Petroleum....31
Crude Oil Basics....32
Refining Crude Oil....33
Cleaning and Distillation....33
Cracking and Reconfiguration....34
Blending....35
California Gasoline....37
Moving Product....37
Pipeline Specifications....38
Pipeline Operations....38
Spot Markets....40
Product Racks....42
Branded Gasoline and Fuel Additives....42
Margin Basics....43
Refinery Outages....44
Seasonal Dynamics....45
Retail Dynamics....45
Ethanol....48
CHAPTER 3: Policy Options to Mitigate Price Spikes....50
Addressing the Supply Challenge....50
Equity Challenges and Tradeoffs....50
Impacts of Continued Refinery Operations....51
Emissions from Policy Impacts on Driving....52
Emissions due to Changes in Fuel Composition....52
Enhanced Mobility....53
Additional Policy Options to Mitigate Price Spikes....54
Shortcut for Framing the Policy Scope....54
List Summary of Additional Policy Options....56
Policy Options Targeting the Demand of Gasoline....56
Policy Options Targeting the Supply of Gasoline....56
Highly Complex Implementation Policies....56
Emergency Implementation Policies....56
Policy Options Targeting the Demand of Gasoline....57
1. Enhanced ZEV Access....57
2. VMT Reduction Strategies....58
3. Implementation of Fuel Conservation Measures....59
Policy Options Targeting the Supply of Gasoline....60
4. Storage Strategies....60
A. Storage Strategy: Stock Minimums for Refiners and Terminals....60

B. Storage Strategy: Existing Non-Operating Storage 61
C. Storage Strategy: State-Owned Product Reserve 62
5. Production Enhancement Strategies 63
A. Production Enhancement Strategy: E15 63
B. Production Enhancement Strategy: RVP Modification 64
C. Production Enhancement Strategy: Non-CARBOB Fee-Based Allowance 65
D. Production Enhancement Strategy: CARBOB for Reno 66
6. Alignment of Gasoline Specifications for Western States 67
7. Import Strategies 67
A. Import Strategy: Resupply Compensation 68
B. Import Strategy: Short-Term Imports 69
C. Import Strategy: Reliable Imports 69
D. Import Strategy: Jones Act Vessels 71
Highly Complex Implementation Policies 72
8. Gas Price Stabilization Fund 72
9. Cost of Service Model 73
10. State-Owned Refineries 74
11. Retail Margin Management 75
Emergency Implementation Policies 76
12. Railcar Replenishment 76

LIST OF FIGURES

Page

Figure 1. Map Showing Pipeline Flows for California, Nevada, and Arizona 10
Figure 2. 2022 Daily Average California Fuel and Crude Movements and Production Volumes (Thousand Barrels per Day, TBD) 12
Figure 3. Approximate Fuel Pathways and Magnitudes for Crude and Other Imports 13
Figure 4. Approximate Peak Gasoline Refinery Capacity Compared to Maximum-Monthly Consumption 15
Figure 5. Actual and Maximum Sustainable California Refinery CARBOB Production vs. CARBOB Demand, January 2018 - December 2024 18
Figure 6. California and U.S. Retail Gas Prices in $/gallon 19
Figure 7. ZEV Market Share of New Passenger Vehicle Sales and Simple Projections 21
Figure 8. New ZEV Sales Share by County 22
Figure 9. CARBOB Consumption and Demand Scenarios Under Consideration for the Assessment 24
Figure 10. Refinery Gasoline Sales Type, July 2023 by Refiner 28
Figure 11. Crude Oil Supply Sources to California Refineries, 1986 – 2022 33
Figure 12. Crude Oil Distillation Unit and Products 34
Figure 13. California Refinery Product Slate 2018 to 2022 36
Figure 14. Gasoline Supply and Transportation 38
Figure 15. Product Pipeline Systems in California 40

Figure 16. Breakdown of California 2023 Average Retail Price Components, through 2023.....43
Figure 17. Average Monthly CARBOB Production Index and CARBOB Stock Index (2006-2022) 45
Figure 18. Retail Margins Compared with Other Price Components Combined July 2022 - October 2023.....46
Figure 19. The Mystery Gasoline Surcharge: California Gasoline Price Premium After Removing Differences in Taxes and Fees and California Specification Gasoline Production Costs (2024 dollars).....47

EXECUTIVE SUMMARY

Senate Bill X1-2 (SB X1-2, Skinner, Chapter 1, Statutes of 2023 First Extraordinary Session) directs the CEC to identify methods to "ensure a reliable supply of affordable and safe transportation fuels in California." This assessment does this by examining two distinct but related issues. The first is mitigating or eliminating gasoline price spikes. The second is maintaining an overall affordable, reliable, equitable, and safe supply of gasoline during the transition to zero-emission vehicles (ZEVs). This assessment also serves as a key contribution to the forthcoming Transportation Fuels Transition Plan, which is also called for by SB X1-2. Transportation fuels include gasoline, diesel, natural gas, electricity, hydrogen, and renewable combustion fuels. The scope of this assessment is primarily focused on gasoline and, to a lesser extent, on diesel and ethanol (a gasoline additive). 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.

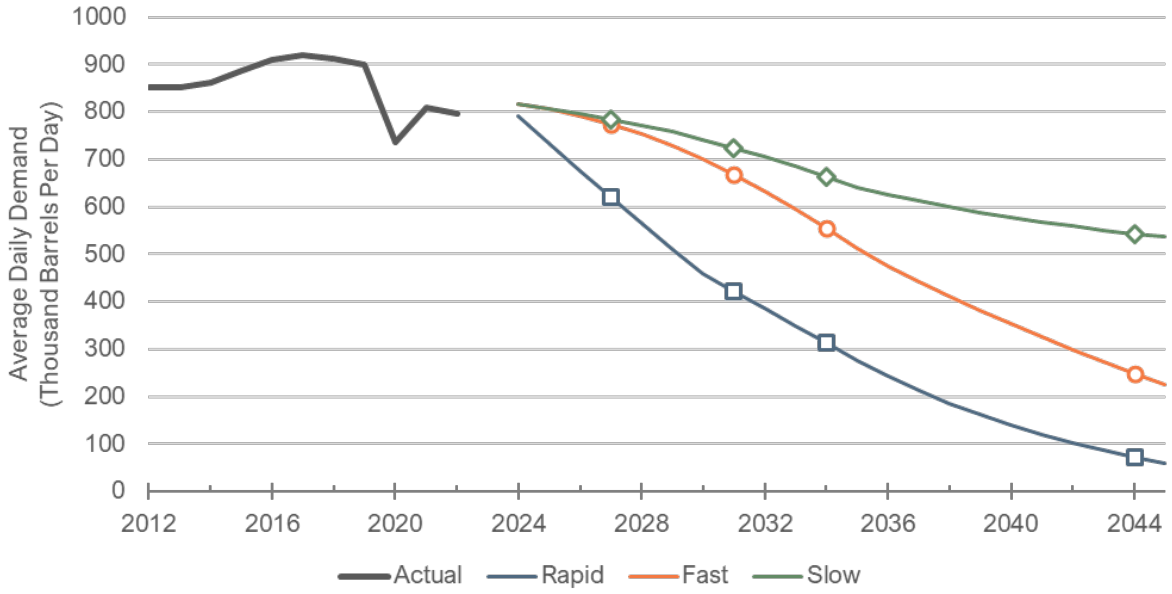
Like most product prices, gasoline prices should ideally obey the laws of supply and demand. However, supply dynamics in California's transportation fuels market differ from many other markets in the United States. Despite being directly geographically connected to other states, California's relatively isolated transportation fuels market makes it essentially a fuel island. In addition, the critical need to address the state's unique air quality challenges means that the state must require a unique fuel specification that differs from the rest of the nation. Related to the isolated market, the state's opaque spot market appears to have an outsized influence on prices in a way that does not align with supply or demand fundamentals.

These factors have led to several challenges for the stability of transportation fuel prices. For example, in the last two years (2022 and 2023), California had two gasoline price spikes in September and October. Spikes were not seen in regions outside of the western part of the United States.

Although gasoline demand peaked in 2005 and is expected to decline markedly in the next two decades, gasoline remains California's dominant transportation fuel, and demand is not especially responsive to short-term price spikes. New options, especially the state's transition away from combustion fuels in favor of ZEVs, have started to reduce drivers' dependency on gasoline, with a sharp decline expected within a decade. Figure ES- 1 shows potential demand pathways for gasoline under a rapid, fast, and a slow transition away from gasoline. Highlighted are 3-, 7-, 10-, and 20-year points for the three pathways.

Gasoline demand is expected to continue a downward trend as demand for ZEVs increases and other climate-friendly strategies unfold. However, the CEC projects that gasoline demand will remain above two hundred thousand barrels per day (TBD) at least through 2035 if not longer. Even under the most aggressive scenario transition to ZEVs, millions of petroleum-fueled vehicles are anticipated to remain on California's roads and highways beyond 2035. These vehicles will need fuel to operate, and many of the vehicles may be owned by lower income individuals and families, making it even more compelling to identify ways to ensure an affordable, reliable, equitable, and safe supply.

Figure ES- 1. Gasoline Consumption and Demand Scenarios Under Consideration for the Assessment

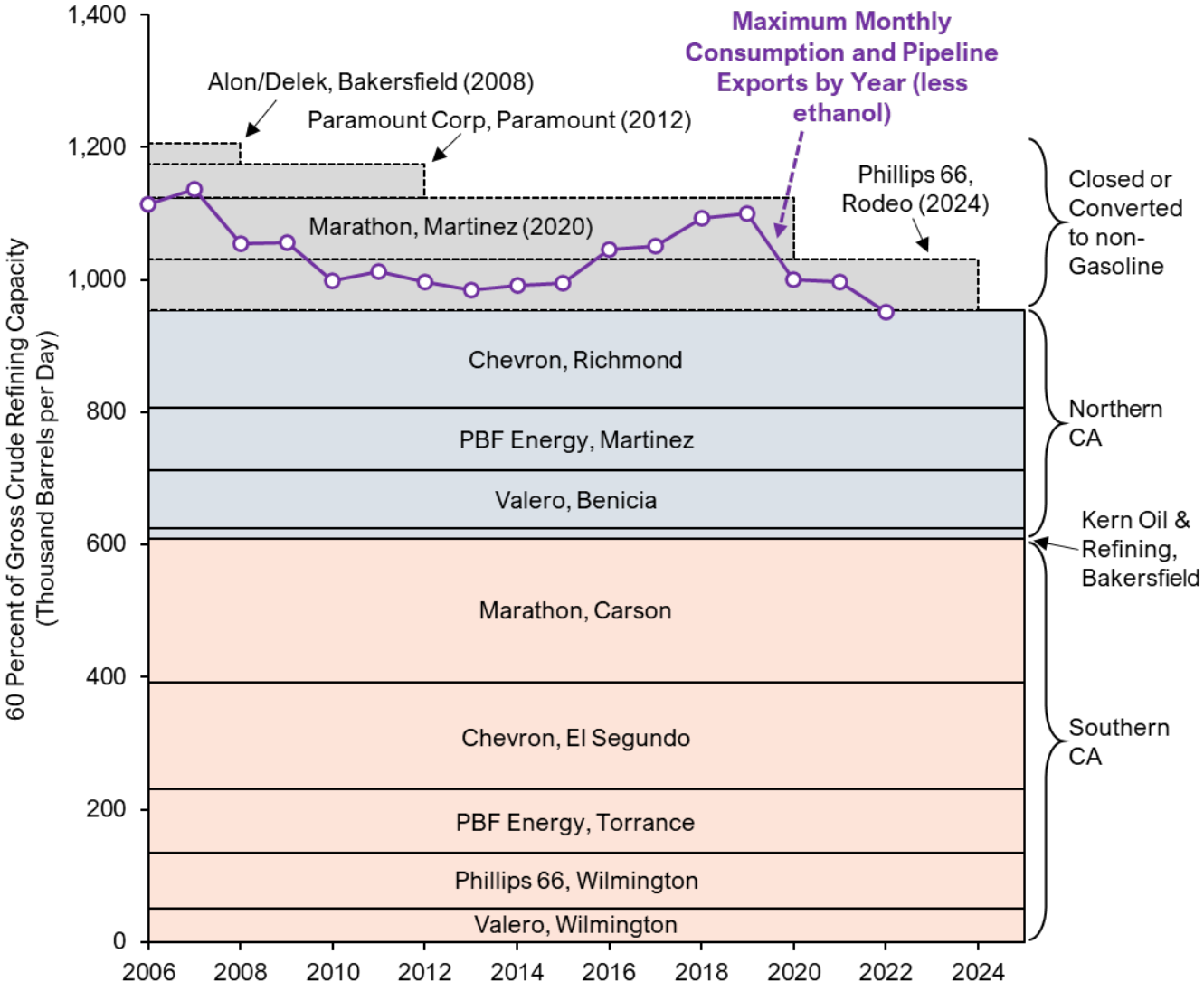


Both Supply and Demand are Key

The deployment of ZEVs and a robust mass transit system are critical for achieving the state's climate goals, reducing local air pollution, and eventually eliminating dependence on the volatile global petroleum markets. As demand for gasoline shrinks, refineries may close or convert to processing clean transportation fuels. This will lead to fewer gasoline refineries, with increased market concentration and associated market problems that often accompany it. However, some refineries will be converted to producing renewable diesel, such as the Phillips 66 Rodeo refinery, a sign of the success of clean fuel policies such as the state's Low Carbon Fuel Standard (LCFS). These converted refineries, however, will no longer be a source of gasoline.

As of March 2024, nine California refineries produce California-specific gasoline, California Reformulated Blendstocks for Oxygenate Blending (CARBOB). Moreover, supply of gasoline in the state is highly regionalized. Except for one small refinery in central California, nearly all in-state supply in the near term will come from three refineries in northern California and five refineries in Southern California. The temporary reduction of refining capacity at a single refinery in either the north or the south would represent a critical reduction of refining capacity for each respective region because the regions are not connected via pipeline, though waterborne transportation is available. Figure ES- 2 illustrates roughly estimated gasoline refining capacity (at 60% stated crude processing capacity), along with recent refinery closures, remaining capacity, and the maximum monthly demand by year.

Figure ES- 2. Approximate Peak Gasoline Refinery Capacity Compared to Maximum-Monthly Consumption



Credit: CEC Staff

In Northern California, a single refinery outage would represent up to a 45 percent reduction of regional refining capacity. In Southern California, a temporary closure of a single refinery could represent up to a 35 percent reduction of regional capacity. Intrastate movements of fuel must occur by marine cargos, so supply shocks can pose immediate challenges.

As demand for gasoline continues to decline in California, refineries will likely continue to transition from refining petroleum and may permanently close or convert to the refining of renewable feedstocks for renewable diesel or other types of bio-based fuels. A single supply shock in the north or south, be it from an unplanned maintenance event, a severe accident, a criminal act, or a natural disaster, would make it even more difficult to supply transportation fuel needs in the coming decade.

Independent of supply shocks, Californians already pay higher than the national average for gasoline, which is only partially due to state and federal mandates for improved air quality. CARBOB has been a critical tool for reducing chronically high concentrations of air toxins and meeting state and federally mandated clean and healthy air quality standards. Failing to meet federal air quality standards puts California's residents' lives and federal transportation funding at risk. By requiring CARBOB, California has enjoyed numerous benefits. For example, there has been an 80 percent reduction in cancer risk associated with exposure to gasoline-related pollutants between 1996 and 2014. Despite this and other successes, California continues to face challenging air quality management, exacerbated by climate change impacts.

With reduced demand or more flexible consumer demand, supply shocks should become less impactful. Where travelers can substitute electricity, active transportation, or other alternative travel approaches in lieu of gasoline, price spikes may be easier to manage and have less of an impact on Californians. This report presents several policy approaches that can affect gasoline demand.

Outside of crude oil dynamics, refined gasoline supply is influenced by three primary factors: production capacity, storage, and gasoline or gasoline blendstock imports. Statewide petroleum refinery capacity has declined in recent years, closely following or even exceeding the ongoing decline in demand that is due in part to more consumers adopting ZEVs. The petroleum refining industry in California appears to have sufficient infrastructure to produce, procure, and store enough gasoline to meet current levels of demand. However, as discussed, unique conditions in California make it more difficult to stabilize supply when there are acute disruptions.

Production

As discussed above, there are now nine refineries operating in California producing gasoline. In the last five years, two major refineries have converted to producing renewable diesel and stopped producing gasoline, and in-state production has fallen a result. In the face of declining refinery production, there are several short- and long-term alternatives to maintain or increase production, though each alternative presents significant potential tradeoffs.

Short-term polices may boost production and encourage a corresponding decrease in price, particularly when California is faced with acute supply disruptions. For example, in 2022 and 2023, Governor Newsom called for the California Air Resources Board (CARB) to accelerate the annual winter fuel blend transition by one month. This resulted in an increase in supply and a sharp decline in gasoline prices at the pump. However, accelerating the winter fuel blend transition presents environmental impacts. Other strategic options that may help increase supply are discussed in Chapter 3 of the assessment.

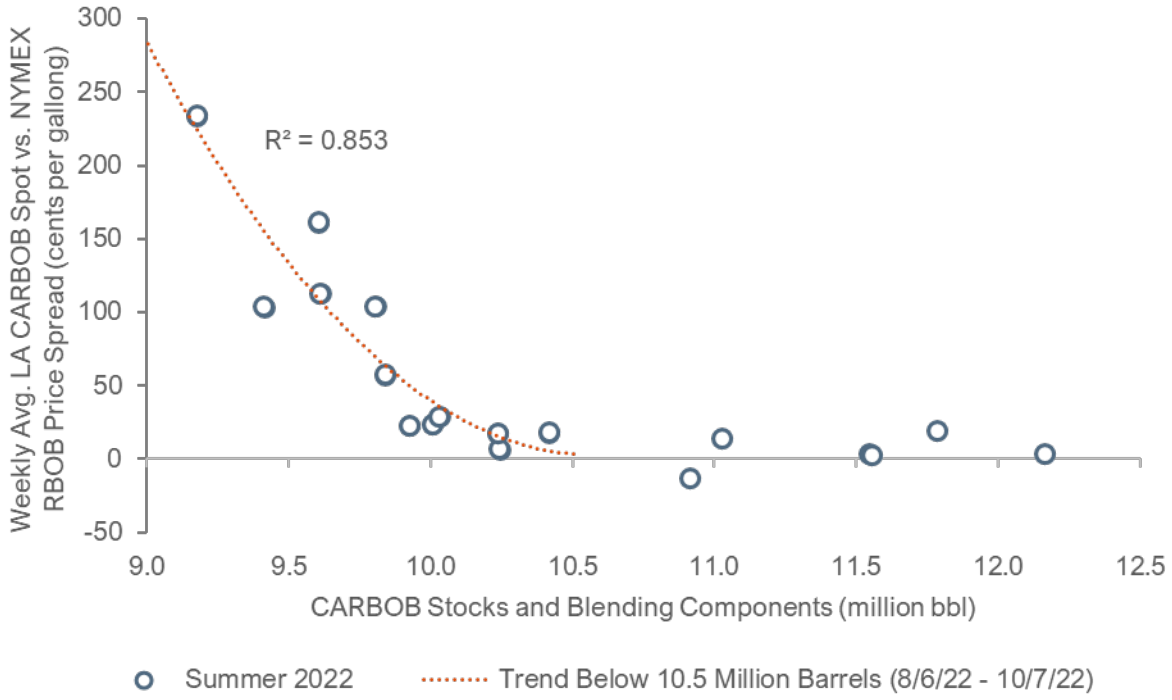
On a longer-term basis, other modifications to requirements for refined fuels may make for a more resilient supply system, but also come with potential environmental and other policy tradeoffs, all of which must be weighed carefully. For both short- and long-term approaches to production, further analysis is necessary. The Transportation Fuels Transition Plan is a related document that will be prepared jointly by the CEC and CARB for submission by the end of 2024.

Storage

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

There is an observable inverse correlation between total storage levels and price spikes, though there are other important variables as well, including seasonality and demand. This broadly suggests that when storage levels of gasoline decline, the risk of price spikes increases. This was seen most dramatically in the summer of 2022. Figure ES-3 shows the correlation between storage and the 2022 price spike.

Figure ES-3. CARBOB Stocks vs. CARBOB Price Spreads: Total Weekly Stocks vs. Los Angeles Spot Market Price (July 2022 – October 2022)



As reflected in the chart, a California price spike is typically measured by the difference between the LA CARBOB spot market price and NYMEX RBOB market price, meaning that the higher prices were unique to California rather than part of a national trend. The quantities plotted on the chart include publicly available data that is reported to CEC by in-state refineries.

At petroleum refineries, storage is often used by individual refiners to blend and store products during normal operations and to provide back-up supply during periods of planned and unplanned maintenance. Requiring or incentivizing a minimum level of in-state petroleum storage could increase fuel stocks statewide and assist in mitigating or avoiding gasoline price spikes. For example, minimum petroleum storage requirements with exemptions during certain supply shock conditions may help establish a new baseline approach for storage operators. An

incentive approach may also be effective and allow for more flexibility for operators. It is unclear how operators would adjust to requirements or incentives, and additional public discussion and analysis of these types of approaches is warranted.

New storage solutions are also possible. A critical tradeoff for either private or public investment in storage is the long-term expected decline in gasoline demand. There may be a case for additional storage as a matter of maintaining supply resiliency for the next two decades, but such investments do pose a stranded assets risk. More analysis is needed to determine whether the benefits of enhanced supply resiliency are worth the investment in the near term.

Imports

Currently, most of the State's consumed gasoline is refined in state, with a limited portion of the supply coming from out-of-state or overseas refineries. However, as demand continues to decline and in-state refineries convert to renewable fuels or close completely, a strategy to bolster the State's imports of gasoline will be imperative to avoid potentially systemic undersupply problems.

At present, the only practical way to import finished fuel and blending components is by marine imports. There are no pipelines for refined fuel (e.g. diesel, jet, and gasoline) going into the state, only pipelines for export out of the state (to Arizona and Nevada). Rail could theoretically be a source of imports, but so far this import approach has not been seen at any significant scale, and it would take three to five 100-car trains of gasoline or gasoline blending components to match the capacity of one ship. One typical tanker ship of gasoline represents about one third of the state's current daily demand of gasoline. Thus, routine marine imports are likely the most feasible option navigating the uncertainties arising from refineries reducing or stopping production (i.e., losing tens of thousands of barrels of daily production) while demand reduces in a much more gradual manner.

Marine imports of refined fuel from Washington state, Asia, and Europe are already a regular source of fuel, helping to balance out a sophisticated market of multiple flows in various directions. CEC data shows that imports appear to be increasing in northern California, the likely result of one large refinery conversion in 2020.

Marine imports generally tend to have higher prices compared to in-state refining, as ships can be expensive to operate compared to pipelines and present different environmental risks. However, the increased supply resiliency added by an import strategy could result in a net price benefit to consumers.

Harbor traffic is another issue to consider for any strategy relying on increased marine imports. As shown in the demand pathways above, the need for crude imports will decline with the overall decline in demand for gasoline and other fuels. This will free up some space at critical import points, but there are differences between crude import logistics and refined fuel import logistics that merit additional analysis.

The Need for Information and Oversight

The petroleum refining industry has relatively few market participants due to high fixed costs and other barriers to entry. This makes it possible for firms to exercise degrees of market power that would not be possible in perfectly competitive markets. In California, this risk of market power appears to be more pronounced than in other states. A relatively small portion of this California-specific gasoline is traded on California's local commodity markets (called "spot markets") in which a market-wide price is set. In the spot market, there are limited trades reported and fewer participants compared to a national market. Despite this characteristic of the market, the spot market price is linked through contracts to a large portion of all wholesale and thus retail gasoline sold in the state. Spot market trades can have an outsized influence on gasoline prices, with the potential susceptibility to market manipulation. With price reporting based on voluntary reports of trading, the lack of spot market transparency has contributed to incomplete information, leading to volatility in retail prices contrary to consumer interests.

In addition to price spike risk, Californians have paid consistently higher gasoline prices compared to the rest of the U.S. that cannot be fully explained by differences in fuel formulations and gasoline taxes or fees. This unexplained premium paid by California drivers has been identified by academic researchers as the California "mystery gas surcharge."

Active oversight of the increasingly concentrated petroleum and rather opaque industry is an essential component of California's transition to a low-carbon economy. Petroleum refining is a high fixed-cost industry, with costly and years-long development required for entry, thinly traded spot markets, and significant vertical integration—all of which combines in a market that is far from perfect competition. Due to the high fixed-cost structure and other barriers to entry in this industry, only a small number of firms have the resources to supply California petroleum markets. As demand for gasoline declines, the industry will become more concentrated and potentially less competitive. Economists sometimes refer to such dynamics as a type of market failure, a misalignment between producers' profit incentives and consumer welfare. In these situations, protecting consumers, and reducing incentives for market manipulation requires both robust enforcement of competition laws and potential market interventions to realign incentives. Market interventions vary widely by industry and market conditions.

Some of the challenging market dynamics in California's petroleum industry are familiar in other industries. There are many examples of highly concentrated, high fixed-cost industries such as airlines, telecommunications, and utilities—all of which are highly regulated and generally profitable. Market power in the airline industry is primarily tempered through antitrust enforcement and federal oversight. Competition among telecommunications firms is protected through antitrust enforcement and regulations requiring fair access. Finally, utilities, which bear some key similarities to energy refiners, are often highly regulated monopolies that navigate rate regulations and limits on their rates of return. These are only a few examples. Each industry and the markets they serve are unique. Enforcement of competition laws and market interventions require information about market behavior and outcomes. Therefore, an

important component of petroleum market oversight should include detailed industry data collection to facilitate transparency and well-informed public policy.

As discussed in workshops and hearings held by the CEC and in stakeholder comments, there is concern about market power abuse in the petroleum sector, and the state appears to be increasingly susceptible to price spikes as seen over the last decade. Stakeholders at CEC workshops and hearings have expressed concern about unfair market dynamics resulting from increased market power in California's petroleum industry and potential market gaming by industry participants. Moreover, stakeholders have expressed concern that harmful industry conduct will be amplified by bad actors acting anticompetitively. During this critical transition period, additional oversight is necessary to protect Californians from further market dysfunction and potential market manipulation.

SB X1-2 established the Division of Petroleum Market Oversight (DPMO). This division operates independently of the CEC's authority but is housed within and supported by the CEC for close coordination with the new data collection provisions of SB X1-2. DPMO assesses and investigates petroleum market conditions with authority to subpoena firms and refer matters for prosecution.

Californians Deserve a Strategic Transition Away from Petroleum Transportation Fuels

The Transportation Fuels Assessment is only one component of SB X1-2. The Assessment identifies methods that may help in smoothing and managing retail prices under a general framework of the transition away from petroleum fuels, with an emphasis on gasoline. It also contributes to the understanding of gasoline price spikes and identifies potential actions that can help to mitigate or eliminate them. However, a series of additional considerations with a more careful eye on environmental impacts, market dynamics at the retail level, and other issues, will be critical parts of the Transportation Fuels Transition Plan, developed by both the CEC and CARB.

California is leading the United States in a bold zero-emission, clean energy future. Moving forward also requires attention to ensure that no one is left behind. There are critical lessons to be learned in building out the state's clean energy systems, as well as those from smoothly and equitably transitioning away from the fossil fuel dominated energy systems. These lessons will be fundamental in both assisting other economies and helping to ensure that the state's residents can benefit from clean energy.

CHAPTER 1:
Transportation Fuels in California

The Need for a Transportation Fuels Assessment

California's legislature directed the CEC to address transportation fuels in the context of a gasoline price spike in 2022 and the state's bold climate change vision. Senate Bill X1-2 (Stats. 2023, 1st Ex. Sess. 2023, ch. 1) requires the development of an assessment to address the key issue of ensuring a reliable supply of affordable and safe transportation fuels for combustion vehicles in California in the context of transitioning to a zero-emission future.

California's transportation fuels market is currently dominated by gasoline and diesel, the main fuels of consideration in this assessment. These two fuels have two major challenges that affect the stability of transportation fuels prices: an ongoing challenge and a long-term challenge. The ongoing challenge is that supply of these fuels is increasingly constrained with the potential for significant supply shocks, while demand is falling at a gradual pace and there is a significant segment of the population that continues to rely on gasoline (even at very high prices) for their essential transportation needs. California has only two sources of transportation fuel: in-state refining of crude and marine imports of refined fuels. While fuel storage facilities exist to provide some buffer, they are limited and can assist only with short-term fluctuations in refining or gaps in imports. Increased vehicle fuel economy, adoption of zero-emission vehicles (ZEVs), and the recent growth in telework have contributed to gasoline demand contraction since its peak in the early 2000s. Despite these factors and a likely substantial decline in demand moving forward, gasoline is likely to remain the leading transportation fuel for at least a decade, and customers are often captive to changes in prices given limited transportation alternatives.

The longer-term challenge is that ZEV adoption will lead to the most significant change in transportation since the mass production of the internal combustion engine vehicle – the complete transition away from petroleum-based vehicles to zero-emission vehicles, which will fundamentally alter the transportation fuels market.

Understanding the implications of these two challenges and potential options for addressing them is an essential first step in a near-, mid-, and long-term planning effort for the state. This chapter further explores the context that has led to this assessment.

California's Fuel Landscape

California's transportation fuels market differs from many others in the United States. Despite being directly geographically connected to other states, its relatively isolated transportation fuels market makes it essentially a fuel island. Figure 1 shows the fuel pipeline flows for California, Nevada, and Arizona. California has limited fuel connectivity with other states. Some refined fuel is exported to Arizona and Nevada via pipeline. Other refined fuels are, on occasion, exported by ship out of state. However, unlike most other states in the country, there are no gasoline pipelines for import into California, since none of the adjacent states

have fuel refineries.[1] Additionally, the northern part and southern part of the state are not connected by a gasoline pipeline, making them somewhat isolated from each other. The only other way California receives significant quantities of gasoline or gasoline blending stocks is by ship.

Figure 1. Map Showing Pipeline Flows for California, Nevada, and Arizona



Credit: EIA West Coast Transportation Fuels Markets[2]

Other states in the federal Petroleum Administration for Defense District 5 (PADD 5)[3] have similar limited connectivity issues and similar long lead times for deliveries of refined fuels. However, California's unique CARBOB gasoline specification differs from all other states.[4] The CARBOB specification in the California Reformulated Gasoline (CaRFG) Regulation reduces air pollution and is an essential strategy adopted as part of California's State Implementation Plan (SIP). The SIP is a federally mandated plan to ensure that the state is on a path to significantly reduce harmful environmental pollutants that impact public health in California. Current air quality detriments contribute to billions of dollars per year in health-based

1 The closest fuel producing refinery hubs are in Washington state, where the product is received through both a marine terminal and pipeline; Utah, where there is a pipeline through to Nevada; and New Mexico/El Paso, Texas, which has a pipeline that goes directly to Phoenix but is not connected to Southern California.

2 Adapted from U.S. Energy Information Administration Analysis & Projections of West Coast Transportation Fuels Markets. 2015. Available at: https://www.eia.gov/analysis/transportationfuels/padd5/

3 PADD 5 states include Alaska, Arizona, Hawaii, Nevada, Oregon, and Washington, in addition to California.

4 The CARBOB specification was developed to help address the state's unique air quality challenges. CARBOB is blended with 10 percent ethanol prior to distribution to retail stations. The formula changes during summer months to a specification that reduces evaporation during warmer conditions but remains distinct from other formulations used in the United States since it has lower sulfur content and much lower benzene content.

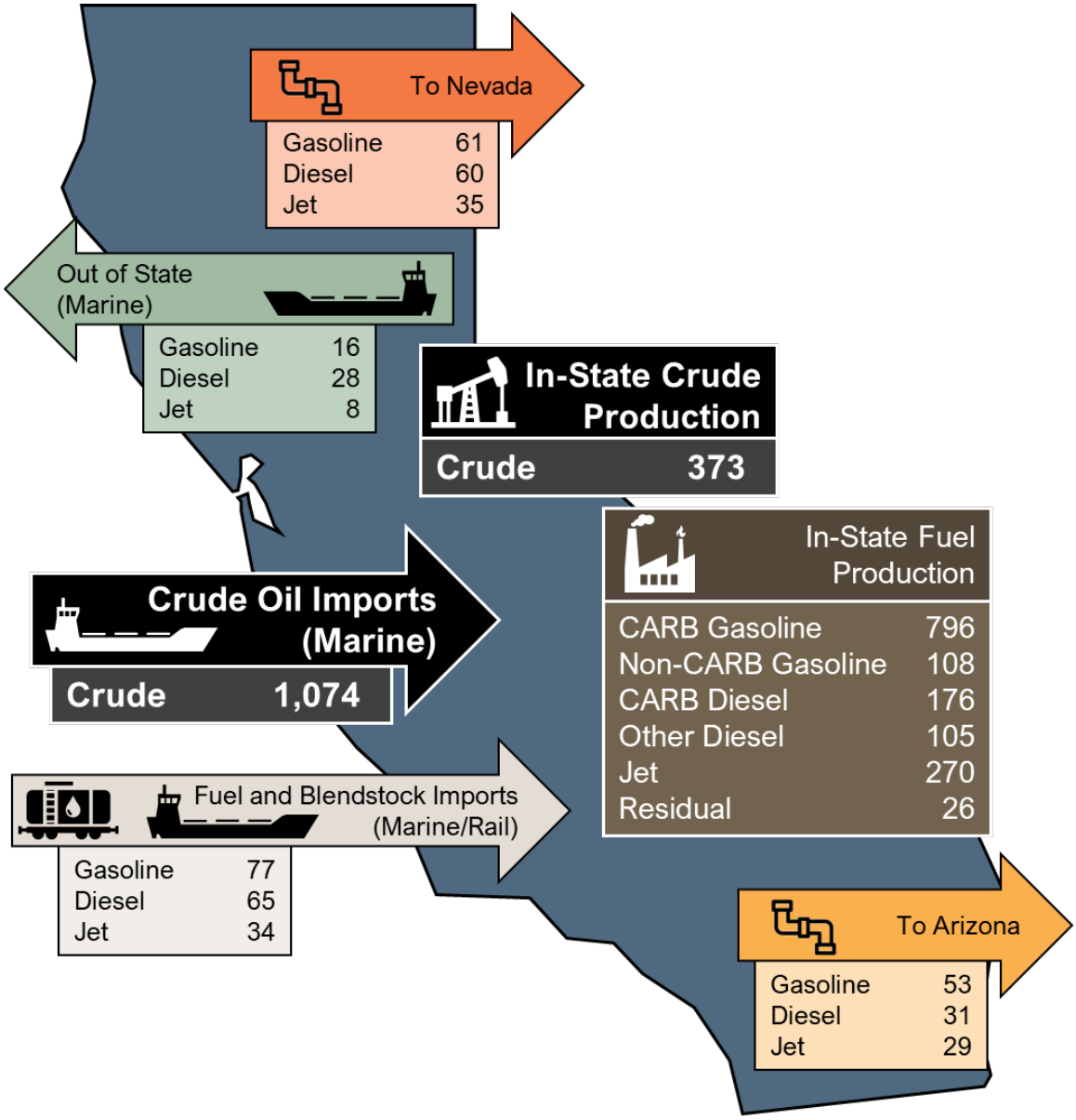
damages. Presently, out of state CARBOB production is limited to a few refineries outside of the state.

The result of this unique specification is that nearly all of California's gasoline is refined in the state, over 85 percent in 2022. Gasoline and blendstock ship cargos take three to six weeks to arrive from overseas, presenting significant challenges for unplanned events that constrict supply.

In 2022, Californians purchased 13.6 billion gallons of gasoline at the retail level, approximately 885 thousand barrels per day (TBD). Given that 10 percent of retail gasoline is ethanol, this amounts to about 800 TBD of CARBOB.

Figure 2 shows the average daily movements and processing of crude and fuel for 2022. The figure shows exports into Nevada and Arizona and to other states by marine vessels. It also shows crude imports and fuel outputs from refineries. Of note are diesel fuel movements. California imports a large amount of biodiesel and renewable diesel (RD), encouraged by the state's low-carbon fuel standard. The state also exports much more diesel fuel than gasoline as a proportion of production, again influenced by the low-carbon fuel standard's incentivization of lower-carbon imports. The figure shows the approximate breakdown of crude-to-fuel conversion: for five units of input crude, refining typically produces about three units of gasoline, one unit of diesel, and one unit of jet fuel. There is some flexibility to get a greater proportion of specific fuel proportions from input crude, but this capability is limited.

Figure 2. 2022 Daily Average California Fuel and Crude Movements and Production Volumes (Thousand Barrels per Day, TBD)

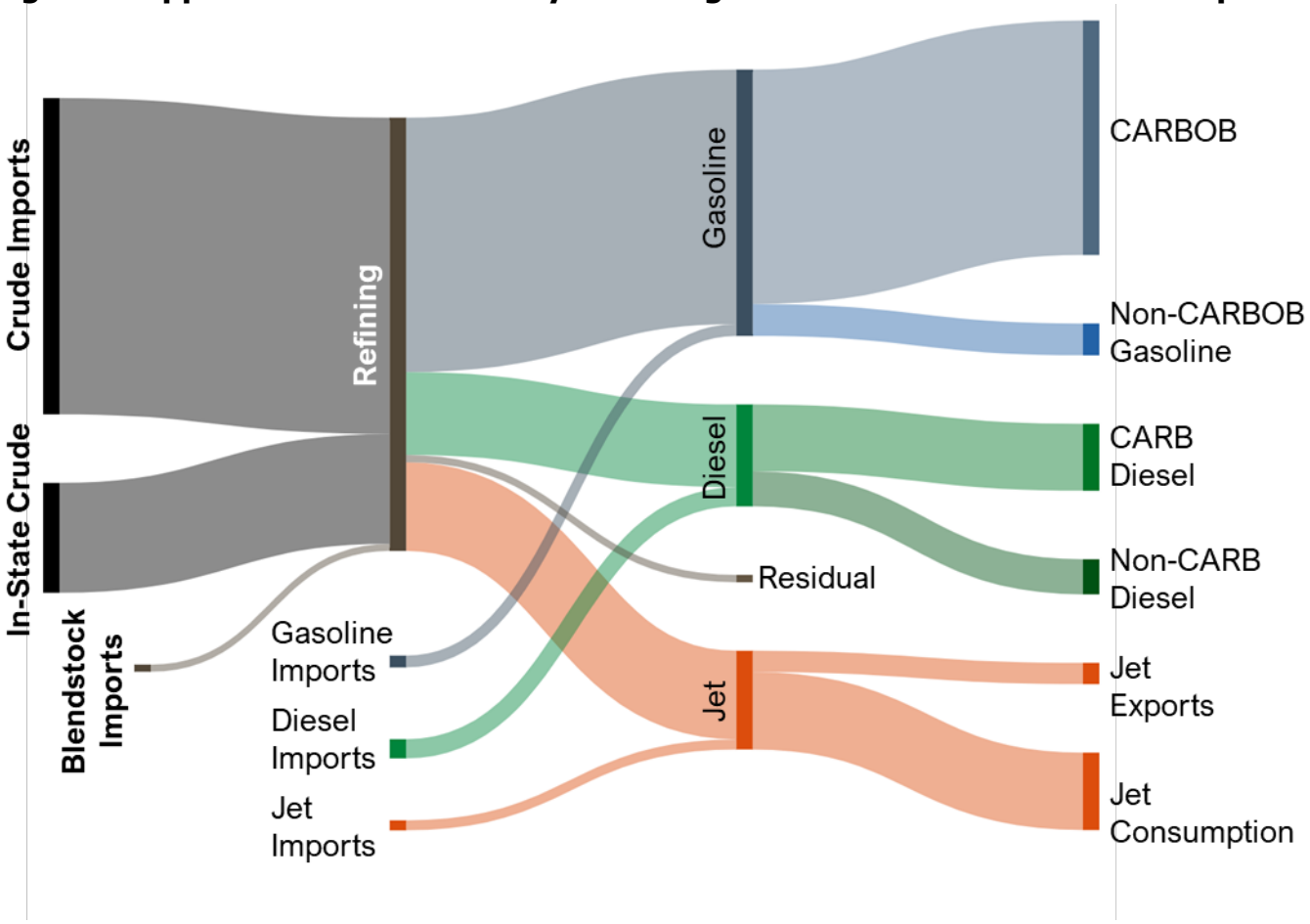


Note: Non-CARB fuel produced in-state is exported to Arizona and Nevada via pipeline, or otherwise out of state via marine vessels.

Credit: CEC Staff

Figure 3 shows the approximate magnitudes and import and export pathways described in the previous figure in the form of a Sankey diagram. On the left are in-state crude production, crude imports, and imports of gasoline and blendstocks that may be used at various stages of refining or pass through refineries into the gasoline supply. Refined gasoline, diesel, and refined jet fuel, along with imports of each, combine with production to result in a set of outputs that are either in a CARB formulation for in-state consumption or exported out of the state.

Figure 3. Approximate Fuel Pathways and Magnitudes for Crude and Other Imports



Credit: CEC Staff

The gasoline refining process is complicated, but in broad terms, California has a refining capacity comparable with its demand. Figure 4 shows the refineries responsible for in-state gasoline production, along with recently closed or converted refineries. While there are 9 CARB specification gasoline producing refineries in the state, four companies own more than one refinery within California, meaning that, of the over 1,000 TBD of California's gasoline refining capacity, five companies control over 90 percent.[5]

Figure 4 shows the approximate maximum CARBOB production capacity of each refinery based on a simple 60 percent conversion assumption of refinery crude input processing capacity:[6]

- Blue tinted bars represent northern California refineries.
- Salmon tinted bars represent southern California refineries.

5 Staff analysis of publicly available data on California's Oil Refineries. Available at https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries

6 This simple assumption is not intended to be precise. Detailed production data is confidential in accordance with PIIRA.

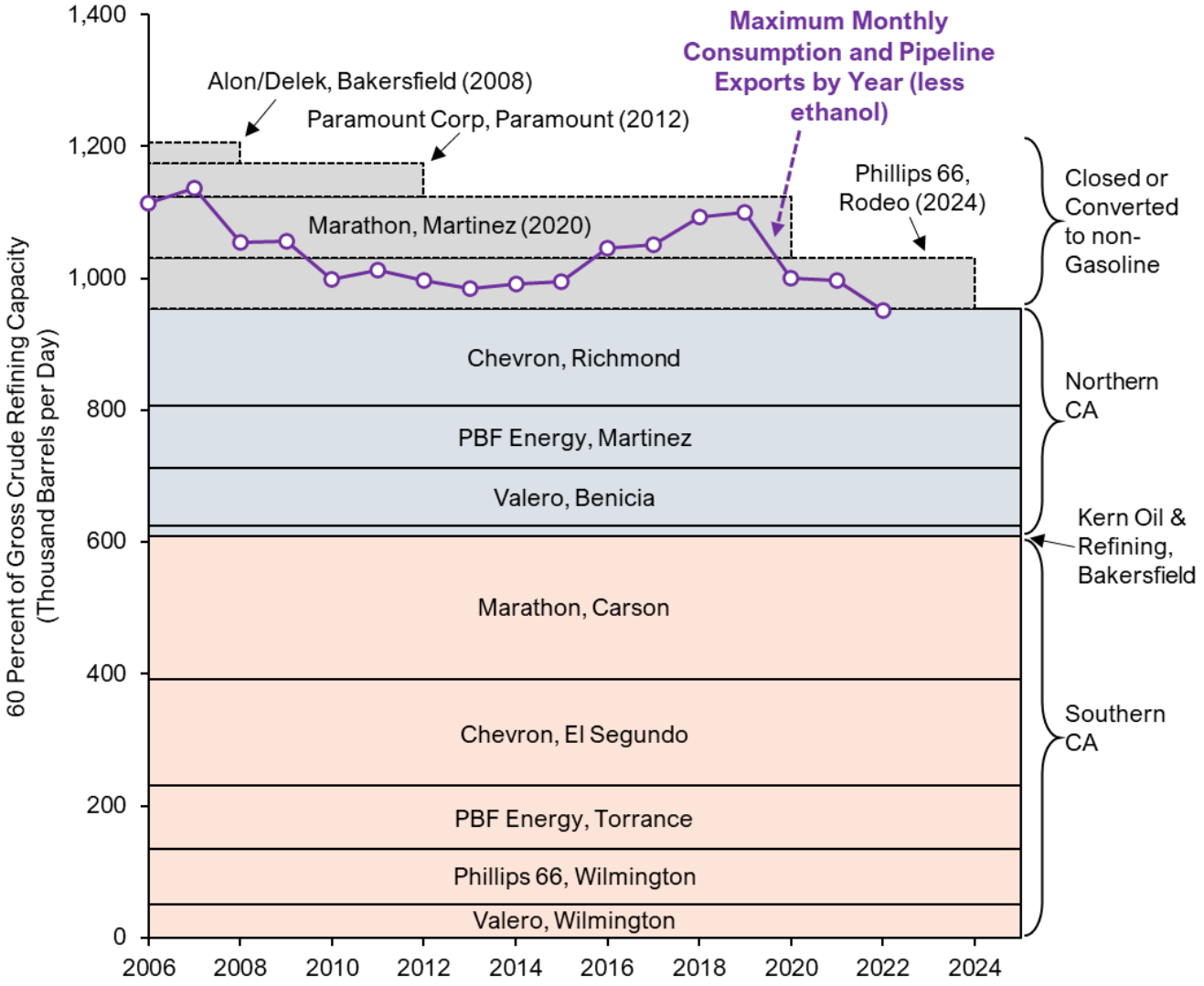
- Gray bars represent gasoline refineries that have closed or are scheduled to close by 2024.
- This figure only shows the CARB specification gasoline producing refineries. It does not include the refineries that only produce CARB specification diesel, such as the San Joaquin Refining Company's Bakersfield refinery.

As California refineries have closed or converted away from gasoline production in the last two decades, maximum gasoline refining capacity has decreased by more than 200 TBD. For example, in 2020, the Marathon Martinez refinery converted to renewable diesel production with no crude refining capacity. Similarly, the Phillips 66 Rodeo refinery ceased production of CARBOB in 2024 and converted to renewable diesel. With these conversions, statewide gasoline refining capacity decreased by nearly 200 TBD.

Refineries typically operate at their maximum stated capacity when possible. Some gasoline produced is non-CARBOB and exported out of the state, much of it on a contractual basis going to Arizona and Nevada. California refineries meet nearly all of California's gasoline demand, with imported gasoline meeting the small residual demand. In Figure 4, the purple line represents the maximum monthly consumption and pipeline exports, which shows that peak demand and supply capacity for gasoline is very tight.

When gasoline prices are high, the more costly marine imports of refined fuels and blendstocks satisfy some of the state's gasoline demand. Refineries occasionally order marine imports ahead of time to address expected supply shortages, but these imports, if any, do not typically replace the full measure of lost production. Moreover, long lead times make marine imports of refined gasoline less feasible for meeting immediate demand when California refineries experience unplanned reductions in capacity or have other supply shortages.

Figure 4. Approximate Peak Gasoline Refinery Capacity Compared to Maximum-Monthly Consumption



Credit: CEC Staff

California is essentially a fuel island. There are no pipeline inflows of refined fuel into the state, and cargo ships delivering CARBOB take three to six weeks to arrive from distant facilities capable of producing CARBOB. By contrast, many other states have a broad network of pipeline flows, multiple regular sources of marine imports, and similar fuel specifications to neighboring states, all of which help to maintain supply resiliency and hence price stability in the market. However, California's petroleum refining industry isolation is driven by several factors.

First, the state is geographically large (164 thousand square miles), topographically complex, and neighboring states are far from California's population and economic centers. The state's population and economic centers are largely clustered in Southern California and in the San Francisco Bay Area—nearly 400 miles apart. While the state is adjacent to three states, the

prospect of building a pipeline distribution system, traversing mountain ranges and deserts to reach the coast or between urban centers may be economically unattractive.

Another reason for California's petroleum isolation is that the petroleum refining industry is an inherently high fixed-cost industry. When industries face extremely high costs, it is inefficient for multiple firms to compete and duplicate infrastructure, which would be prohibitively expensive. The result is increased market concentration and potential risk to consumers.

A third factor in explaining California's petroleum refining isolation is the state's CARBOB requirement. To meet federal air quality standards California phased in its reformulated gasoline requirements in 1992, 1996, and 2003. Californians have benefited from this change in terms of reduced air toxins, improved health, better environmental outcomes, transportation fuels innovation, and other benefits. For example, the California Office of Environmental Health Hazard Assessment found an 80 percent reduction in cancer risk associated with exposure to gasoline-related pollutants between 1996 and 2014.[7] Despite this and other successes, California continues to face challenging air quality management, exacerbated by climate change impacts. By adopting CARBOB, the state also faces an additional trade-off of further isolating the state's petroleum refining industry.

Petroleum refining isolation and market concentration leave California's gasoline market vulnerable to price instability due to crude oil uncertainty, few substitution opportunities on the supply and demand side, and incentives for market manipulation by suppliers with market power. While no state is immune to the broader challenges of crude oil price instability, California faces fuel price instability even when the crude oil markets are stable. Gasoline price stability in the state is closely tied to the available refining capacity, which is highly sensitive to planned and unplanned refinery shutdowns.

A planned refinery shutdown is known well in advance by the refiner, sometimes several years in advance. A refiner with planned maintenance will sometimes build up inventories of product or schedule imports ahead of time to create a supply buffer to replace some lost production. Refiners are not compelled to store fuel, and supply buffers for planned shutdowns typically are not sufficient to prevent an unexpected tightening of statewide supply. When an unexpected refinery shutdown occurs in California, refiners have limited options to resupply quickly, especially with gasoline.

Demand for gasoline is also challenging. Although demand for gasoline peaked in 2005 and ZEV adoption makes fewer drivers dependent on gasoline, demand remains high. Californians must often drive far distances for work and other activities. During price spikes, sales may often remain high because of the difficulty many Californians have in meeting transportation needs with lower cost options. September 2022 and October 2022 gasoline sales were higher than traditional index values for each of those months, despite a price spike in September

7 California Office of Environmental Health Hazard Assessment. 2018. Gasoline-Related Air Pollutants in California. Available at https://oehha.ca.gov/media/downloads/air/report/oehhagasolinereportjanuary2018final.pdf

2022.[8] This "inelasticity" of demand means that price spikes can result in significant costs to Californians who have limited options.

Major Supply and Demand Drivers

Figure 5 plots monthly CARBOB demand against in-state CARBOB production, both actual production and an estimated maximum sustainable production.[9,10] The figure shows that CARBOB demand post-2020 is down approximately 100 TBD (11 percent) from pre-2020 levels. The market rebalanced with the conversion of one refinery in 2020.

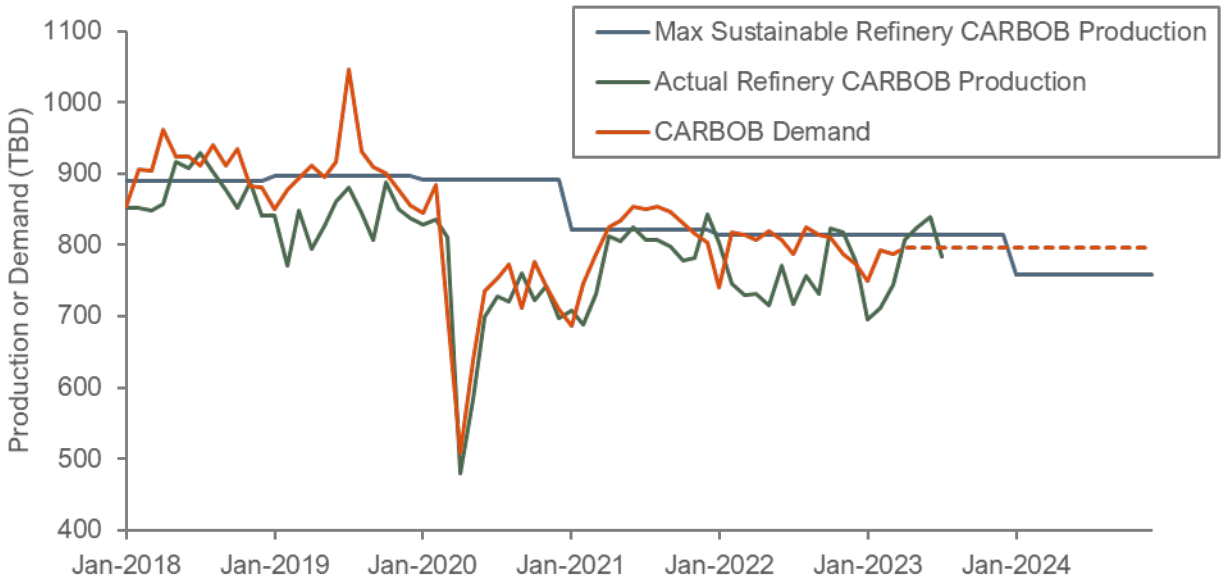
Although post-2020 maximum sustainable refinery CARBOB production remains capable of meeting current demand, actual refinery production has lagged maximum levels due in part to planned and unplanned refinery outages. Maximum sustainable refinery CARBOB production has declined further with the 2024 conversion of the Phillips 66 Rodeo refinery. The small gap between production capacity and demand increases price spike risk. Even if spikes do not occur every year, small production problems or other market effects make them more likely.

8 CEC staff analysis of gasoline sales data from the California Department of Tax and Fee Administration. Available at https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm

9 CARBOB lines in the chart do not include the total volume of supply and demand of gasoline, of which 10 percent is ethanol. Actual supply and demand of retail gasoline should be taken to be 10 percent larger.

10 Maximum sustainable refinery CARBOB production is estimated by taking the total operating California refinery capacity as of January 1 each year and assuming a 52 percent CARBOB yield and a 90 percent maximum sustainable capacity utilization. The maximum sustainable refinery CARBOB production is projected forward through the end of 2024, assuming the shutdown of the TBD Phillips 66 Rodeo refinery in 2024. A simple flat calculation of 57 TBD of maximum sustainable yield of CARBOB is assumed for this refinery's stated capacity of 128 TBD of crude refining capacity. Demand is projected forward from March 2023 using a flat assumption of 800 TBD.

Figure 5. Actual and Maximum Sustainable California Refinery CARBOB Production vs. CARBOB Demand, January 2018 - December 2024



Credit: ICF analysis of EIA and CEC data

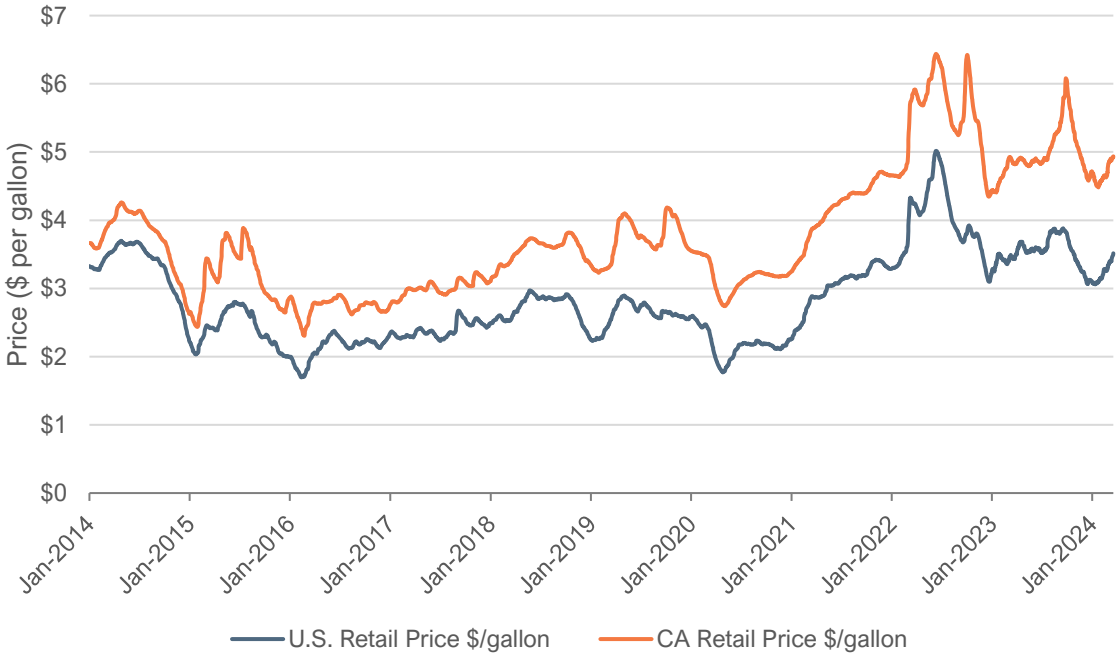
The 2022 Gasoline Price Spike

In 2022 the world faced an energy crisis triggered by Russia's invasion of Ukraine. Months after the onset of the war, September 2, 2022, California wholesale gasoline prices (also known as the CARBOB Spot market) began steadily rising, resulting in a price spike that peaked at $6.21 on October 3, 2022, $2.61 higher than the U.S. average. The spike ended shortly after Governor Newsom sent a letter to CARB on September 30, 2022, calling for an early transition to winter blend fuel specifications to increase supply, which allows refiners to produce higher gasoline volumes. Thereafter, prices began to decline for several weeks, marking one of the sharpest 4-week declines in gasoline prices in CEC records for the last 20 years. In 2022, petroleum companies reported record profits.[11] CEC is still evaluating the in-state costs and profits associated with the 2022 spike in the context of seasonal variability.

The figure below shows the average gas prices for California and the United States. In 2022, it is shown that the second price spike was only experienced in California and not the rest of the country.

11 See the Governor's January 31, 2023 press release. Available at https://www.gov.ca.gov/2023/01/31/big-oil-made-record-2022-profits-while-fleecing-california-families/

Figure 6. California and U.S. Retail Gas Prices in $/gallon[12]



Credit: EIA Data

In response to the 2022 gasoline price spike, the CEC held a hearing on November 29, 2022, to examine the factors behind this price spike.[13] The hearing discussed differences between the 2022 September-October price spike contrasted with previous price spikes. Unique to the 2022 price spike was the lack of a major unplanned shutdown event. Instead, planned maintenance at several refineries extended past their projected completion dates. Of the ten refineries that then produced CARBOB, four refinery maintenance periods overlapped. This led to a significant reduction in production beyond the decline typically occurring with maintenance. This reduction cumulatively totaled six percent, or 55 TBD, and held longer than anticipated for weeks, while inventory levels remained at decade lows. The spike ultimately pushed retail prices to $2.61 higher than the rest of the United States.

A discussion panel at the hearing identified the conversion of Marathon Martinez refinery, completed in October 2020, as a contributing factor to the low inventory levels and general supply tightness underlying the 2022 price spike. A leading cause for Marathon Martinez's early conversion was due to the COVID-19 pandemic's demand shortfalls. The hearing panel identified many other factors that contributed to the spike. Many of these factors were similar to those in previous price spikes. Some panelists stated that refineries exerted market power

12 These values are not adjusted for inflation. That is, they are nominal values rather than inflation-adjusted "real" values.

13 See CEC's website for a transcript of the November 29, 2022, "Commissioner Hearing on California Gasoline Price Spikes, Refinery Operations, and Transitioning to a Clean Transportation Fuels Future." Available at Commissioner Hearing on California Gasoline Price Spikes, Refinery Operations, and Transitioning to a Clean Transportation Fuels Future

to take advantage of a shortage, while others acknowledged the general concentrated supply dynamics of the California market.

Spot Market Concerns and Manipulation Risks

The conditions surrounding the 2023 gasoline price spikes raised already heightened concerns about possible market manipulation in the petroleum refining industry. The Division of Petroleum Market Oversight (DPMO), recently established under SB X1-2, identified a potential concern in the spot market. An unusual transaction on September 15, 2023, caused the spot market price to increase by nearly $0.50 per gallon within one day.[14] Changes in the spot market directly affect contracts indexed to the reported price and also heavily influence overall market participant perceptions. This in turn impacts other wholesale and retail prices in very short order. DPMO also identified several other critical issues that may have exacerbated the price spike, including unnecessarily low inventories and inadequate imports to address backfill production shortfalls. Continued price increases throughout this price spike period were a significant cost to consumers.

The spot market is of concern because it is opaque and susceptible to manipulation. Not all transactions on the spot market are reported to price information companies such as OPIS, and in some cases, there may be an incentive for an actor to make a large high-cost purchase and report it to encourage a spike when there is no underlying supply tightness. The spot market is discussed in more detail in Chapter 2, and is an important place for policy reform, as discussed in Chapter 3.

Longer-Term Challenges with Price Stability

Although recent late summer-early fall gasoline price spikes caused undue financial strain for Californians, each was addressed relatively quickly compared to other price spikes. The spikes did, however, serve as a broader indication of potential gasoline price stability challenges as Californians transition to a low-carbon economy.

California is leading the way to a low-carbon economy, including through dramatically reduced gasoline consumption from just a few years ago. The significant changes that have occurred in commute patterns and adoption of ZEVs in the past several years have resulted in Californians consuming nearly two billion fewer gallons of gasoline in 2022 and 2023 than in 2019.[15] As noted above, this marked change in consumer demand is expected to be much more gradual going forward than it was in the wake of the Covid-19 pandemic. However, supply will likely constrict in a manner which is lumpy -- as observed in the last several years, additional refineries are likely to convert to producing other non-CARBOB fuels or discontinue operation, resulting in significant and sudden reductions in supply.

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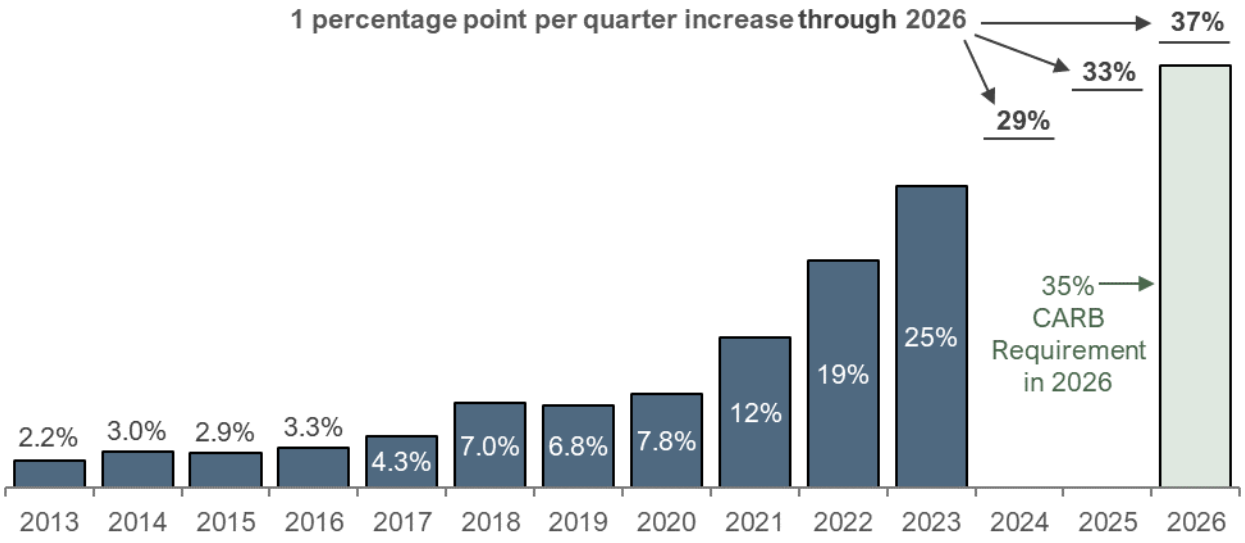
14 State Officials Provide Update on Gas Prices, Unusual Petroleum Market Transaction (ca.gov). Available at https://www.energy.ca.gov/news/2023-09/state-officials-provide-update-gas-prices-unusual-petroleum-market-transaction

15 See 2024 California Energy Commission and California Department of Tax and Fee Administration Joint Report to Legislature, at Figure 2.

Of note is the increase in new ZEV sales seen in the last few years, growing to one in four new cars in 2023. Continued growth in ZEV sales share is expected from increasing manufacturer investments as well as the CARB's Advanced Clean Cars II Regulation. This regulation increases requirements starting in 2026 for ZEVs to ultimately reach 100 percent of new light-duty vehicles sold in 2035.[16] The most recent market data from the CEC's ZEV sales dashboard suggests that vehicle manufacturers in the state are on a trajectory to exceed the regulation.[17]

Figure 7 shows the ZEV market share seen in the last decade. A conservative extension of continued market growth in ZEV sales (one percentage point per quarter) shows that ZEV sales will meet or even exceed the 2026 ZEV sales share requirement of 35 percent.

Figure 7. ZEV Market Share of New Passenger Vehicle Sales and Simple Projections



Credit: CEC ZEV Dashboard

In the medium- and heavy-duty vehicle market, ZEVs are also poised for rapid growth. New regulations by CARB will require these fleets to increase their proportion of ZEVs to improve air quality and address climate change. While this is expected to occur slightly behind the pace of the light-duty sector, technological advancements seen in the light-duty sector will likely translate into high levels of growth in this sector as well.

Increasing customer interest in ZEVs combined with new ZEV sales requirements are changing customer demand currently and may further change customer behavior. For example, with more ZEV ownership, demand elasticity for gasoline may increase. This could occur in cases where a family owns both an electric car and a gasoline-powered car. During a price spike for gasoline, the family may opt to drive the electric car more. This transportation substitution effect would be a substitution behavior that was previously more limited. Such a behavior may

16 California Air Resources Board. 2024. "Advanced Clean Cars II." Available at https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii

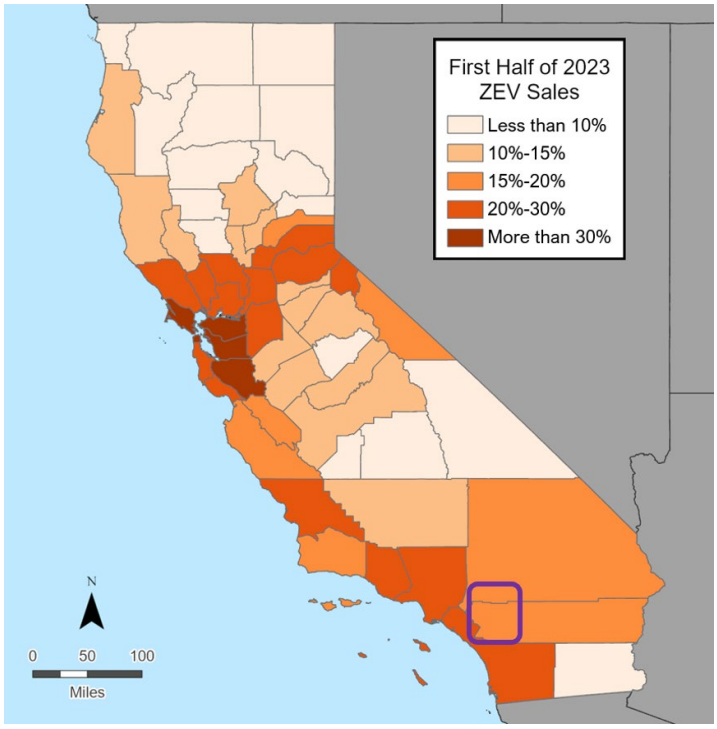
17 California Energy Commission. "New ZEV Sales in California." Available at https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/new-zev-sales

provide enhanced demand responsiveness that could add to price stability. It should be noted, however, that lower-income families tend to have lower levels of multiple vehicle ownership. Families that only own only one car, if it is not a ZEV, would not benefit from a direct fuel substitution effect, but they may benefit from the broader price stability effects.[18]

Even with the successful implementation of CARB's Advanced Clean Cars II and other regulations with 100 percent sales requirements in 2035 and 2036, internal combustion engine (ICE) vehicles will not completely disappear in the mid-2030s. For at least one or two decades following full implementation of these regulations, ICE vehicles will remain on roads, although their presence will decline. These vehicles will need gasoline.

The distribution of ICE vehicles on the road in future decades in the state will present equity challenges. Figure 8 shows the distribution of ZEV new sales share by county. The figure indicates that rural areas of the state do not have the sales penetration that more urban areas of the state have. The purple box in the figure shows dense urban areas in the far western portions of counties that are otherwise rural — a county may look higher overall because of the dense urban areas in the western portion.

Figure 8. New ZEV Sales Share by County



Credit: CEC Staff

Given that many ICE vehicles will remain on the road and many of the owners may be in less affluent regions of the state, an equity challenge arises when thinking of ZEV deployment. A less stable gasoline price may not have any impact on an upper middle-class resident who

18 For example, CEC staff analysis for transportation forecasting shows that, for families with a household income of $80,000 per year or less, the ownership rate of more than one vehicle is 35 percent. For families with a household income of greater than $80,000, the ownership rate of more than one vehicle is 72 percent.

lives in Los Angeles and drives a ZEV. By contrast, it is likely that many or perhaps most rural and lower income residents may be most impacted by future gasoline price spikes. The state has programs that enhance ZEV access for many low-income California families. For example, the Clean Cars 4 All program allows low-income families that live in or near a disadvantaged community to receive large incentives to scrap an older, higher emitting vehicle for a clean mobility option. Under the Funding Plan for Clean Transportation Incentives, 63% of the 2023-2024 fiscal year's investment funds will go toward bolstering equitable access, resources, and support for low-income and disadvantaged communities.[19] Although these efforts to build towards an equitable transition are critical, the state must also address gasoline demand that remains.

In addition to the challenge of the long-term demand for fuel, albeit at a lower volume, as described above, there is a challenge with the supply of fuel. With only nine refineries in the state producing gasoline, permanent declines in demand will have unknown effects on the market. It is possible that more refineries will close or convert to producing renewable fuels, decreasing the resiliency of CARBOB supply to the California market. Another supply shock in these conditions could lead to price spikes, which would have the largest impact on vulnerable communities.

Future Demand Disruption

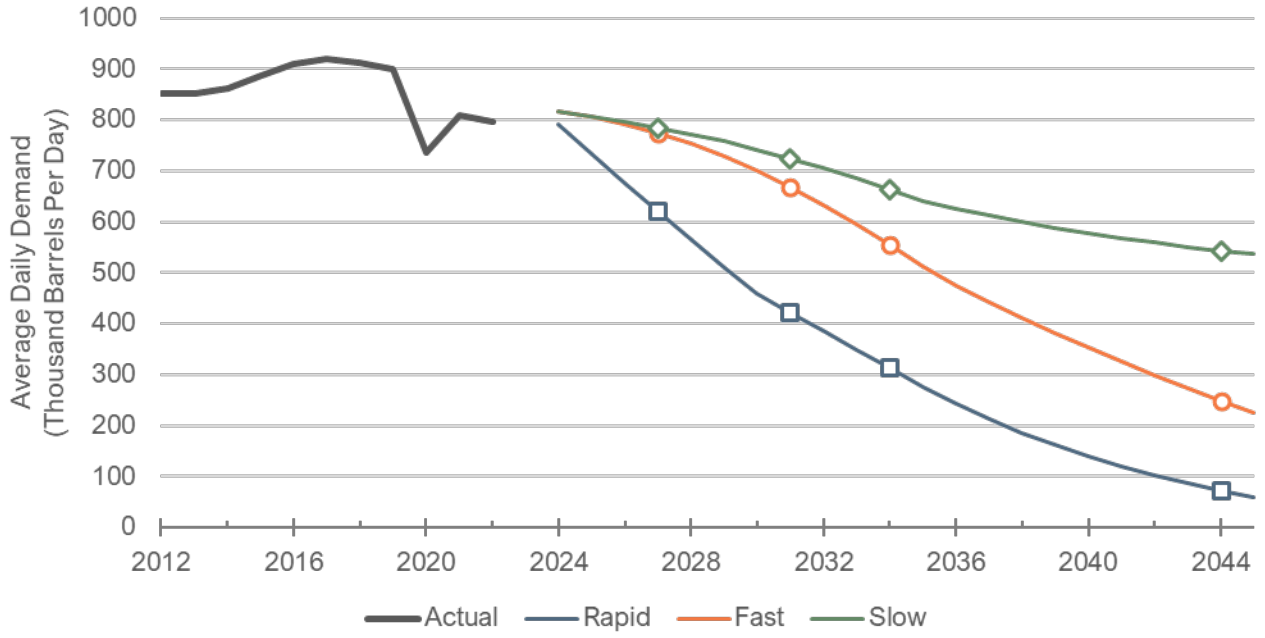
With the proliferation of zero-emission technologies, there are implications for the combustion fuels market. As demand for combustion fuels declines, refineries may close, resulting in a less resilient supply. With fewer refineries, unplanned maintenance or extension of planned maintenance at one or more remaining refineries will mean that a larger proportion of in-state supply is offline. Further, the pace of ZEV deployment still has some uncertainties. A wide variety of scenarios with different trajectories is important to envision the implications of the transition.

Fuel Demand Scenarios Considered

Figure 9 shows historical consumption and three demand scenarios of gasoline associated with potential ZEV adoption and customer behavior changes. The scenarios are drawn from CARB's 2022 Scoping Plan and CEC's Integrated Energy Policy Report (IEPR) forecast and includes a rapid development, a fast development, and a slow development of ZEV adoption (and associated gasoline demand decline). Refinery dynamics are likely to differ in each scenario but may reveal important patterns and sensitivities. Markers for each scenario are applied at 3-year, 7-year, 10-year, and 20-year intervals from 2024 for reference.

19 CARB Press Release: CARB approves incentive funding plan that invests in equitable transition to zero-emission future. Available at https://ww2.arb.ca.gov/news/carb-approves-incentive-funding-plan-invests-equitable-transition-zero-emission-future

Figure 9. CARBOB Consumption and Demand Scenarios Under Consideration for the Assessment



Credit: CEC Staff, CARB Scoping Plan Data [20]

The rapid development shows a sharp decline in gasoline demand in early years and continued decline through 2045. This development is based on CARB's 2022 Plan Update for Achieving Carbon Neutrality (Scoping Plan). Driving the decline in demand is a rapid market expansion of ZEVs and a marked decline in per capita passenger vehicle miles traveled (VMT). The Scoping Plan scenario includes a 25 percent reduction in per capita VMT by 2030 compared to 2019, growing to 30 percent by 2045. The Scoping Plan discusses a series of strategies for achieving this goal, but there are no statutory or regulatory mandates that require VMT to decline. One such strategy to reduce VMT is to foster more compact, transportation-efficient development in infill, urban areas.

The fast development shows a gradual decline in gasoline demand through 2028, with a transition to a steep descent through around 2037. Remaining ICE vehicles and other sources of demand slow the decline of demand through 2045. This scenario is an extension of the CEC's 2022 transportation energy demand forecast scenario called Additional Achievable Transportation Electrification Scenario 3. This scenario through 2035 is a regular component of the CEC's IEPR. The scenario incorporates ZEV adoption as required with CARB regulations, such as Advanced Clean Cars II and Advanced Clean Fleets. The extension of fuel demand past 2035 is somewhat limited in the CEC's transportation energy modeling framework, but it does present a distinct picture from the CARB scenario. The difference between this scenario

20 Actual demand for 2023 will be available in mid-2024.

and the rapid scenario primarily results from a difference in per capita VMT. The fast development does not assume a decline in per capita VMT.

The slow development shows a noticeable decline through 2035 but then only slightly declines in demand post 2035. This scenario is an extension of the IEPR transportation forecast baseline forecast, which has lower ZEV adoption than the fast development. This scenario is not driven by the CARB regulations in the fast development scenario. Rather, the slow development scenario is driven primarily by 2022 market trends and existing and projected consumer preferences for ZEVs. This type of scenario could occur if federal preemption or judicial decisions were to limit the ability of CARB to enforce its vehicle regulations.

Fuel Supplier Pathways in Response to Demand Scenarios

As gasoline demand declines in the coming years (consistent with the demand scenarios above), refiners and suppliers will need to determine how to modify their operations as CARBOB demand declines. These actions may differ among refiners due to each having different perceived market risks as demand profiles decline. Below are two general response pathways. The actual response pathway may represent a combination of different responses from each refiner and within Northern California or Southern California.

One possible pathway is that refining declines as demand declines and California has adequate supplies to meet demand, resulting in refinery closures. Another pathway is for refiners to pivot towards exports of refined fuels or blendstocks. However, if refineries close, or if export strategies result in lower CARBOB production capacity, demand could quickly outpace supply and price spike risk will increase. The purpose of this report is to explore different future scenarios and identify how the state might intervene to assure an affordable, reliable, equitable, and safe supply of gasoline for consumers who need it.

Pathway One: Reduced Gasoline Production

In pathway one, penetration of ZEVs and the associated decline in gasoline demand will drive a reduction in CARBOB production in the state.[21] In this scenario, refiners would reduce crude refining runs to lower the production of gasoline. Eventually, declining refinery operations will lead to refinery closures or conversions to non-gasoline biofuels.

Although there is some flexibility with refining crude oil into different fuels besides gasoline, this capability is limited. Petroleum diesel is an unlikely alternative, as renewable diesel penetration has grown to more than half of all diesel consumed in the state as of 2022.[22] The limitation of gasoline production shifting to diesel production is also suggested by the recent increase in diesel marine exports as a proportion of total marine exports. Diesel production will also decline as renewable diesel production or imports into California continue to grow. Shifting some gasoline production to jet fuel production is more likely, but the ability to do so is limited for each refinery.

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21 This assumes that Nevada and Arizona demands are stable.

22 California Air Resources Board. "Low Carbon Fuel Standard Reporting Tool Quarterly Summaries." Available at https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterly-summaries

The specific refineries that would shut down under this pathway are uncertain, but the in-state capacity for refining would not be a smooth decline like the demand scenarios. Rather, the supply response will be "lumpy" in the sense that a typical refinery is capable of supplying about 10 to 20 percent of overall state demand. Should one refinery close or convert (to renewable diesel), a large portion of in-state CARBOB supply essentially vanishes. The position of other refineries will be temporarily bolstered, resulting in an increase in market concentration. However, suppliers could choose to secure additional CARBOB supply from other domestic or foreign refiners if it is economically viable.

Declining demand may make it more difficult for smaller refiners to remain in the market. This could result in only the larger refiners remaining in each of the northern and southern parts of the state and consolidating the market, reducing competition. Although the northern and southern parts of the state are somewhat isolated, intrastate shipping from one part of the state to another could become a more common practice (See Appendix A on Marine Imports Evaluation). It may be that in one part of the state the last remaining large refinery completely shuts down and the state becomes reliant entirely on imports or intrastate movements. Under these conditions of lower supply, shipping capacity at reception ports should be relatively feasible, as intrastate movement was quite common in previous years.

The specific assets that would shut down under this scenario are highly dependent on the refiners' strategies as they see how their current sales mix may or may not optimize their business.[23] Exports to Arizona and Nevada may also play a role, given that demand in these states may remain strong.

23 For instance, the refiner's sales mix of dealer tankwagon sales, branded or unbranded sales, bulk sales, etc., would impact the decision to shut down operations. Dealer tankwagon sales are delivered sales of branded fuel by a refiner or supplier to a service station. These sales prices are typically higher than Branded rack sales since they include the cost of delivery to the service station.

Table 1 lays out some possible pathways of refineries that could continue to produce gasoline under declining demand. Conceivably under the rapid development scenario, California could be down to one or no refineries by 2044, due to the decreased demand for gasoline in the State.

Table 1. Possible Gasoline Refineries Remaining Under Each Demand Scenario Under Pathway One

Year	Rapid Scenario	Fast Scenario	Slow Scenario
2027 **3 years**	620 TBD Demand 3 Northern refineries 4 Southern refineries	780 TBD Demand 4 Northern refineries 5 Southern refineries	785 TBD Demand 4 Northern refineries 5 Southern refineries
2031 **7 years**	420 TBD Demand 2 Northern refineries 3 Southern refineries	670 TBD Demand 4 Northern refineries 4 Southern refineries	720 TBD Demand 4 Northern refineries 4 Southern refineries
2034 **10 years**	310 TBD Demand 1 Northern refinery 2 Southern refineries	555 TBD Demand 3 Northern refineries 3 Southern refineries	660 TBD Demand 4 Northern refineries 4 Southern refineries
2044 **20 years**	70 TBD Demand Extremely low demand, possibly no refineries	250 TBD Demand 1 Northern refinery 1 Southern refinery	540 TBD Demand 3 Northern refineries 3 Southern refineries

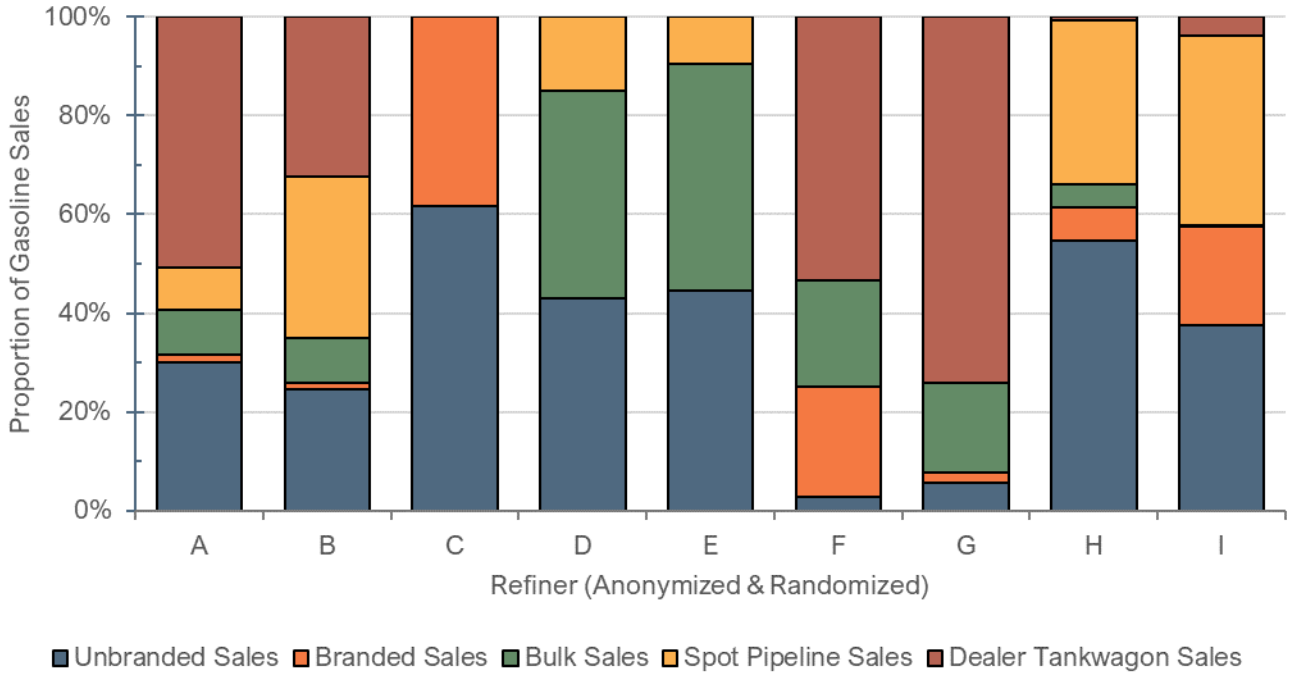
There are significant logistical issues that need to be resolved during the demand decline and supply phase down, which will be a primary component of the Transportation Fuels Transition Plan established in SB X1-2. The remaining refineries will need to be suited for access to their associated market. The response by infrastructure owners (i.e., terminals and pipelines) with much lower volumes is uncertain. Addressing other petroleum needs (e.g., lubrication products) may become challenging if the only refinery on the west coast capable of producing them closes. Jet fuel imports would need to increase substantially even with moderate penetration of reasonable substitute aviation services (e.g., sustainable aviation fuel, hydrogen, or electric aviation).

The precise response under the refinery closure pathway is also dependent on other factors besides refinery capacity, so the Pathway One supply responses in

Table 1 remain merely possible and not at the confidence level of a forecast. For example, individual refiner gasoline marketing and production optimization strategies are very diverse. For example, anonymized refiner data for July 2023 shows very diverse sales strategies (see

Figure 10) for CARBOB in California. Some refiners sell significant delivered dealer tank wagon (DTW) volumes, others a high percentage of unbranded fuel, and others spot market sales or bulk sales. It is uncertain which sellers would tend to leave the market first or how shifts in their sales strategies will unfold in response to declining demand.

Figure 10. Refinery Gasoline Sales Type, July 2023 by Refiner



Credit: CEC Staff

In addition to the uncertainties associated with supply reactions to declining demand, the associated gasoline price consequences are even more challenging. As mentioned above, increasing ZEV penetration may increase the elasticity of demand for gasoline in addition to the general demand for gasoline. Increased elasticity means that supply disruptions may be less problematic. However, general market concentration factors and the lumpiness of the decline suggest that higher prices and price spike risk may continue to be challenging, especially for lower-income California families. This speaks to the importance of policies to mitigate price spikes, discussed in Chapter 3.

While Pathway One shows a future where the refineries will gradually close over time as the demand for CARBOB declines, the CEC notes that refiners could continue to process crude and export product to domestic and foreign markets, extending the effective life of some refineries at least.

Pathway Two: Maintain Crude Runs and Export Non-CARBOB Gasoline

In light of declining demand for CARBOB, it is possible that some refiners may maintain crude processing and export gasoline or gasoline blendstocks to other states or foreign countries.[24]

24 The study assumes that the Phillips' Rodeo refinery will close as planned in 2024.

The likely main export markets would be to foreign countries via marine cargos. Pipeline exports to Nevada have stabilized in recent years, and most of the state's gasoline comes from California. While pipeline exports to Arizona have increased in recent years, representing only about half the state's consumption, other imports into Arizona are competitive. Both Nevada and Arizona have low levels of ZEV adoption compared to California, but they are experiencing exponential growth in ZEV registrations.[25] Although demand for gasoline may not decline on the same pathway as California, it is not likely that demand will increase significantly in the near term, and ZEV penetration within those states by the end of the decade may mean a decline in demand. Other nearby states such as Oregon and Washington have adoption rates that are closer to California.

The reason for pivoting to export is that each refinery has fixed costs (labor, maintenance, etc.) that do not decrease when crude refining runs decrease, so they have a financial incentive to keep their crude input high. One challenge for this strategy is that export products, either gasoline or diesel, must compete with fuel provided by export refineries in Korea, Singapore, India and other Asian markets. The "netback" to California refiners after accounting for freight will lower the margin for those export barrels. However, the California refiners may be competitive into Latin America, so there may be some export potential.

Each refinery conducts detailed planning for its operations and the products it manufactures. There are several questions that demonstrate the areas of complexity in this pathway:

1. Do potentially lower export profits erode refinery margins so much that California refineries continue to close or convert to renewable diesel?
2. Since California crude production is going to decline (fracking and conventional production), does it make economic sense to import crude with much of it going to refined exports?
3. What are reasonable market limits on the volumes of fuel that can be exported to domestic and global markets? How much surplus gasoline and diesel are economic to export?
4. Does this "run and export" scenario provide a cushion during gasoline shortfalls in the transition by sustaining refinery operating capacity to produce more CARBOB if needed?
5. What are the impacts to fence line communities as California demand drops and some refiners utilize exports to stay in business and balance their production?
6. Would there be adequate shipping available to export required volumes to foreign markets, or pipeline capacity to export more to Nevada or Arizona?

It would be surprising if California refiners did not attempt to continue to operate their refineries to produce fuel and find export markets for their products, although the extent to which this is feasible is uncertain. Viable export markets in Mexico or Latin America may be reasonable to expect but could be limited. Refiners who import crude from the Persian Gulf and then seek to export to the Far East may find that the marginal cost of the foreign crude

25 For ZEV registrations by state, see: TransAtlas

and the low net returns to move the products into the Far East may not be economic. This could drive crude run reductions or further refinery conversions to renewable diesel.

During the August 17, 2023, workshop on the Transportation Fuels Assessment, participants noted that there would be additional supply resiliency against outages at remaining refineries by sustaining some CARBOB production capacity in California above statewide demand.

While CARBOB demand falls under the rapid, fast, and slow scenarios, refiners will have to decide whether to compete for shrinking CARBOB demand or to find export markets (domestic or foreign) for their product. The ability of refiners to maintain crude refining runs as demand for CARBOB and diesel fuel declines will become very challenging due to port constraints, limited market outlets, and weakened refinery economics.

CHAPTER 2: Petroleum Basics

The CEC's experience with petroleum issues goes back to the inception of the agency in 1975, spurred by energy crises at the time, some of them involving petroleum. This Chapter provides a broad overview of refining, explores a suite of petroleum issues, and provides context for the CEC's role in understanding petroleum.

The Petroleum Industry Information Reporting Act of 1980

Enacted in 1980, the Petroleum Industry Information Reporting Act of 1980 (PIIRA) (Public Resources Code § 25350 *et seq.*) enables the CEC to require data from various petroleum industry participants, including refiners and marketers. The business and product information from industry participants are collected as reports at weekly, monthly, and annual frequencies. The CEC holds confidential information collected under PIIRA as confidential at the individual company level but publishes aggregated data.

Senate Bill 1322 (Allen, Chapter 374, Statutes of 2022), enacted in September 2022, establishes new reporting requirements under PIIRA on the gross margin of gasoline sold in California by refineries. The bill requires refiners that produce gasoline meeting California specifications to report the following: volume-weighted average gross gasoline refining margin, volume of crude oil purchased, price of crude oil purchased, volumes and prices by type of sale, and estimated LCFS and Cap and Trade compliance costs of gasoline sold in California. The data provided in the reports allows for a gross margin to be calculated at various types of petroleum wholesale distribution: branded, unbranded, bulk, and dealer tank wagon (DTW). The CEC publishes margin information from these reports on its website in an aggregated and anonymized format, per PIIRA provisions, 45 days after reports are due.

Senate Bill X1-2 requires additional information from refiners, traders, importers, and other market participants. Refineries are required to report additional information regarding their refining margins such as refined gasoline purchases, operational costs, and a net gasoline refining margin. SB X1-2 also introduced maintenance reporting, including the requirement that maintenance plans be submitted to the CEC 120 days before work commences, daily spot market transaction reporting, and marine imports reporting with a minimum of 96-hour ahead notice. This expanded information improves monitoring of maintenance, provides better insights into the operations and profits of gasoline refiners, and increases visibility into the spot market and petroleum product imports. With the additional data, the CEC can determine if a maximum gross gasoline refining margin should be applied, what the maximum value should be, and potentially a penalty for exceeding that value.

A Primer on Petroleum

The purpose of this section is to provide readers with a base of knowledge for understanding SBX 1-2. This section is a simple narrative explanation of the process that crude oil takes to become gasoline fuel into a customer's tank in California. This narrative introduces terms and concepts in common use within the petroleum industry.

Crude Oil Basics

Crude oil, or petroleum, is composed of hydrocarbons and other organic materials found in the Earth's crust. Crude oil is refined primarily to provide energy through transportation fuels, such as gasoline and diesel, and to produce petrochemicals used in various products like fertilizers and plastics.

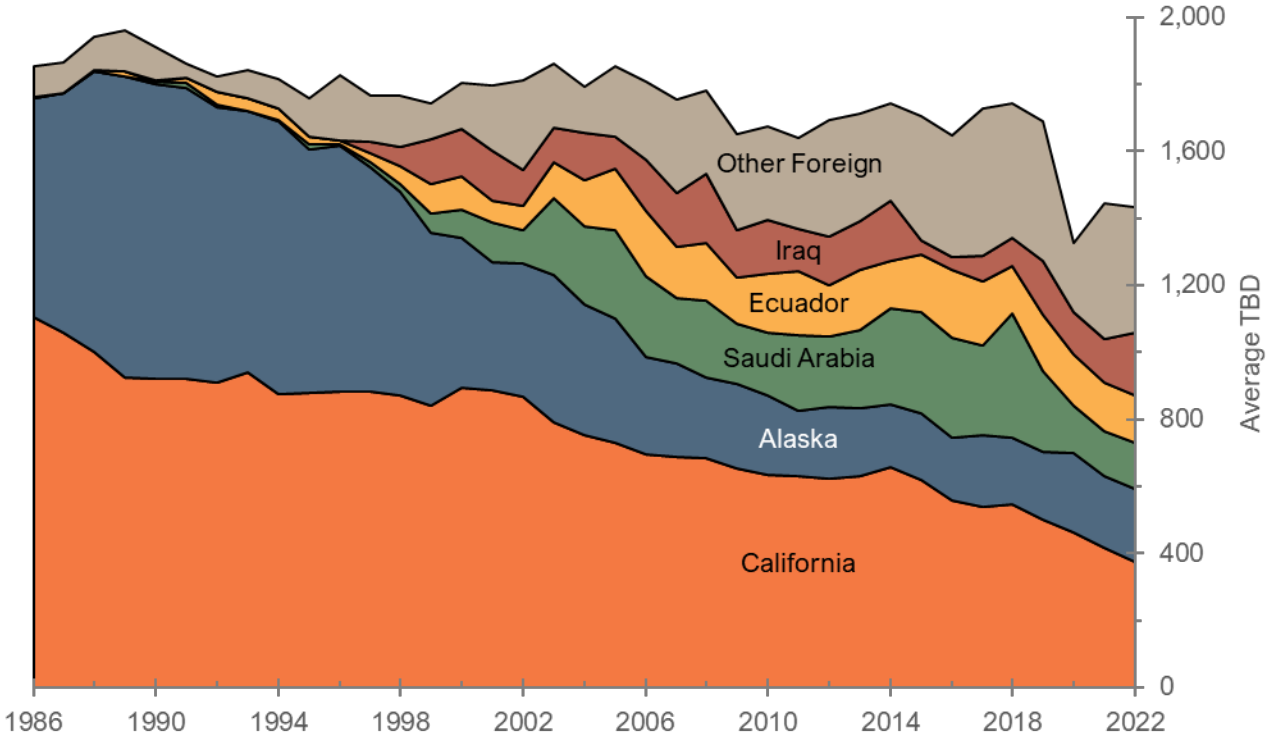
Crude oil is graded mostly by its density and sulfur content. Light crudes are less dense than water, while heavy crudes tend to be denser than water. More technically, in California, crude less than 20 API gravity[26] is referred to as "heavy crude."[27] A sweet crude has a sulfur concentration below 0.5 percent and a sour crude has a sulfur concentration above 0.5 percent. These properties of crude oil determine its market value. Crude oil that is light and sweet is usually more expensive than crude that is heavy and sour.

Crude oil is priced by the barrel (bbl), equal to 42 gallons. Crude oil markets use marketable crude named grades for pricing. The price of Brent North Sea (Brent), a sweet and light crude, reflects the price of crude from Europe, and many other foreign grades use this price as a benchmark, asking above or below the Brent price depending on crude quality. The CEC uses this price to estimate the price of foreign crude coming into California. West Texas Intermediate (WTI), also sweet and light (but heavier than Brent), reflects the price of crude oil from the United States. California's own grade San Joaquin Valley (SJV), being heavy and sour, prices below WTI most of the time, but the CEC uses WTI as an estimate of domestic crude oil prices.

In general, light and sweet crudes are less energy-intensive to refine than heavy and sour crudes. California refineries favor heavy and sour types of crude oil, as this matches the properties of California's crude that these refineries were originally built to run. Refiners in California mix many types of crude oil from both foreign and domestic sources to target a crude mix that allows their refinery to operate at an optimum economic level based on market conditions. Figure 11 shows California crude oil sources and trends since 1986.

26 The American Petroleum Institute (API) adopted the API gravity (°API) as a measure of the crude oil density.
27 Penn State College of Earth and Mineral Sciences. Petroleum Processing. FSC 432 Petroleum Processing: API Gravity.

Figure 11. Crude Oil Supply Sources to California Refineries, 1986 – 2022



Credit: CEC analysis of EIA data

Key numbers on crude oil supply in California in 2022, in terms of average TBD, are as follows:

- Refineries based within California received an average of 1,446 TBD of crude.
- California oil fields are still the largest single source for refinery inputs, about 372 TBD of crude for California refineries (25.8 percent).
- The next largest source is Alaska, or an average of 219 TBD (15.2 percent).
- Other states supplied a minimal amount of crude (less than 0.01 percent).
- Iraq is the third largest source and largest foreign supplier, averaging 187 TBD (12.9 percent).
- Foreign crude from Iraq and all other countries, including Saudi Arabia and Ecuador, averaged 853 TBD (59.0 percent, from multiple sources).

Refining Crude Oil

Oil refineries convert the mixture of hydrocarbon molecules that is crude oil into refined products that people use, such as gasoline and diesel. Refineries primarily sort these hydrocarbons from lightest to heaviest using large processing units with four major functions: cleaning, distillation, cracking, and reconfiguration.

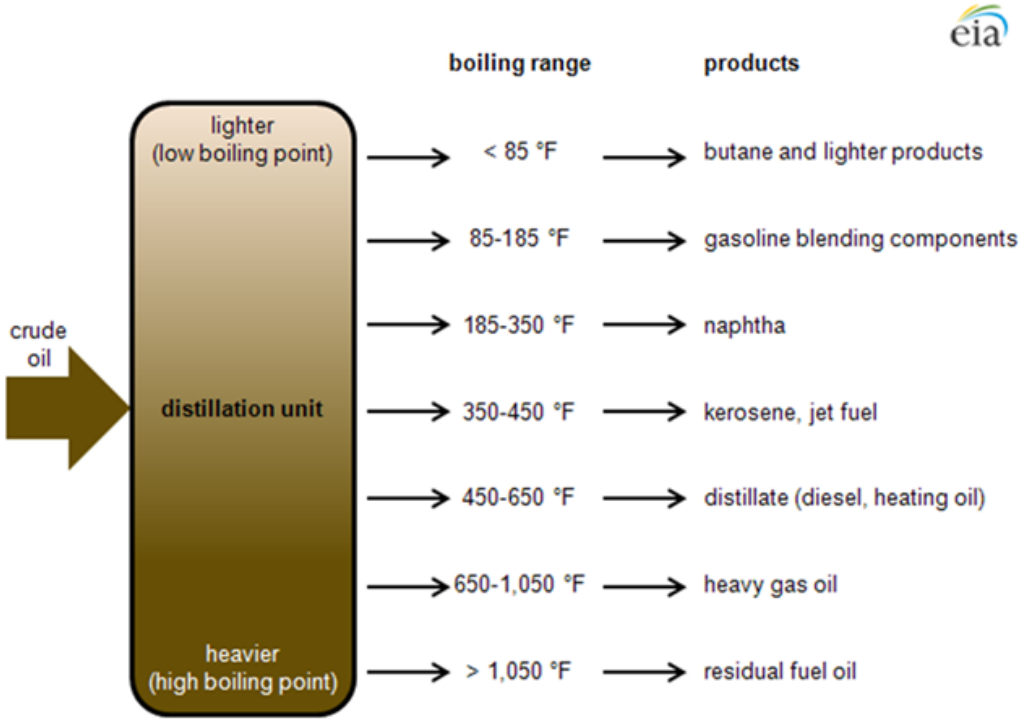
Cleaning and Distillation

Cleaning or scrubbing units remove sulfur, metals, salts, and other non-hydrocarbons out of the crude oil mixture and out of finished products. Sulfur forms compounds in hydrocarbons that are corrosive, explosive, and dangerous in downstream units. Sulfur also creates acid rain in the Earth's atmosphere when burned in fuel, so removal is critical. Sulfur cleaning is usually

the first stage for crude oil at California's fuel producing refineries. In California, most refineries perform additional sulfur cleaning at many stages along the refining process with hydro-desulfurization units. Hydro-desulfurization units, or hydrotreaters, use hydrogen and pressure to bond hydrogen to sulfur and remove it from the feedstock. These units are used to clean feedstock like gas oil headed to downstream units or to clean gasoline, diesel, and jet fuel, before sale.

Distillation, performed by a crude distillation unit, or crude unit, is the primary refinery unit and the centerpiece of most refineries. A distillation unit will boil the crude using a very large still tower and boiler, leaving the bottom of the still with heavy oils called gas oils. Boiling crude oil separates it into light and heavy hydrocarbon portions called a cut. Each cut refers to the temperature that it took for the product to boil out of the crude. A secondary distillation unit, the vacuum distillation unit, takes the gas oils and remaining material, commonly referred to as the bottoms, or bottom cut, from crude units and boils them again at lower pressures to further sort these gas oils to extract further cuts. The amount produced from each distillation cut depends on the composition of the crude oil put in. Figure 12 shows various fuel products and their distillation temperature ranges.

Figure 12. Crude Oil Distillation Unit and Products



Credit: EIA

Cracking and Reconfiguration

All other units after the distillation stage of the refining process are called downstream units. These units specialize in handling a specific range and combination of the distilled cuts from crude oil. Downstream units allow refiners greater control of final products from just distillation alone.

Cracking units, a broad category of processes, crack very heavy cuts into lighter ones. Thermal cracking uses extreme heat. Catalytic cracking uses chemical catalysts to speed up the process. California refineries use three types of cracking processes: hydrocracking, catalytic cracking, and coking.

Hydrocracking units take gas oils, add hydrogen and a metal catalyst at high temperature and pressure. This is like the hydrotreater cleaning process but goes further to break gas oils into diesel and jet fuel-sized molecules. As a bonus, hydrogen attaches to sulfur, allowing input of dirtier gas oils while producing cleaner outputs.

Fluid catalytic cracking units, or cat crackers, use specialized catalysts to break gas oils into mainly gasoline and lighter molecules with higher octane ratings for gasoline. This unit is fed only low sulfur inputs.

Coking, often considered its own process, is a thermal cracking process. Coking units use the higher temperatures that the distillation units avoid, because the carbon coke fouls the distillation units. In a coker, this carbon is formed by design, the heaviest oils are baked at high temperatures in drums until carbon, called coke, forms inside the drum. The resulting vapor becomes more gas oil to feed downstream cracking units. The coke in the drum is cleaned out and sold as fuel or as precursor for steel and aluminum industries.

Reconfiguration, another broad category of units that are focused on converting small, light, gaseous molecules such as propylene or butylene into a heavier molecule in the gasoline cut. At California refineries, alkylation units, or alky units, are an example. Alkylation units process using an acid catalyst which allows a wide range of light molecules to combine into gasoline-sized ones. Other types in this category reshape simple line-shaped molecules into branched snowflake-shaped molecules. These molecules add desirable qualities like high octane ratings to gasoline. In California, many refineries have catalytic reforming units that are an example of this type of reconfiguration unit.

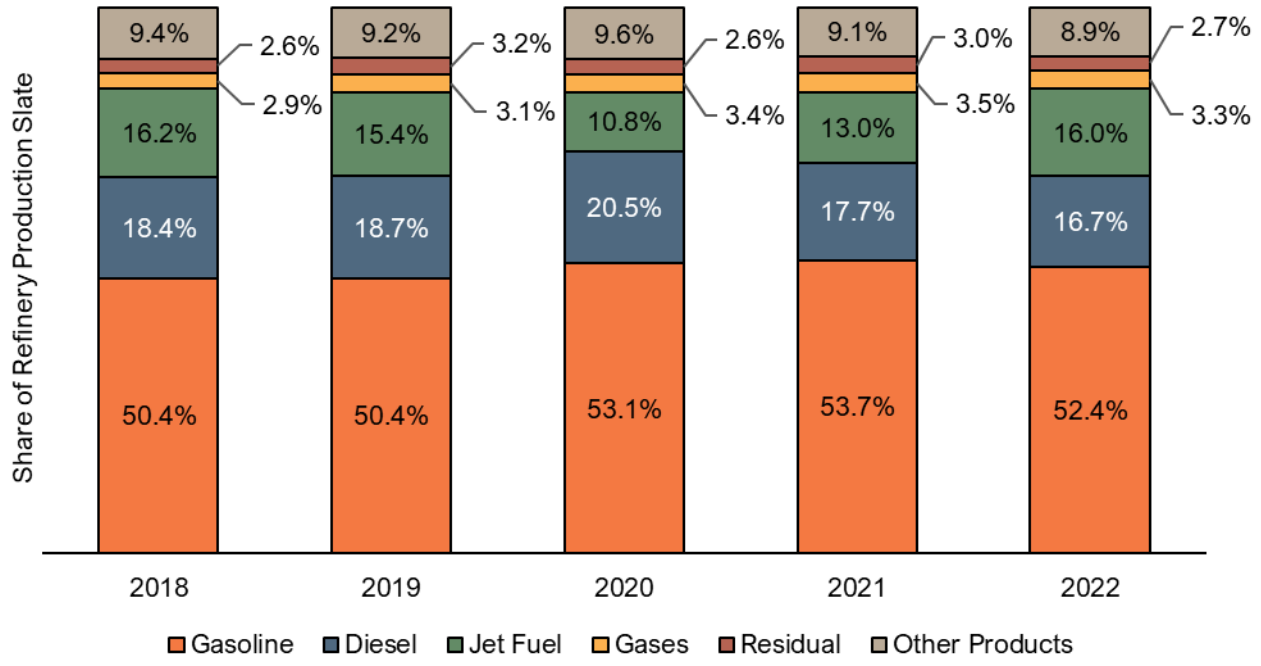
Blending

The last task the refinery performs is blending. Blending is done in batches, where a fixed volume of components mix into a final finished product for later shipment. Petroleum products are a mixture of cuts, some portion coming directly from the distillation unit. Gasoline, for example, will contain portions from an alkylation unit that combines gases. It may also come from a catalytic cracking unit that processes heavy gas oils from the bottom cuts of the atmospheric distillation unit. The combined blendstocks form the refinery's product "slate," or marketable products the refinery can produce.[28] The refiner will mix combinations of distillation cuts with downstream cuts together as blendstocks to match a blend specification.

Figure 13 shows the combined refinery slate by product type and percentage from 2018 to 2022.

28 Reference units for refinery product slate are energy units, commonly expressed as either barrel of oil equivalent (BOE) or megajoules (MJ). One BOE is equal to about 6,118 MJ.

Figure 13. California Refinery Product Slate 2018 to 2022



Credit: CEC analysis of EIA data

Key numbers for refineries in California are as follows:

- There are eleven fuel producing refineries in California, totaling 1,723 TBD of crude input capacity.
- Nine of the eleven can produce CARBOB: three in the San Francisco Bay area, five in Los Angeles County, one small refinery in Kern County.
- These refineries input an average of 1,412 TBD of crude oil during 2022.
- Gasoline production made up 52.4 percent of the production slate in 2022 including out-of-state specifications.[29]
- Diesel fuel made up 16.7 percent of the production slate in 2022.
- Jet fuel made up 16.0 percent of the production slate in 2022.

Overall, gasoline, diesel and jet fuel combine for 85.1 percent of all marketable production from the refineries in California during 2022. The remainder of the refinery slate includes

29 The reference units for this chart are energy units (MJ or BOE). Thus, gasoline production represents 52.4 percent of the total energy of the product slate. The product slate and percentage are distinct metrics from the assumed 60 percent crude-to-gasoline production assumption discussed in

Figure 13 above, which is a volumetric conversion assumption (thousand barrels of crude converting to thousand barrels of gasoline).

products such as: bunker oils for ships, lubricating oils, petroleum coke, propane, and industrial inputs like acetylene.

California Gasoline

In California, the blend of raw gasoline is referred to as California Reformulated Blendstocks for Oxygenate Blending (CARBOB). Reformulated, instead of conventional blendstock (CBOB), refers to the blend's lower Reid Vapor Pressure (RVP), a measure of vapor pressure that relates to evaporation rate, that all reformulated blendstock specifications (RBOB) in the United States adjust for.[30] Oxygenate blending is the process of adding ethanol (an oxygenate), so CARBOB, CBOB, and RBOB are all intended to be blended with ethanol. The CARBOB formula changes during summer months to a specification that reduces evaporation and production of organic compounds that lead to ozone formation during warmer conditions but remains distinct from other formulations used in the United States since it has lower sulfur content and much lower benzene content.

All California fuel refineries sell gasoline in CARBOB form, specifically for transportation within California.[31]

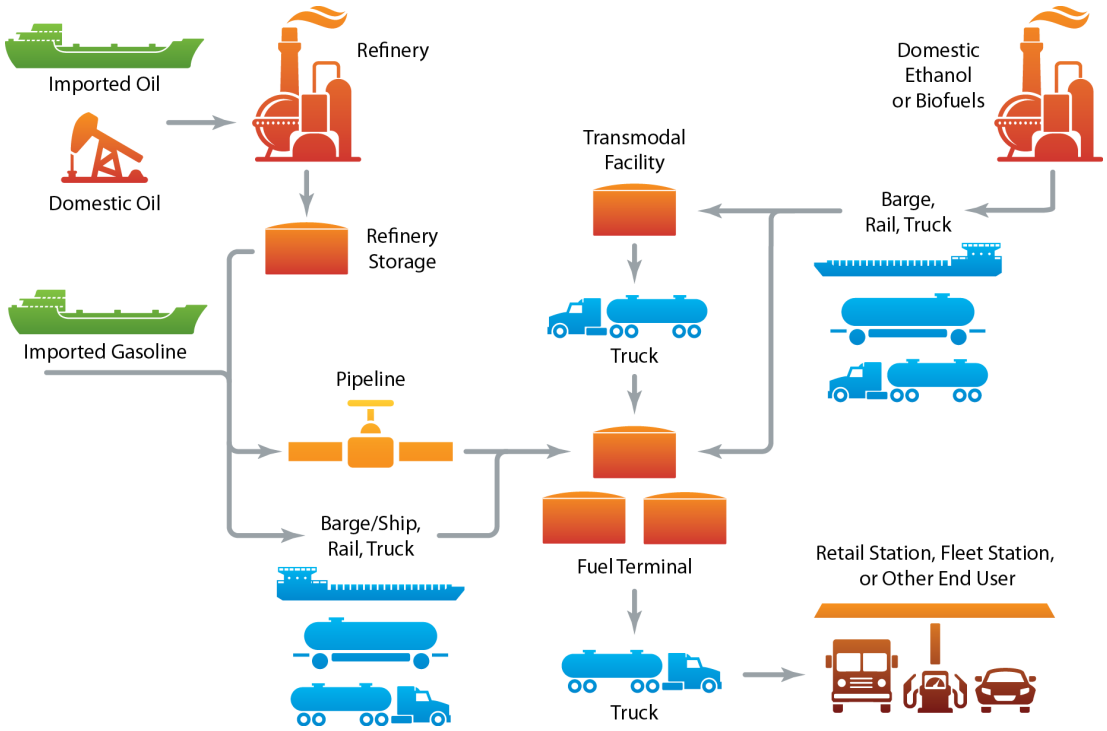
Moving Product

Figure 14 shows the process of product movement from crude oil to retail stations. After the refinery has blended fuel to the correct specification, the fuel needs to be moved to product storage terminals that are closer to gas stations and customers. The largest terminals in California are connected through pipelines. Pipelines allow petroleum products to move quickly and affordably. Pipeline companies often will combine different refineries' deliveries together to utilize the pipeline system's capacity efficiently. At terminals CARBOB gasoline is blended with ethanol and ready to be pumped for use. This finished gasoline is called California Reformulated Gasoline (CaRFG).

30 US EPA. Gasoline Standards. 1999. "Phase II Reformulated Gasoline." Available at https://nepis.epa.gov/Exe/ZyPDF.cgi/00000FG5.PDF?Dockey=00000FG5.pdf

31 Refineries may also sell gasoline in other forms for export purposes to NV, AZ, or out of the state.

Figure 14. Gasoline Supply and Transportation



Credit: Dean Armstrong, National Renewable Energy Laboratory

Pipeline Specifications

Refiners blend to standard specifications like CARBOB making it possible to easily transport products on a pipeline system. Pipeline companies and all the refineries served agree to the pipeline's own fuel specifications beforehand. This makes the products "fungible", allowing products from various refiners to be comingled together. The pipeline standard specifications are often stricter versions of the government fuel standards.

The stricter pipeline specification gives refiners flexibility on meeting the actual specification and ensures that contamination from another refinery's product is less of a problem. For example, if a small contamination of CARBOB gasoline occurs at a storage terminal in California, simply adding more pipeline standard product will dilute the contamination. The contaminated gasoline will never enter the pipeline system again but since it meets the overall CARBOB standard the gasoline can still be sold at stations near the terminal.

Pipeline Operations

Multiple types of refined products are pumped through the same pipeline via a sequencing system known as batching.[32] Batching keeps a steady pressure within the pipeline and lessens the mixing of products. Using one pipeline saves on the cost of building separate pipelines for each product. A pipeline operator, such as Kinder Morgan in California, earns revenue by how much volume is moved through the pipeline and by the distance to the destination terminals. This financial incentive encourages the pipeline operator to maximize the throughput on the

32 US Department of Energy

pipeline. However, the pipeline company only offers use of pipeline time and capacity. Shippers, usually marketer/refiners, nominate the product to move on the pipeline from refineries or commercial storage facilities.

Pipeline schedules follow a defined process, with pipelines requiring qualified shippers to nominate batch sizes and destinations in advance of each pipeline cycle. Kinder Morgan has 48 pipeline cycles per year (about every 7 days). Shippers who have been historical shippers are prioritized over parties who may only ship periodically. When pipelines are nominated at maximum throughput or higher, the pipeline "allocates" shipments based on the shippers' pipeline history. Refineries and other shippers are certified to inject their fuel into the pipeline only after they've tested their fuel to ensure quality and for substances that might taint the pipeline sequence or damage the pipeline.

For example, ethanol is not transported via refined product pipelines because it is corrosive and causes damage. Once scheduling is done and the refinery's testing certifications are up to date, the batch is loaded into the pipeline per the pipeline schedule towards distribution terminals located all along the pipeline system. Distribution terminals receive refined products from several suppliers that are held together in community storage tanks for like types of fuel. This is another reason why fuel standards are enforced, as lower quality products could contaminate other deliveries held in storage.

Kinder Morgan operates the only common carrier pipeline network within California. All the other product pipelines are exclusively owned by a company for its own purposes such as moving products from marine port terminals to refineries. Kinder Morgan runs multiple pipelines within California, serving two major refining sources with the West and North lines. The West line collects products from Los Angeles refineries and ends in San Diego in the south, and Las Vegas and Phoenix to the east. The North line, which collects products from the San Francisco Bay area, runs through to Chico, CA in the north, Fresno, CA southward and to Reno, Nevada eastward. There is no pipeline connection between the West and North lines and therefore no pipeline connection between Northern and Southern California refining centers. Figure 15 shows the California and Nevada portions of Kinder Morgan's Pacific pipeline system.

Figure 15. Product Pipeline Systems in California



Credit: CEC Staff

Spot Markets

Spot markets are so-called "physical" markets where contracts for physical delivery of gasoline, diesel, and jet fuel are bought and sold. The contracts traded on spot markets can require delivery within 30 days of the deal or can be on a "prompt" basis – meaning delivery in the next several days. Spot market transactions allow refiners, wholesalers, and traders to sell CARBOB that may be surplus or buy product if needed. As noted in the January 31, 2024 letter from the Division of Petroleum Market Oversight to Governor Newsom, only a fraction of all the cleaner-burning CARBOB gasoline consumed in California every day is traded on the spot market, but it plays an important role in setting prices across the state. The spot market can be a first trading stop as gasoline flows from refineries, cargo ships, and pipelines to the "racks" where gasoline trucks are loaded and on to retail gasoline stations.

Traders in the spot market include some California refiners, large wholesalers and retailers, and international trading firms who buy and sell relatively large quantities of gasoline, often tens of thousands of barrels. The function of the gasoline spot market is to provide buyers and sellers the opportunity to trade large quantities of gasoline for near-term delivery in California.

The spot market in California is currently an unregulated, over-the-counter market. Spot market deals are negotiated directly between buyers and sellers or mediated by brokers. California has two spot markets: one for Los Angeles (LA) and one for the San Francisco Bay Area. Other U.S. spot market locations include the Pacific Northwest (Portland), Houston, Chicago, and New York. The LA spot market is more active than the San Francisco market and the LA spot price impacts the largest portion of retail gasoline prices across the state.

Spot market transactions and average prices for the LA market are published by price reporting agencies ("PRAs"). PRAs have an outsized influence on market dynamics through their assessment of current market prices. Buyers and sellers negotiate the contract price for individual deals, but only some of those deals are voluntarily (or selectively) reported to the PRA. The PRA then publishes what it assesses to be the current market price for California gasoline. The Oil Price Information Service ("OPIS"), a for-profit company, is the industry-leading PRA in California and on the West Coast.

A common way that spot contracts are priced is an "exchange of futures for physical" or "EFP" trade, which are contracts that are priced relative to the New York Mercantile Exchange ("NYMEX") futures RBOB contract at the close of a specific day. RBOB is a common benchmark for gasoline sold in other parts of the United States. In an EFP transaction, the spot market parties agree to a differential to the NYMEX RBOB price. This differential is the measure of the difference between the L.A. spot market and the NYMEX. This differential is a key benchmark for observers to determine if the L.A. market is experiencing supply/demand issues.

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."[33] That is because many other spot, bulk, rack, and marine cargo transactions, including high-volume transactions between refiners and distributors or retailers under long-term contracts, set their pricing by reference to the OPIS-assessed spot market price that can change daily. As a result, the prices for relatively small trades (compared to statewide volumes) on the spot market have a magnified or exaggerated effect on retail gasoline prices across the state.

Unfortunately, California has been experiencing more frequent and extreme price spikes that seem to be driven by price swings in the spot market. More than twenty years ago, the Attorney General's Office produced a Report on Gasoline Pricing in California, which examined the unique volatility of the state's gasoline market.[34] In the years since that initial appraisal, the market has seen gasoline price spikes in 2012, 2015, 2019, 2022, and 2023. It appears that price spikes have become more common over time, with gasoline price spikes occurring in three of the last five years, with the exceptions being during the COVID pandemic. These spikes have been generally driven by periodic episodes of undersupply of gasoline (in the form of reduced refinery production, lower inventories of stored gasoline, or both) that are exacerbated by the dynamics of trading and reporting on the spot market. DPMO's initial analysis of the most recent gasoline price spikes in California noted that spot market volatility, illiquidity, and lack of transparency may all be contributing to and exacerbating price spikes during periods of undersupply.

33 OPIS West Coast Spot Market Report website. Available at https://www.opisnet.com/product/pricing/spot/west-coast-spot-market-report

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

Product Racks

Distribution terminals utilize truck loading "racks" to load tanker trucks. Racks are also located where the last blending stages for finished gasoline take place. Ethanol, additives, and detergents are added at the rack either by in-line rack blending or the less precise "splash" blending. A tanker truck at the rack is loaded with CARBOB, additives, and detergent packages, and simultaneously blended with ethanol to produce E10 gasoline. This blended product, California Reformulated Gasoline (CA RFG), is what is sent to service stations.

Retail marketers, or distributors for service stations, buy product from refiners at the distribution rack. There are three main ways these terminal sales are separated: branded rack sales, unbranded rack sales, and dealer tank wagon (DTW) sales.

- Branded rack sales are sales of branded fuel that has branded additives and detergents. These are ultimately sold by a branded service station such as Chevron or Shell. Branded service stations generally have priority through the branded rack, as well as DTW sales.
- Unbranded sales have generic additive and detergent packages. They are sold by unbranded service stations such as Costco or local convenience store chains. These customers can shop around for the best unbranded rack price offered at the closest distribution terminals.
- DTW sales are a delivery sale, where delivery is included in the price for branded service stations. DTW sales include a wholesale price (usually higher than rack) plus the cost of delivery to the station, mostly the cost of the tanker truck service. Most common customers for DTW sales are company owned and operated.

Branded Gasoline and Fuel Additives

Several brands of gasoline contain fuel additives, generally understood as TOP TIER® certified gasoline. These are offered by companies such as Chevron, Shell, Exxon, 76, Valero, Costco, and ARCO. There is some evidence that these fuels offer improved performance over standard gasoline available in the United States broadly.[35] However, these fuels do not appear to provide superior performance above and beyond the stringent standards required by CARBOB. These standards include a reduction in some standard gasoline constituents such as sulfur and the addition of special detergents to burn cleaner. In 2019, the CEC asked fuel providers for evidence of superiority, but the CEC did not receive any evidence. Additionally, CEC staff independently searched for studies that could substantiate the superiority and were unable to find any evidence.[36]

35 For example, the American Automobile Association conducted a 2016 study in which it found that Top Tier fuel did provide benefits and improved fuel economy. However, the fuels tested, both Top Tier certified and non-Top Tier certified, were from Texas, which does not use CARBOB. See AAA FUEL QUALITY RESEARCH: Proprietary research into the effectiveness of fuel additive packages in commercially-available gasoline

36 See Additional Analysis on Gasoline Prices in California for more information.

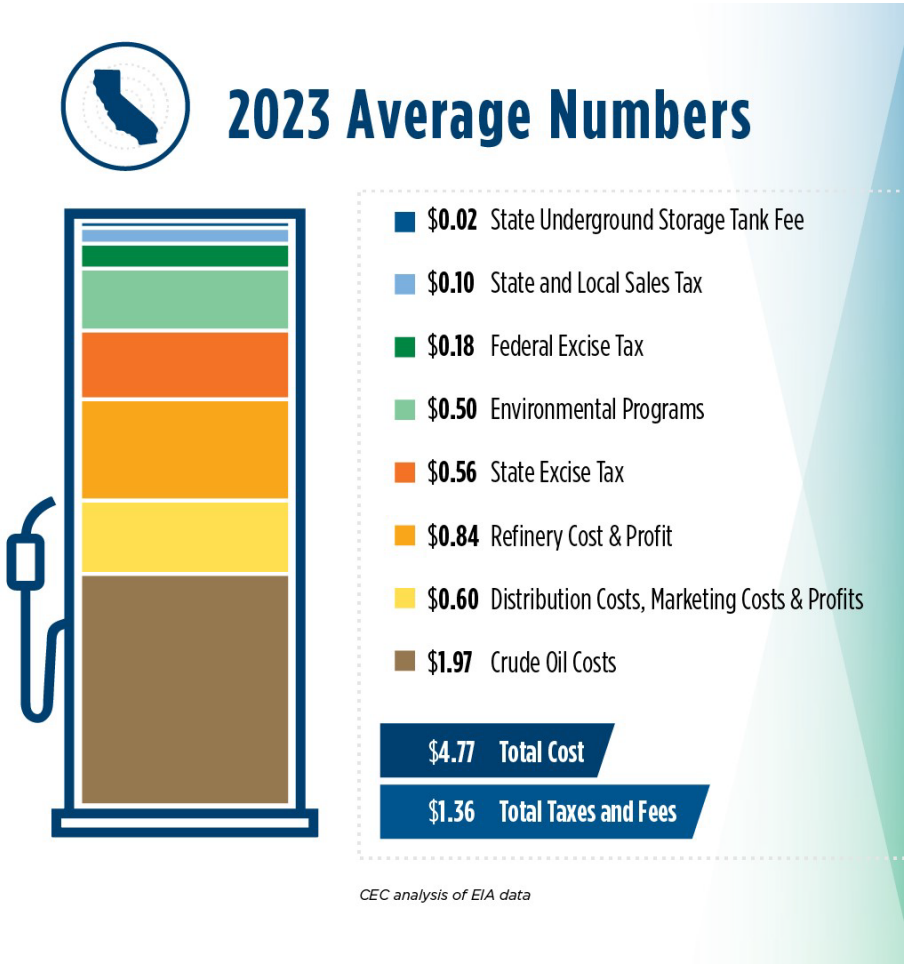
Margin Basics

Rack and DTW sales are an important point to measure prices in relation to each other. These sales mark the critical point where products are no longer counted as inventory but as sold, making it easier to classify sales after the rack as retail and before the rack as wholesale. This is helpful in categorizing sales to calculate margins.

A margin is an estimate of net revenues per unit sold by subtracting the cost of inputs from the price of product produced. For refineries, the gross gasoline refining margin is calculated by subtracting the cost of crude oil from the price of product at the rack and DTW. There's remaining margin to account for as prices at the gas pump are usually higher. This retail margin is calculated by subtracting the price of product at the rack from the prices at the pump. Margins that only subtract input costs are called gross margins, as they do not account for any operating costs. A net margin will subtract both operating and input costs.

For gasoline retail margins that the CEC calculates, the CEC subtracts taxes and fees from the average retail price, giving an average gross margin after taxes. Figure 16 shows California's 2023 year-to-date average components of the retail price of gasoline.

Figure 16. Breakdown of California 2023 Average Retail Price Components, through 2023



Credit: CEC Staff Analysis of EIA Data on for 2023

In 2023, the cost of crude accounted for the largest portion, $1.97, or 41.3 percent of California's retail gasoline price. Combined refiner and retail margins (referred to in the figure as "Refinery Cost & Profit" and "Distribution Costs, Marketing Costs & Profits") total the next largest portion, $1.44 or 30.2 percent, while all taxes and fees combine as the remaining $1.36 or 28.5 percent of the retail price.

Refinery Outages

As mentioned above, refineries' planned maintenance may involve going partially or completely offline. Some refiners use storage and increase imports to help address supply as part of their plans and to meet their contractual obligation to retail entities. However, unplanned refinery outages can occur at any time, and planned maintenance does not always align with the anticipated timeline. The impact of either of these events can be compounded if other refiners are already undergoing planned turnarounds for maintenance work. The unplanned outage or extension of maintenance of one large refinery can be extremely disruptive, especially if statewide refinery capacity is lower in the future. When unplanned outages occur, even the impacted refiner may not know the longer-term impact of the outage for several days, and other refiners may not be aware of the incident (although refinery fires and extended flaring[37] are obvious). The uncertainty on event duration can lead to delays on refiners making decisions on purchasing marine cargos for replenishment.

Through SB X1-2, the CEC has more insight into planned and unplanned maintenance outages. For planned maintenance, refineries are required to report their planned maintenance event at least 120 days prior to the event. If a planned event is scheduled less than 120 days in advance, refiners must report within 48 hours of identifying the need for maintenance. For unplanned maintenance events lasting more than 24 hours, refineries are required to file a report within 48 hours of the unplanned maintenance. In their report, refineries are required to provide CEC information about the expected inventory impacts, expected length of the maintenance, and if the refinery intends to backfill the lost supply with imports.

An illustrative example of the complicated dynamics is the Torrance Refinery shutdown of 2015. The extent of the shutdown was initially unknown, which led to delays in arranging imports from other countries. The Torrance shutdown was one of the largest supply disruptions California has faced, and the uncertainty that followed resulted in an extended period of supply shortages and higher prices for California. During that incident, a significant amount of replenishment fuel was shipped from Northern California to Southern California by marine vessel (much more than was imported). This was helpful in sustaining supply to Southern California, although the "relief" may not have been possible if Chevron's Richmond refinery was undergoing a turnaround or had its own unplanned event. Moreover, with Marathon Martinez conversion and Phillips Rodeo having converted in 2024, the Bay area will no longer be in surplus of gasoline to ship to Southern California in the future. In cases of coincident multiple refineries shutting down, perhaps due to a major localized catastrophic

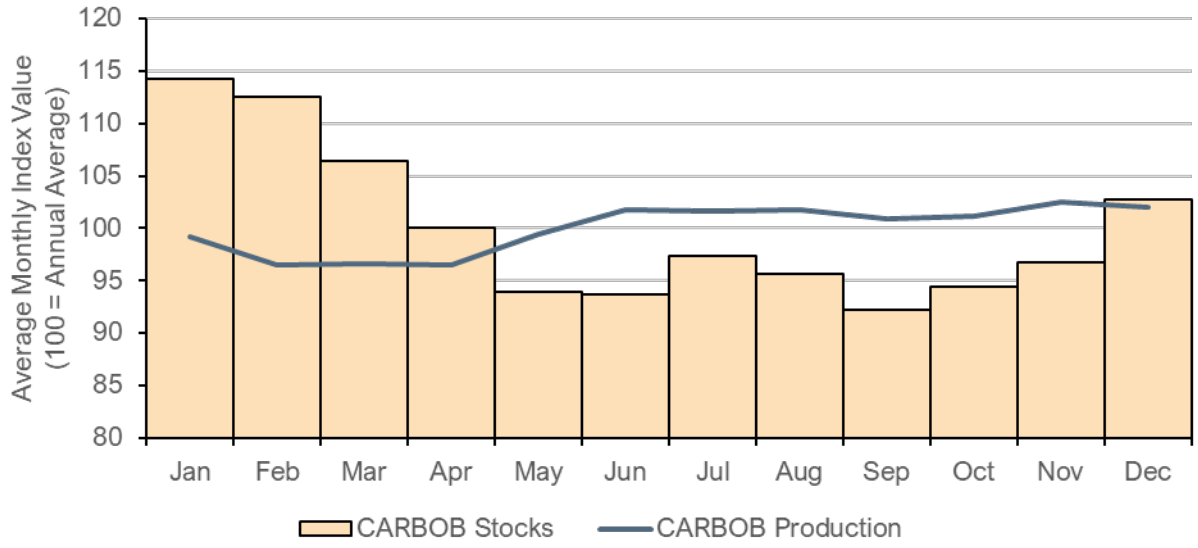
37 Flaring occurs when a refiner must burn flammable gases that are released to prevent pressure buildup in equipment. Flaring can be planned or unplanned.

event, the supply response may require significant cargo transport and perhaps measures to conserve fuel and allow non-CARB gasoline to be secured.

Seasonal Dynamics

Demand for CARBOB declines in the early part of typical years, while demand peaks in the summer. Figure 17 shows an index of CARBOB stocks (or storage) and CARBOB production at refineries from 2006 to 2022. CARBOB production partially tracks the consumption, but a drawdown of stocks built from previous months also helps satisfy some demand without production. However, as stocks draw down and demand remains high, additional risk from supply disruptions may occur. Although production declines very slightly in September, stocks tend to be at the lowest levels of the year, an indication of low resiliency.

Figure 17. Average Monthly CARBOB Production Index and CARBOB Stock Index (2006-2022)



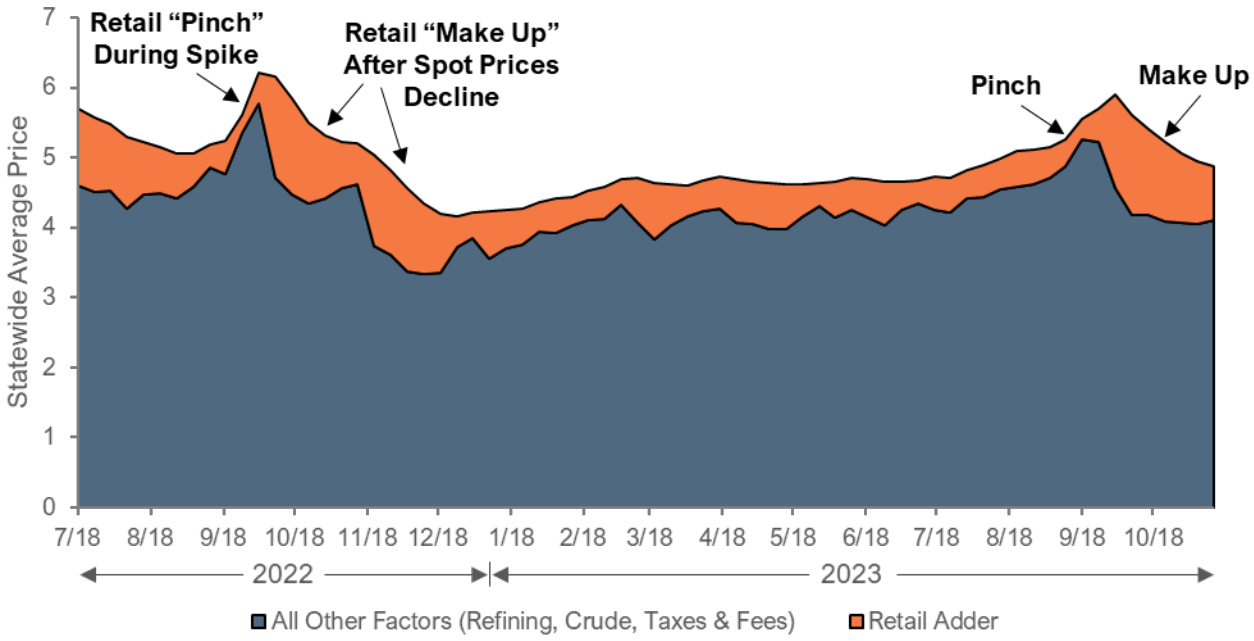
Credit: CEC Staff

Retail Dynamics

A common pattern observed in the gasoline market is that retail prices can rapidly increase with the spot market, but they are slower to decline even as the underlying spot prices go down quickly. This dynamic of "up like a rocket, down like a feather" in retail prices can be seen from CEC's analysis of the slopes of price increases and declines.[38] Figure 18 highlights the retail adder components in orange (delivery to station, retail marketing, station profits) on top of other standard existing cost adders, such as taxes and fees, crude oil prices, and refining prices, in blue.

38 For more information on gasoline prices, see Estimated Gasoline Price Breakdown and Margins

Figure 18. Retail Margins Compared with Other Price Components Combined July 2022 - October 2023



Credit: CEC Staff analysis of OPIS and EIA data

Spikes in the spot market and crude market can increase rapidly and flow into retail prices somewhat quickly, creating a close "pinch" that keeps the retail adder fairly consistent until the spike abates. After the spot market price spikes abates, there is an observable delay in retail prices declining. Retail prices remain somewhat high, the result of retailers attempting to make up for potential losses or tight margins during the spike. This phenomenon can be seen for the 2023 spike as well. Overall, the slow decline allows retailers to realize sustained, high retail margins.

CEC does not currently have the ability to analyze retail issues at a more geographically refined level given the structure of tax reporting to the California Department of Tax and Fee Administration.[39] For example, although the CEC collects sales data at stations, this reporting is only at the annual level, which is not temporally detailed enough to evaluate patterns associated with price spikes.

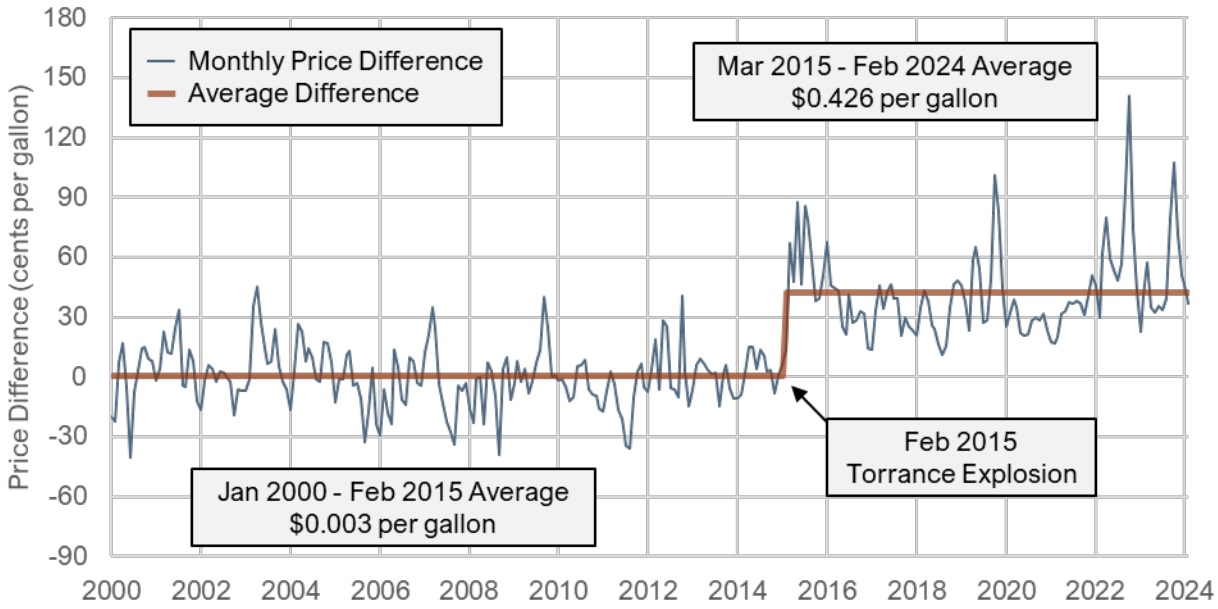
During the November 29, 2022 gasoline price hearing[40], Dr. Severin Borenstein cited a phenomenon he has termed the "mystery gasoline surcharge." Gasoline prices in California are higher than those in other U.S. States, but even when accounting for well-established factors,

39 The California Department of Tax and Fee Administration collects excise taxes from fuel suppliers before delivery at retail stations, so taxes are only available at a very aggregate level. Available at Fuel Tax and Fee Guides

40 Commissioner hearing on California Gasoline Price Spikes, Refinery Operations, and Transitioning to a Clean Transportation Fuels Future. Available at https://www.energy.ca.gov/event/workshop/2022-11/commissioner-hearing-california-gasoline-price-spikes-refinery-operations

a distinct pattern has emerged since the Torrance refinery explosion in early 2015. Prior to 2015, after accounting for known contributors to higher gasoline prices in California such as the underground tank storage fee, environmental fees, slightly higher state excise taxes, and the cost of producing CARBOB gasoline, the price of non-California gasoline was essentially identical to California retail gasoline. However, after the 2015 Torrance explosion, the price difference emerged, and it continues to persist as of the most recent data collection period (February 2024). Borenstein estimates that this surcharge represents more than $40 billion dollars that Californians have borne since 2015.

Figure 19. The Mystery Gasoline Surcharge: California Gasoline Price Premium After Removing Differences in Taxes and Fees and California Specification Gasoline Production Costs (2024 dollars)



Credit: Severin Borenstein, University of California, Berkeley.

Borenstein has cited several potential reasons for the mystery gasoline surcharge, but he does not intend for them to explain everything.[41] Refiners own downstream retail outlets (e.g., Chevron is a major refiner and operates many Chevron branded gasoline stations) and have an influence on other downstream brands.[42] Less gasoline is sold as off-brand gasoline compared to the rest of the U.S. There is also a marked difference in off-brand prices compared to branded prices when looking at California compared to the rest of the U.S.

41 For instance, see Borenstein's June 30, 2022, testimony to the California Select Committee on Gasoline Supply and Pricing. Available at https://www.assembly.ca.gov/sites/assembly.ca.gov/files/borensteingasolinetestimony220630.pdf

42 Commissioner hearing on California Gasoline Price Spikes, Refinery Operations, and Transitioning to a Clean Transportation Fuels Future. Available at https://www.energy.ca.gov/event/workshop/2022-11/commissioner-hearing-california-gasoline-price-spikes-refinery-operations

Borenstein believes that these factors show that there is less competition at the retail level. The ultimate set of causes is still uncertain.

Ethanol

California is a reformulated gasoline market, blending 10 percent ethanol by volume (E10) into CARBOB. Blends with higher ethanol content, such as E15 (15 percent ethanol by volume), have been used in other states. At the federal level, EPA has issued waivers allowing year-round use of E15 starting in 2022.[43,44] More recently in February 2024, EPA issued a final rule to approve the permanent waiver for eight Midwest states, effective April 28, 2025.[45] California does not currently allow the sale of E15. E15 fuel evaluation is required to determine whether it would create any significant new environmental or public health impacts.[46]

As part of an evaluation process from CARB, recent research on E15 indicates that it may represent a lower environmental harm compared to E10. Researchers at the University of California at Riverside performed emissions testing on a fleet of 20 Tier 3 light-duty vehicles using a baseline CaRFG and a splash-blended CaRFG with fuel-grade denatured ethanol creating E15 for testing.[47] Each vehicle and fuel combination was tested using the Federal Test Procedure on a chassis dynamometer. Major results were as follows:

- No statistically significant fuel effect on nitrogen oxide (NOx) emissions for E15.
- Particulate matter showed statistically significant reductions of 18 percent for E15 compared to E10. Solid particle number emissions were a statistically significant 12 percent lower for E15 than E10.
- Total hydrocarbons, non-methane hydrocarbons, and carbon monoxide showed either marginally or statistically significant reductions for E15.
- Statistically significant increase of 32% in acetaldehyde.

The researchers reported that the study only found a 1 percent reduction in fuel economy. Strictly relying on the energy content difference between E10 and E15 suggests that an E15 blend should result in about a 3 percent reduction in fuel economy.

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43 Regan, Michael. 2022. *RE: May 1, 2022 E15 Reid Vapor Pressure Fuel Waiver.* United States Environmental Protection Agency. Available at https://www.epa.gov/system/files/documents/2022-04/nationwide-fuel-waiver-allowing-e15-gasoline.pdf

44 EPA Fuel Waivers. United States Environmental Protection Agency. Available at https://www.epa.gov/enforcement/fuel-waivers

45 Request From States for Removal of Gasoline Volatility Waiver. United States Federal Registrar. Available at https://www.govinfo.gov/content/pkg/FR-2024-02-29/pdf/2024-04023.pdf

46 The California Health and Safety Code (CHSC) requires that a multimedia evaluation be conducted and reviewed by the California Environmental Policy Council (CEPC) before specifications for new motor fuels can be adopted by the California Air Resources Board (CARB).

47 Comparison of Exhaust Emissions Between E10 CaRFG and Splash Blended E15 (available online here). The research was funded by CARB, Renewable Fuels Association, Growth Energy, National Corn Growers Association, and the United States Council for Automotive Research (USCAR). Available at https://ww2.arb.ca.gov/resources/documents/comparison-exhaust-emissions-between-e10-carfg-and-splash-blended-e15

This research suggests that E15 would likely not introduce additional harms. The testing results show the use of E15 versus E10 will reduce the tailpipe emissions of most pollutants with no statistically significant impact on evaporative emissions.

CHAPTER 3:
Policy Options to Mitigate Price Spikes

Addressing the Supply Challenge

As discussed in detail in Chapter 1, California faces a significant supply challenge, with price spikes of particular concern. The state's fuel supply market is already somewhat concentrated at the wholesale level. Other supply factors such as market isolation and a unique fuel blend add to price spike risk. As demand declines over the next 20 years, due to California's increasing adoption of ZEVs, refineries may close or convert to renewable fuels, and as a result, the supply conditions may increase baseline prices and add to price spike risk. Price spike risk is especially concerning, as demand reduction is expected to be on a relatively smooth trajectory, while supply declines from refinery closures or conversions will result in steep, sudden declines in gasoline production capacity. Immediate declines in CARBOB production will have uncertain effects on the market, especially if an unplanned outage occurs shortly after a refinery closure.

There are some potential mitigating factors in the market independent of targeted fuel price spike mitigation policies. One example is a family that owns one ZEV and one ICE vehicle, who drives the ZEV during price spikes. Across millions of families, such behavior could increase the elasticity of demand and reduce price spike risk for all drivers. Another possibility is that some refineries may maintain their crude refining for some period and pivot to export refined products. With higher overall supply capacity in the state, CARBOB supply could be more resilient during a supply shock.

Despite some potential mitigating factors—including extensive programs designed to make ZEVs more affordable for lower-income families—there is still risk to lower-income communities as market concentration increases, especially if capacity declines as well. This chapter presents a suite of policy options that state government could take to help reduce price spike pressure on Californians, the leading issue for ensuring a reliable supply of affordable and safe transportation fuels.

Equity Challenges and Tradeoffs

While various policy options to mitigate gasoline price spikes could result in various environmental impacts, it is crucial to acknowledge and carefully consider the potential environmental justice (EJ) and equity implications associated with each of these options. Currently, it is challenging to quantify these impacts definitively, as they depend on numerous variables, including the extent of policy adoption, the duration of implementation, and the specific pathways through which these policies would be enacted. Nevertheless, this section aims to provide a qualitative evaluation, highlighting the potential EJ and equity consequences that may emerge from the adoption and implementation of these policy measures. It is also noteworthy that the Transportation Fuels Transition Plan will serve as a crucial instrument for thoroughly assessing the equity implications of fuel prices and ZEV accessibility for communities in California.

While it is not desirable to put a financial burden on drivers in EJ communities, it is possible that sustained lower fuel prices can generally incentivize more driving and make driving gasoline-powered vehicles more economically attractive in comparison to ZEVs. As a result, the prolonged operation of gasoline vehicles on California's roadways could lead to continued pollution from both refineries and vehicles.

These EJ issues are particularly challenging. As highlighted in Chapter 1, lower income communities often have limited access to ZEVs or other dependable and affordable alternative modes of transportation. It is therefore critical to develop policy options that both safeguard vulnerable communities from volatile fuel prices and actively work to reduce their exposure to pollution and transition them towards safer transportation fuels. The State, however, through various vehicle purchase incentive programs, is working to make ZEVs more accessible to those who are low-income and living in disadvantaged communities. Incentive programs such as Clean Cars 4 All and the Clean Vehicle Assistance Program provide point-of-sale incentives for these consumers to afford these vehicles more easily. Additionally, the Clean Vehicle Assistance Program, through its partner banks, provides lower interest loans for its participants, which can sometimes be a barrier to vehicle ownership. Through October 22, 2023, both programs have issued more than 17,814 vehicle grants.[48]

Some of the options examined in this report could have adverse impacts on the environment and result in adverse health impacts and higher health costs, challenges to ensuring a safe supply of transportation fuels. While policy impacts are intended to control dramatic increases in spot market prices that are quickly passed on to consumers, potential health risks cannot be ignored. In the long term, the shift towards higher adoption of ZEVs could result in a reduction of refineries operating in the state, as well as a decrease in tailpipe emissions. It is crucial that the implementation of EV infrastructure and access to cost-effective EVs lead the transition, accompanied by a corresponding decrease in refinery capacity. Furthermore, increased EV adoption will enable more dual vehicle households to own both an EV and a gasoline vehicle, potentially increasing the elasticity of gasoline demand in response to price fluctuations.

The following subsections delve deeper, providing a more detailed qualitative analysis of the EJ impacts associated with various policy options, specifically focusing on emissions originating from refineries and vehicles.

Impacts of Continued Refinery Operations

Refineries are often near marginalized and disadvantaged communities, leading to disproportionate impacts on air quality and, consequently, the health of these populations. Although there are regulations that restrict the amount of pollution that refineries can emit, the California Office of Environmental Health Hazard Assessment identifies some levels of toxic air contaminants from refineries, including various Proposition 65-listed chemicals in petroleum products, pose significant health risks.[49] These risks range from various types of cancers, such as leukemia, lung cancer, and cancers of the nose, throat, and sinuses, to developmental and

48 Data from Insights on CA Light-Duty ZEV Incentive Programs.
49 California Office of Environmental Health Hazard Assessment. "Toxic Air Contaminants". https://oehha.ca.gov/air/toxic-air-contaminants

reproductive harm, particularly during pregnancy. Notable chemicals contributing to these risks include benzene, 1,3-Butadiene, carbon monoxide, lead, and sulfur dioxide, among others. Exposure to these chemicals and the resulting health impacts can vary across different refinery regions.

The communities near refineries frequently comprise low-income families and people of color, who bear the brunt of the air pollution from refinery operations. Additional health risks of compromised air quality can lead to a higher incidence of respiratory issues, cardiovascular diseases, and other health problems. These communities often lack the resources and political influence to advocate for a safer fuel supply and stricter regulatory oversight, perpetuating a cycle of environmental injustice. While the impact of short-term policies to address price spikes on the longevity of refinery operations remains uncertain, it is imperative to acknowledge and consider the public health and safety risk of prolonged refinery activity and increased production.

Emissions from Policy Impacts on Driving

Short-term price spikes have a limited effect on demand, but long-term lower fuel costs can lead to an increase in vehicle travel, also known as the rebound effect. While enhanced gasoline price stability is beneficial in terms of economic predictability, it carries the potential risk of increasing gasoline-powered vehicle activity and, consequently, pollution. Increased ZEV adoption is expected to mitigate air quality, but air quality standards are not static, and the state must continue to improve air quality. Continued or otherwise delayed reductions in pollution from gasoline combustion is expected to be more pronounced in low-income areas, which tend to have a higher concentration of older, less environmentally friendly vehicles. This could exacerbate local air quality issues and public health challenges, further compounding the environmental injustices faced by these populations.

Although policies that keep average prices low may encourage more driving in the long-term, it is important to note that, due to relatively low elasticity, price spike mitigation policies are not likely to significantly increase driving. Therefore, policies that reduce price spike risk will not necessarily contribute to more pollution. Policies that keep average prices low may result in more driving, and hence, more pollution. This is an important trade-off for considering longer term issues with the Transportation Fuels Transition Plan.

Emissions due to Changes in Fuel Composition

Switching from California's unique gasoline composition to U.S. reformulated gasoline (RFG) or providing short-term allowances for it could have noticeable impacts on air pollution levels. California's gasoline blend is specifically designed to address the state's unique air quality challenges, with stricter standards for volatility and content of certain compounds that reduce emissions of ozone precursors, particulate matter, and toxic air contaminants. According to a 2005 United States Government Accountability Office's (GAO) report,[50] the U.S. Environmental Protection Agency (EPA) has analyzed various gasoline blends' impacts on emissions, finding

50 Special Gasoline Blends Reduce Emissions and Improve Air Quality, but Complicate Supply and Contribute to Higher Prices

that California's unique blend significantly reduces volatile organic compounds (VOCs) by 25 percent to 29 percent, NOx by about 6 percent, and reduces emissions of toxic chemicals. This is contrasted with a commonly used blend in the Gulf Coast region, which offers lesser reductions in VOCs (12 percent to 16 percent) and NOx (less than 1 percent). These estimates are somewhat uncertain, as they are based partially on data from older vehicles and may not be fully applicable to newer vehicles with advanced emissions controls. While adding oxygenates to gasoline has been shown to reduce emissions from older vehicles, newer vehicles automatically reduce certain pollutants, potentially reducing or eliminating the benefits of oxygenates. Despite these complexities, experts and the EPA agree that special gasoline blends have contributed to air quality improvements in some regions, although comprehensive studies isolating their specific impact are limited.

Understanding the dose-response relationship of modifying fuel composition is a complex task, particularly for short-term changes, as their proportional impact on air quality and emissions might not be immediately noticeable. For instance, introducing 50 TBD of Nevada specification fuel into an existing demand of 800 TBD would constitute a 6 percent alteration in the gasoline mix. However, the impact on vehicle or evaporative emissions would not be instantaneous, as it takes time for the new fuel blend to diffuse into the myriad gas tanks across the region. Moreover, if such a policy adjustment is only temporary, lasting a mere couple of weeks, discerning its effects becomes even more challenging. Despite these complexities, it is crucial to acknowledge and analyze these potential impacts, particularly on air quality and public health, to ensure informed and responsible policy making. This consideration is especially pertinent in low-income and disadvantaged communities, where older vehicles equipped with less advanced emissions control systems are more prevalent. In these areas, the impact of changes to fuel composition could be more pronounced, necessitating careful attention and mitigation strategies to protect vulnerable populations.

Enhanced Mobility

Despite the various environmental justice issues outlined above, it is important to highlight the improvement in mobility that stable and inexpensive gasoline prices bring, particularly in low-income and disadvantaged communities. For many residents in these areas, dependable and affordable transportation is crucial for accessing employment, education, and essential services. Policy initiatives aimed at stabilizing gasoline prices contribute significantly to these goals, making daily transportation more predictable and financially manageable. This enhanced mobility can lead to improved economic opportunities and quality of life, helping to alleviate some of the burdens faced by these communities.

It is also important to note that there are other policy approaches that could improve mobility that are not directly related to stable gasoline pricing. For instance, building denser housing or mixed-use developments, increasing alternative mobility options, and reducing headways for public transit[51] could all improve mobility and reduce the impacts of price spikes on lower-

51 For example, reduced headways could involve more frequent public transit or additional stops along transit corridors.

income families without directly addressing gasoline price spikes. This approach is explored below as well.

Additional Policy Options to Mitigate Price Spikes

Based on initial comments from CEC workshops and CEC staff review, this section lists several options which may mitigate price spikes in California gasoline, along with brief one-page summary tables. The list is broken out into various categories of policy types, including the following:

- Policies that Address Gasoline Demand
- Policies that Address Gasoline Supply
- Policies that would Involve Highly Complex Implementation (supply or demand)
- Policies that Intend to Address Unique Emergency Circumstances

Some policies may have more of a benefit in terms of mitigating short-term price increases, while others may intend to reduce fuel prices overall. Nearly all these options require additional and extensive analysis to better understand their potential market impacts and may require statutory modifications and commensurate state funding to sufficiently implement. The following bullets characterize the key components of the policy option tables listed.

- **Statement of Initiative.** A broad characterization of the policy option.
- **Scope.** The likely or potential extent of the policy impact, in TBD, thousand barrels per day, or reference to other methods with approximate quantitative values. Where a TBD or other quantitative estimate is not readily estimable, the scope will highlight.
- **Pros.** Why will the initiative help? What benefits does it have?
- **Cons.** What are the possible roadblocks? What are the drawbacks of the policy?
- **Issues to Resolve.** Important matters that are not necessarily a pro or con but should be considered on further analysis.
- **Other.** Where applicable, potential questions or considerations outside of issues that need to be addressed.

Every policy option involves trade-offs. Additional supply may come at the cost of environmental impacts or costs to the State. These will need to be weighed by policymakers.

The CEC does not take a formal position on whether these policies should be adopted or not. Rather, these options are simply analyses of proposals the CEC has received throughout its proceedings and that staff have identified as policy options. Some policies appear to be more effective, but critical trade-offs exist for them all. Some policies are either inconsistent with each other or somewhat duplicative in some ways with each other, so adoption of all these policy options are not feasible.

Shortcut for Framing the Policy Scope

CARBOB demand currently runs between 750 and 850 TBD. Bearing in mind this level will help to broadly compared some policy options with reasonably estimable impact that can mitigate supply losses in the event of an unexpected supply shock.

One way to categorize the supply policy options involves the distinction between storage, production, and imports. Generally, storage options include stock minimums for refiners and terminals, utilization of existing non-operating storage, and state-run product reserves. These policy options would likely require large investments or other spending for infrastructure construction or leasing but may have a minimal impact on the environment. Increasing the available storage for refiners could help reduce supply and inventory shortages that contribute heavily to price spikes, but there are some unknowns that merit further exploration.

Production strategies focus on changes to the CARBOB specification, increasing the ethanol content in finished fuels, and allowing refiners to temporarily use non-CARBOB fuel for gasoline retail stations in the State. Certain changes to the CARBOB specification could have a negative impact on the environment and public health, with potential risk of non-attainment of Federal air quality standards. These are, however, the most likely strategies to cost the State and refiners less money to implement, resulting in a higher direct financial savings to consumers, but with uncertain long-term health detriments.

Import strategy options focus on increasing imports of finished fuel into the State. Maintaining the supply of finished fuel via imports can alleviate inventory shortages attributed to planned maintenance, which may contribute to gasoline price stability. Depending on the timing and the policy, there could be a benefit in cases of unplanned maintenance. Import strategies can be implemented over both the short-term and long-term. It is possible that an effective import strategy could have little to no net environmental impact because the imports would supply existing demand. The cost of policies for importing finished fuel tends to be high, as there is a cost associated with shipping the fuel.[52]

There are many other policy options not captured on the supply side. For example, policy options that target demand of gasoline lead to reduced consumption of gasoline and to increased demand elasticity reducing the impact of price spikes. These policy options decrease reliance on gasoline-fueled ICE vehicles by increasing availability of mobility options to support the overall transition away from petroleum-fueled ICE vehicles to zero-emission vehicles (ZEVs). The associated tables discuss these policy options in more detail.

Short descriptive tables and individual matrix assignments are presented per policy option or specific strategy of a given policy option. Utilizing all options or strategies would be infeasible, and the goal would be to select options that can effect changes in supply and markets, with the least environmental or cost tradeoffs.

Some options also may be considered during a major disaster such as an earthquake, major pipeline outage, a catastrophic fire like that of the 2015 Torrance Refinery outage, or some other acute event. There may be limitations on these options if needed assets are damaged. See the next section on Emergency Response actions.

52 At the same time, reducing shipping of crude could have potential beneficial impacts as well. The precise impact is uncertain.

List Summary of Additional Policy Options

Policy Options Targeting the Demand of Gasoline

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

Policy Options Targeting the Supply of Gasoline

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

Highly Complex Implementation Policies

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

Emergency Implementation Policies

12. Railcar Replenishment

Policy Options Targeting the Demand of Gasoline

1. Enhanced ZEV Access

Table 2. Overview of Enhanced ZEV Access

Topic	Description
Statement of Initiative	Accelerate ZEV adoption by offering additional incentives for zero-emission vehicles, with an emphasis on equity. The equity-focused programs, Clean Cars 4 All and the Clean Vehicle Assistance Program, have had large impacts in encouraging ZEV adoption.
Scope	Uncertain scope of impact and dependent on resource investment. By encouraging and incentivizing ZEV adoption, fuel consumption will be reduced.
Pros	▪ Potential increase in demand elasticity, reducing the impact of supply shocks. ▪ More ZEVs on the road will lead to less gasoline consumption. ▪ ZEVs have no tailpipe emissions and higher adoption will lead to higher usage of a safer fuel supply.
Cons	▪ Programs can become over-subscribed if they do not continue to receive an infusion of appropriated state funding, which means they may have an uncertain impact on gasoline demand year over year. ▪ ZEV adoption does not reduce VMT, which may have negative impacts on congestion.
Issues to Resolve	▪ Clean Cars 4 All and the Clean Vehicle Assistance Program will need a continued source of state funding.

2. VMT Reduction Strategies

Table 3. Overview of VMT Reduction Strategies

Topic	Description
Statement of Initiative	Develop and implement statewide policies to accelerate infill and mixed-use development in existing transportation-efficient places, deploy strategic resources to create more transportation-efficient locations, and build a statewide transportation demand management (TDM) framework with VMT mitigation requirements for large employers and large developments.
Scope	In terms on accelerating infill and mixed-use development, notwithstanding the recent passage of laws that expand property owners' ability to create multiple units on single-family lots and limit local governments' ability to block new housing in certain circumstances,[53] many barriers to infill development remain in place, discouraging this important development type in ways that need to be addressed. If barriers can be overcome, infill development will lead to less VMT, prompt shorter transit headways, and eventually reduce gasoline usage in those areas. The goal of TDM is to provide people with information, incentives, and other support programs that help them utilize sustainable transportation options such as remote work, alternative work schedules, transit, ridesharing, bicycling, and walking and rely less on cars. A strategic point of focus for TDM program implementation could be large employers (more than 100 employees), who often incentivize driving alone by offering free parking, gas stipends, and similar perks, and do not offer similar levels of support to employees to take transit, ride their bicycle, or walk.
Pros	▪ Infill and mixed-use development may promote VMT reduction and in turn reduce gasoline consumption in favor of safer fuels. ▪ Potential increase in demand elasticity, reducing the impact of supply shocks.
Cons	▪ Unclear total impact in terms of reducing demand in response to supply shocks. ▪ Some areas are not amenable to high density, so price spikes may continue to affect some regions. ▪ High transit usage is historically only seen in dense communities. ▪ May not be feasible for less dense and more rural communities.
Issues to Resolve	▪ Would require high levels of coordination and cooperation at the local municipal level who are the lead on land-use policies.

53 California Department of Housing and Community Development. See Accessory Dwelling Units

3. Implementation of Fuel Conservation Measures

Table 4. Overview of Fuel Conservation Measures

Topic	Description
Statement of Initiative	Develop and implement tools to encourage fuel conservation by using the media to alert the public to potential shortages of fuel or enact direct consumption policies to increase conservation, increase availability and affordability of alternatives to light-duty vehicles (e.g., bikes, e-bikes, scooters), prioritizing needs of underserved communities, and authorizing and implementing roadway pricing strategies, such as toll roads and high occupancy toll lanes.
Scope	Develop a State Marketing, Education, and Outreach (ME&O) strategy to encourage demand reduction during months that have high gasoline demand (July-October). Additionally, the State and local governments could increase access to active transportation modes, which may result in a reduction of light-duty vehicle travel, which would in turn result in lower fuel consumption. Likewise, authorizing transportation pricing strategies is essential to promote more efficient use of vehicles and to further transit and active transportation improvements. Pricing strategies present an opportunity to fund the transportation system in a more equitable and fiscally sustainable way than current funding sources, promote more efficient functioning of existing infrastructure, and fund new transportation options.
Pros	▪ The ME&O strategy is a low-cost option to call for voluntary conservation to reduce gasoline consumption. ▪ Potential increase in demand elasticity, reducing the impact of supply shocks.
Cons	▪ Could spur panic buying, increasing demand and exacerbating the price spike. This does not tend to occur in the case of electric power conservation alerts but could be more likely in the case of gasoline, where fuel can be purchased in advance. ▪ Unclear total impact in terms of reducing demand in response to supply shocks. Consumer responsivity to electricity alerts is likely not analogous to responsivity to gasoline alerts. ▪ May not be feasible for less dense and more rural communities.
Issues to Resolve	▪ What measures should be prioritized? ▪ What measures are the most productive? ▪ This would require support from multiple State agencies.
Other	▪ Will need to develop "messaging" that stimulates conservation but not panic.

Policy Options Targeting the Supply of Gasoline

4. Storage Strategies

The listed storage strategies will help maintain an adequate buffer supply that, upon the release of the stored supply, can allow for a short-term boost to overall supply and mitigate in cases of supply shock.

A. Storage Strategy: Stock Minimums for Refiners and Terminals

Table 5. Storage Strategy: Stock Minimums for Refiners and Terminals

Topic	Description
Statement of Initiative	Require refiners and terminals to maintain contingency reserves of gasoline fuel in refineries and terminals. During supply shocks, temporary release of minimum requirements to supply the market.
Scope	Variable scope of impact but could create an effective reserve of several hundred thousand barrels.
Pros	▪ The requirement could mitigate short-term price spikes. ▪ Maintaining minimum stocks will provide a quickly available reserve. ▪ Additional stored gasoline would be distributed in Northern and Southern California at key locations, like refineries.
Cons	▪ If the refiners withhold stocks to maintain the minimum, it may artificially create shortages in downstream markets (refiners may need to hold back a shipment to sustain the legal minimum stocks, which could cause a terminal to run lower than expected). ▪ Could increase average prices for refiners to maintain additional storage. ▪ The pipeline cycle process requires terminals to always be low on stocks before a batch is delivered, so this may be best applied at refineries and/or pipeline storage. ▪ A process or program will need to be developed to orchestrate the use of the volumes held in reserve.
Issues to Resolve	▪ What volume should be held in reserve and what would be the basis? ▪ Can it be held as finished CARBOB or as blendstocks? ▪ Downstream impacts could impact spot market prices in uncertain ways, although a market equilibrium may likely emerge at a higher price level. ▪ What is the cost to the refiner, and will this be passed to consumers?
Other	▪ Potential exists for the state to be criticized for requiring refiners to withhold fuel from the market.

B. Storage Strategy: Existing Non-Operating Storage

Table 6. Storage Strategy: Utilization of Existing Non-Operating Storage

Topic	Description
Statement of Initiative	Lease tankage at closed refineries to hold gasoline in reserve in the event of supply shortages.
Scope	Variable scope of impact depending on existing capacity, up to several hundred thousand barrels.
Pros	▪ No need to build tanks for a reserve, reducing stranded asset risk. ▪ Existing storage has existing logistical pathways for rapid distribution. ▪ Can start sooner with agreed protocols.
Cons	▪ Limited locations. Some refiners have indicated their "at refinery" storage is fully utilized. ▪ Current possibilities at Martinez and Rodeo refineries in Northern CA may not be available if they plan to import or use for renewable fuel purposes.
Issues to Resolve	▪ How large should the reserve target be? ▪ What capacity is available? ▪ How would seasonal RVP changes be managed? The fuel will need to be sold to dispose of high RVP stocks in the Spring and summer RVP purchased, and the converse in the Fall. ▪ Should it be the state leasing the storage and owning the fuel? Or use a private partner to lease and operate it? ▪ How would the reserves be utilized?
Other	▪ It might be difficult to see a refiner agreeing to use their tanks for this purpose. ▪ It may make sense for each refiner/supplier to be required to store a certain volume to use at their discretion.

C. Storage Strategy: State-Owned Product Reserve

Table 7. Storage Strategy: State-Owned Product Reserve

Topic	Description
Statement of Initiative	Establish state-owned product reserves in the North and South Regions to allow rapid deployment of fuel when needed.
Scope	Variable scope of impact, up to several hundred thousand barrels. Potential to build to size for Northern and Southern California needs.
Pros	▪ Having fuel available in state-owned reserves would provide quick access to fuel in the event of refinery outages. ▪ The state may be able to control the use of the fuel so that industry does not use it as a crutch to lower stocks. In other words, the state would only use the reserve for situations where events may cause significant price spikes.
Cons	▪ Industry may lower their stock levels if the reserves are released by the State every time there is a price spike. ▪ Risk of stranded assets if the state builds the reserve system. ▪ Price spikes are typically short-lived, while a state-managed storage system would require sustained operation, opening the question about the benefit-cost. ▪ Rotation of fuel for RVP purposes may increase regular costs slightly.
Issues to Resolve	▪ Must identify locations in the north and south. ▪ Protection against industry gaming of the inflow/outflow system. ▪ How would the fuel integrate with the existing system? ▪ How would seasonal RVP changes be managed? ▪ There may need to be several variations of this option evaluated. ▪ Existing spare storage in the KM system is minimal, but new build tanks for modest reserves in key locations may be possible. ▪ How would the reserves be utilized? Open bidding once CEC indicates the situation calls for use of the reserve? Who conducts the sale? Who is allowed to bid? Can the SPR model be used?
Other	▪ It will be important to get the product from the reserve into the system quickly. ▪ Will need to review the 2002 study in the context of the current market and infrastructure. ▪ The DOE product reserves have only been utilized once – for hurricane Sandy – and that was diesel fuel for electric generator usage.

5. Production Enhancement Strategies

Production enhancement covers several distinct approaches that have different features but are categorized as attempting to increase the supply of gasoline by modifications to standards outside of any sort of interstate agreement.

A. Production Enhancement Strategy: E15

Table 8. Production Enhancement Strategy: E15

Topic	Description
Statement of Initiative	Allow increased blending of ethanol with CARBOB from 10 percent (E10) to 15 percent (E15), effectively augmenting the existing CARBOB supply.
Scope	Could increase supply up to 40 TBD (5 percent), or about 17 additional unit trains (100-car trains) of ethanol per month from the Midwest.
Pros	▪ Likely to lower the price of CA fuel due to additional supply. ▪ Fewer environmental harms than E10, with a 1 percent loss of fuel economy.[54,55] ▪ E15 is allowed by the EPA and currently sold in 31 states.[56] ▪ The U.S. already exports about 60 TBD ethanol.
Cons	▪ Refineries may rebalance production for higher ethanol blends, potentially limiting the long-term ability for this strategy to reduce costs. ▪ E15 fuel specifications have not been adopted in California, and it could take years to conduct proper regulatory processes. ▪ Ethanol price may increase with higher demand.
Issues to Resolve	▪ Additional analysis is necessary to understand the pollution impacts of E15. ▪ Some equipment may not be capable of dispensing E15 and require upgrades, although this appears to be limited.[57] ▪ Blending processes and procedures will need to be in place.

54 Karavalakis, et. al., 2022. Comparison of Exhaust Emissions Between E10 CaRFG and Splash Blended E15. Prepared for CARB. Available online at: Comparison of Exhaust Emissions Between E10 CaRFG and Splash Blended E15.

55 Tang, et. Al., 2023. Expanding the ethanol blend wall in California: Emissions comparison between E10 and E15. Fuel (350). Available online at: Expanding the ethanol blend wall in California: Emissions comparison between E10 and E15.

56 Of the 31 states approved for E15 sales, 12 have 10 or fewer stations in operation. See New EPA ruling expands sale of 15 percent ethanol blended motor gasoline.

57 A recent report of multimedia evaluation submitted to CARB indicates that some gaps of E15 compatibility for some equipment. "Some equipment currently in use in California is… listed [by Underwriters Laboratories] only to E10. Equipment with a UL listing of E10 could be considered compatible with E15 with a manufacturer's statement of compatibility, however research and previous requests show that not all manufacturers will provide this document for blends above E10." See CARB's Multimedia Evaluation Report, page 31. Available at https://ww2.arb.ca.gov/sites/default/files/2022-07/E15_Tier_I_Report_June_2020.pdf

B. Production Enhancement Strategy: RVP Modification

Table 9. Production Enhancement Strategy: RVP Modification

Topic	Description
Statement of Initiative	Consider various modifications to RVP requirements to address tight supply conditions. Examples include early allowance for winter grade RVP, shifting the time period of winter RVP, or a permanent modification of summer RVP specification.
Scope	Timing of mitigation needs may limit implementation effectiveness. Staff estimate a potential of up to 90 TBD of added supply during early allowance periods, an approximate 10 percent supply increase. Longer-term shift of summer blend RVP could increase supply by about 4 percent.
Pros	▪ Increase in supplies during high-risk periods. ▪ Evidence of contributing to a significant ramping down during the 2022 and 2023 price spikes.
Cons	▪ Increased risk of violation of federal air quality attainment standards and related sanctions or litigation. ▪ RVP and other gasoline specifications are included in the federally required State Implementation Plan for air quality and cannot be weakened without identifying substitute emission reductions. ▪ Could increase evaporative emissions and ozone levels for at least those two months, with potential persisting effects for several months. ▪ Permanently shifting the RVP time period may result in shifting when price spikes occur instead of mitigating them. ▪ RVP shifting options only available during certain months of the year.
Issues to Resolve	▪ Will require CARB input on air quality risks on community safety. ▪ What market conditions would trigger implementing some actions? ▪ Timing of implementation. ▪ Vapor lock risk.

C. Production Enhancement Strategy: Non-CARBOB Fee-Based Allowance

Table 10. Production Enhancement Strategy: Non-CARBOB Fee-Based Allowance

Topic	Description
Statement of Initiative	Create a fee-based non-CARBOB allowance program that can be activated during a price spike or in response to a reasonable expectation of one.[58] Revenue from fees would be used for air quality improvement strategies in non-attainment regions or other EJ communities.
Scope	On average, there are 1,200 thousand barrels (24 days at 50 TBD) of non-CARBOB gasoline in CA refineries and 100-130 TBD non-CARBOB production. Using a small portion of these resources or allowing the importation of non-CARBOB gasoline could mitigate a price spike without jeopardizing supply to Nevada or Arizona. For nearby imports, a cargo size of 250-300 thousand barrels per ship. One ship per week is approximately 40-50 TBD.
Pros	▪ Widespread access to non-CARBOB gasoline in stock or in nearby locations during critical periods could be used to reduce the spot market price during a supply shock. ▪ In-state supply could be rapidly available for pipeline batches. Out-of-state non-CARBOB supply could be more quickly secured than CARBOB. ▪ May minimize the intensity of a price spike with the lowest volume of CARBOB substitution. ▪ Direct support of communities most impacted generally by air quality impacts.
Cons	▪ Introducing non-CARBOB gasoline could impose a negative pollution effect and potential risk to federal air quality attainment standards. ▪ RVP and other gasoline specifications are included in the federally required State Implementation Plan for air quality and cannot be weakened without identifying substitute emission reductions.
Issues to Resolve	▪ Deeper analysis and public deliberation on policy implementation, economic underpinnings, and environmental impacts. ▪ The state will need an authority to activate the policy quickly and have an effective fee structure in place prior to a spike. ▪ Uncertainty on potential gaming behavior during spike periods. ▪ When to activate and deactivate an allowance period. ▪ How to set fees to address the spike and minimize non-CARBOB used.

58 This policy approach is discussed in broader terms as part of 2015 the Petroleum Market Advisory Committee docket (Borenstein, Bushnell, and Lewis, 2004. "Market Power in California's Gasoline Market"). See MARKET POWER IN CALIFORNIA'S GASOLINE MARKET for more information.

Other	▪ May impact NV and AZ supply, but those markets (except Reno) can be partially supplied from the East.

D. Production Enhancement Strategy: CARBOB for Reno

Table 11. Production Enhancement Strategy: CARBOB for Reno

Topic	Description
Statement of Initiative	Supply CARBOB gasoline and diesel into Reno market terminals long-term. This will make more storage available for CARBOB product or blendstocks in northern California refineries and large storage terminals.
Scope	Would require Bay area refiners to produce 5 percent more CARBOB instead of Nevada gasoline in exchange for more supply flexibility.
Pros	▪ More effective storage for CARBOB product due to elimination of a need to hold Reno-specification gasoline in refineries and the terminal storage-pipeline system. ▪ Relatively easy to implement with refiner capability. ▪ Air quality improvements for Reno residents.
Cons	▪ Refiners in Northern CA will have to regularly make more CARBOB based on demand in Reno (about 20 TBD CARBOB). ▪ Potential price impacts in Reno.
Issues to Resolve	▪ What would be the process to implement? Who is involved? ▪ Would pipeline operators see advantages on costs and potentially impact tariffs? ▪ Interstate relations impacts. ▪ Ability to make more CARBOB with declining refinery capacity.

6. Alignment of Gasoline Specifications for Western States

Table 12. Overview of Alignment of Gasoline Specifications for Western States

Topic	Description
Statement of Initiative	Establish a unified gasoline specification for several states in the West. (Note: RVP would remain the same as current).
Scope	Unknown direct impact from the policy, but a market shift that could expand the market coverage and increase competition for fuel via marine cargos.
Pros	▪ If gasoline products have identical specifications in all three states, shorter associated import timelines could reduce supply shock effects in California. ▪ If CARBOB were to be the agreed upon specification, there would be positive air pollution impacts in all regionalized states. ▪ Import and export flexibility could be enhanced for all three states. ▪ Increased competition could decrease prices and reduce price spike risk.
Cons	▪ The states must agree on common specifications. Legislative or at least regulatory changes would be necessary in all states. ▪ With CARBOB being the most difficult to produce, it is possible that the agreed specification could lead to a less stringent emissions standard for California. Cost and benefit impacts of such alignment must be assessed. ▪ RVP and other gasoline specifications are included in the federally required State Implementation Plan for air quality and cannot be weakened without identifying substitute emission reductions. ▪ Refiners may use the fungible fuel as a rationale to lower stocks and/or storage, potentially increasing price spike risk.
Issues to Resolve	▪ Concurrence among multiple state entities in all states, which may not be feasible.
Other	▪ Northeast states were able to better manage heating oil and diesel stock levels and demand surges when both products were aligned on sulfur specifications.

7. Import Strategies

Import strategies intend to increase supply directly or indirectly by bringing in fuel from refineries outside of the state. Across all strategies listed, timing is a critical challenge.

A. Import Strategy: Resupply Compensation

Table 13. Import Strategy: Resupply Compensation

Topic	Description
Statement of Initiative	If companies or traders are reluctant to purchase gasoline during a price spike or supply shortage,[59] a program could provide compensation to those parties to stimulate transport of CARBOB fuel to California.
Scope	Cargo size is 250-300 thousand barrels per ship. Limited supply sources for CARBOB may make this a one-to-two ship per week option, approximately 40 to 80 TBD, or about 5 percent to 10 percent.
Pros	▪ Incentives to stimulate shipments may result in additional CARBOB fuel arriving in California. ▪ CARBOB consumption would remain approximately similar to existing expectations.
Cons	▪ Timing of resupply may occur too late due to logistical timelines. Identification of refiner, manufacture of CARBOB, and vessel movement to CA could take up to six weeks. ▪ Refiners or blenders who can produce CARBOB fuel are limited. At best one-to-two ships per week (5 percent to 10 percent of demand) for planning purposes. ▪ Could be very expensive if freight and price risk are "covered" for the importer by the designated authority or program. ▪ Policy may also cause refiners to "wait and see" what the state may do before they act, which would be counterproductive.
Issues to Resolve	▪ Program development will require additional work. A bidding system or reverse auction may be useful in this process. ▪ Would this option allow compensation for purchases of key blendstocks (e.g., alkylate), or only CARBOB? ▪ Who is allowed to compete for the incentives and how will the program control who gets the incentive? ▪ Could this create a market distortion?
Other	▪ Any program will need an ongoing authority to manage this process, including timing and scope. ▪ Will the program be perceived as picking winners and losers? Will the program be perceived as aiding Big Oil? ▪ While the program itself may become a short-term response mechanism, delineating all the issues here may make take time.

59 During the Commissioner hearing on California Gas Price Spikes on November 29, 2022, CEC staff pointed out that importers may be reluctant to purchase ships due to the expectation that in-state refinery capacity may recover. This was evidenced in an attempted refinery restart during the 2015 Torrance refinery outage.

B. Import Strategy: Short-Term Imports

Table 14. Import Strategy: Short-Term Imports

Topic	Description
Statement of Initiative	The state creates a program or hires a trading company that takes on a series of regular delivery contracts during critical risk periods to augment gasoline supply via imports for a defined period.
Scope	Cargo size 250-300 thousand barrels per ship; one ship per week amounts to about 35-50 TBD, about 5 percent of CA supply.
Pros	▪ Provides security during times of increased supply shock risk. ▪ Increasing total supply could decrease spot prices. ▪ May be a good buffer for longer-term larger shortages that arise during the defined period.
Cons	▪ Potential high cost to the state. Because marine cargos are more expensive, gasoline brought to the spot market will likely be sold at a loss. ▪ CARBOB refiners outside of California are limited. ▪ Highly uncertain market reactivity to the program, depending on the extent the program's actions are known and market actors understand how to optimize their behavior to the supply increase. ▪ State actions in the spot market may result in objections of unfair competition or "dumping."
Issues to Resolve	▪ How many cargo ships can be deployed to California ports? ▪ Does the pipeline have enough capacity to handle an increase in marine imports? ▪ Is there enough storage to handle the product imported? ▪ How will the state negotiate with the Kinder Morgan pipeline system to move fuel? ▪ How well known will the contracts, volumes, and spot market additions be to other market participants? ▪ How will costs from likely losses in the spot market be paid for?
Other	▪ If put in place, the state must establish an authority or program to manage the entire process, as well as a contractor to manage the logistical aspects of all stages of the program (e.g., purchase, shipping, offloading, selling on the market, etc.).

C. Import Strategy: Reliable Imports

Table 15. Import Strategy: Reliable Imports

Topic	Description

Statement of Initiative	As the transition unfolds, California may wish to consider developing a relationship with a supplier and refiner or marketer to bring CARBOB into California via regular ship loads so consumers are assured a reliable import supply.
Scope	Based on refinery gasoline production vs demand, a strategy may establish 5 percent to 10 percent greater supply than planned refinery production to preserve a baseline supply above expected demand.
Pros	▪ Having a CARBOB term contract with a major refiner (Reliance, Korea, or a country in the Middle East) to provide (for example) 50 TBD – one-to-two cargo ships per week. This would provide a cushion as State CARBOB demand declines and refiners' behavior remains uncertain.
Cons	▪ It may be difficult to make appropriate financial and logistical arrangements, such as import location and other logistics (how the fuel is stored and sold, etc.). ▪ CARBOB refinery capacity outside of California is limited, although a term commitment may better ensure reliable supply. ▪ The State would be actively engaging in the market as a mechanism to control supply, which may cause other market participants to disengage or engage in other market gaming strategies.
Issues to Resolve	▪ Will depend on where the ZEV transition impacts gasoline demand the most and how refiners choose to operate their business in that environment. That is, the option may need to react to how the refining business changes with decreased demand.
Other	▪ This is a transition-focused option and may not be something California can direct. It is like Hawaii's approach, which is heavily dependent on imports but managed by industry stakeholders.

D. Import Strategy: Jones Act Vessels

Table 16. Import Strategy: Jones Act Vessels

Topic	Description
Statement of Initiative	State-leased or state-owned (i.e., state-managed) Jones Act tankers[60] may provide resiliency if the right refineries can produce the necessary gasoline for the state's needs in a timely fashion.
Scope	Standard ship capacity. Provide California with an available ship to move fuel between domestic ports.
Pros	▪ Would provide prompt marine capacity to load and discharge gasoline or blendstocks.
Cons	▪ Placing a vessel under lease on a "stand-by" basis will be extremely expensive, with unknown vessel management challenges (e.g., crew, maintenance, etc.). ▪ Standby location must be near port capable of rapid production shift capacity to CARBOB, with associated uncertainties. ▪ While there is some CARBOB production capability in the Pacific Northwest, it may still take time to produce a batch suitable to load a vessel. ▪ There would need to be a commercial arrangement with a refiner to supply the fuel to load the vessel.
Issues to Resolve	▪ Leasing capability and costs, terms of use and fuel acquisition assurance. ▪ How would the state direct the ship operation and market the gasoline after loading on the vessel? ▪ What would be the procedure for utilizing the vessel and discharging the gasoline?
Other	▪ Should the State be in the business of buying and selling fuel?

60 The Jones Act requires that any cargo traveling by sea between two U.S. must be built in the United States and be crewed by mostly U.S. citizens.

Highly Complex Implementation Policies

8. Gas Price Stabilization Fund

Table 17. Overview of Gas Price Stabilization Fund

Topic	Description
Statement of Initiative	During times of lower gas prices, fees would be levied in a variable manner to then allow for stabilization initiatives during California-specific price spikes.
Scope	A means-tested fund disbursement program for middle- and low-income gasoline vehicle owners would provide an offset to California-specific gasoline price spikes.
Pros	▪ Financial assistance provides some insulation against price spikes for middle-to-low income Californians. ▪ Fungibility of disbursement funds may also encourage conservation.
Cons	▪ Gas prices may remain consistently high throughout the year and the difference between the average price in California and the average price in the U.S. may widen. ▪ Public perceptions of the fund's purpose may present a communications challenge, as funds would not be disbursed for national price spikes (e.g., when California spot markets prices are in alignment with NYMEX RBOB prices). ▪ It may be difficult to adopt a means-tested benefit program.
Issues to Resolve	▪ How to optimize fees during lower gas price periods? ▪ Mitigating potential shortfalls in the fee offset fund?

9. Cost of Service Model

Table 18. Overview of Cost-of-Service Model

Topic	Description
Statement of Initiative	California would actively regulate the operating rules, prices, and rate of return of petroleum fuel market operators similar to the current structure used to manage private electric and fossil natural gas utilities as natural monopolies.
Scope	California sellers would be required to have prices approved by the designated State authority and spending would have to be approved for cost recovery in prices.
Pros	▪ The state would have more control over the margins.
Cons	▪ Current market operators do not have natural or logistical monopolies like standard private electric and fossil natural gas utilities. ▪ Challenging to optimize operations and yields due to stricter regulatory environment. ▪ Unclear how this would control trading parties.
Issues to Resolve	▪ Is there concern about regulating fuels by California that are destined for other states? ▪ Would permission need to be granted to change crude oil processing and refinery product slate (refiners may produce 30 or more products at a given refinery – not just one product such as electric utilities)?
Other	▪ Are there other countries that utilize a model like this?

10. State-Owned Refineries

Table 19. Overview of State-Owned Refineries

Topic	Description
Statement of Initiative	The State of California would purchase and own refineries in the State to manage the supply and price of gasoline.
Scope	Could range from one refinery to all refineries in the state.
Pros	▪ The State would operate a market independent source of production which would eliminate potential market manipulation
Cons	▪ It is very expensive to purchase or compensate for refinery infrastructure and will raise questions of liability and cost effectiveness when the projected demand of gasoline will decline in the State over time. ▪ There are complex industrial processes that the State has no experience in managing. ▪ Significant legal issues would need to be addressed.
Issues to Resolve	▪ What does the State procurement process look like for such a transaction? ▪ How would the state purchase crude, blendstocks, etc., and sell the diverse products from one or more refineries? ▪ What would drive how the State managed the refinery? Profit? Maximize production? Minimize production?
Other	▪ As demand for fossil fuel declines, will the presence of State-owned refineries inhibit an orderly phase out of refinery capacity?

11. Retail Margin Management

Table 20. Overview of Retail Margin Management

Topic	Description
Statement of Initiative	Measure, publicize, and potentially manage retail margins.
Scope	Assure that all gasoline that is sold at retail stations in California is not sold at excessive retail margins.
Pros	▪ Linking allowable retail dealer margins to a ceiling can reduce the lag in restoration of retail prices after a spike. ▪ Transparency may foster faster responses to spot market changes. This will likely mean prices increase faster, but the retailers will need to lower prices faster as well, which will benefit consumers more based on chronic lags in retail price declines.
Cons	▪ Retail associations may object to publishing retail margins based on actual data or limiting retail margins. ▪ Price caps do not have a history of effective implementation. ▪ It may be difficult to determine "reasonable" retail margins based on varying costs of rent, land, labor at different stations or regions of CA. ▪ Burden for dealers to report their weekly fuels delivered costs vs the average price for their sales (less taxes) to the administering body.
Issues to Resolve	▪ As gasoline demand declines, increasing margin allowances may help keep dealers in business and minimize job losses.
Other	▪ Evidence presented to CEC indicates that retail prices increase with the spot market but lag when the spot market declines. ▪ Historical evidence also shows that while refinery margins have gone up and down, retail margins have consistently grown over time.

Emergency Implementation Policies

Emergency Implementation Policies reflect potential actions the State may need to consider in severe emergencies where physical supply of fuel is paramount. These types of events could include earthquakes and other events, including major pipeline failures, extensive port dock damage, broad power outages that close multiple refineries for multiple days. These policies may have effects on fuel pricing, but their focus is more directed to managing emergency supply shocks than addressing prices.

12. Railcar Replenishment

Table 21. Overview of Railcar Replenishment

Topic	Description
Statement of Initiative	Use railcars to provide CARBOB or Conventional BOB to California.
Scope	A unit train (100 railcars) of refined gasoline hold 70 thousand barrels of fuel – 3 million gallons. One unit train per day would cover about 8 percent of California demand.
Pros	▪ Option for additional supply of finished fuel or blendstocks. ▪ May be faster than marine movements from the Gulf Coast.
Cons	▪ Limited locations to load unit trains of gasoline or blendstocks at Gulf Coast refineries. ▪ Limited locations in CA to offload – which could be impacted by the event, but this could be mitigated to an extent if transloaded from rail cars into trucks. ▪ Timing concerns of loading and unloading may limit the effectiveness. ▪ Likely will not be effective if CARBOB is the required fuel (few non-California refiners can produce it).
Issues to Resolve	▪ Will need to confirm that rail receiving facilities in California are operational for both gasoline and ethanol. ▪ Should develop a catalogue of all terminals in California and their rail and truck loading and receiving capability (or lack of). ▪ Are there adequate railcars available?
Other	▪ Further study of this approach may indicate that there are potential private sector pathways for a more commercial approach. ▪ The volume of demand that needs to be covered may be less than normal if earthquakes impact roads and ability to commute.

WSPA

Catherine H. Reheis-Boyd
President and CEO

September 11, 2023

California Energy Commission
Docket Unit, MS-4
Docket No. 23-SB-02
715 P Street
Sacramento, California 95814

Submitted via email to docket@energy.ca.gov

RE: WSPA Comments Regarding SB X1-2 Transportation Fuels Assessment Workshop [Docket #23-SB-02]

Thank you for providing an opportunity to comment on the California Energy Commission's (CEC or Commission) August 17, 2023, workshop to inform implementation of the Senate Bill (SB) X1-2 (2023) Transportation Fuels Assessment report to the California State Legislature. The Western States Petroleum Association (WSPA) is a non-profit trade association representing companies that import and export, explore, produce, refine, transport and market petroleum, petroleum products, natural gas, renewable natural gas and renewable diesel, hydrogen, and other energy supplies for California.

WSPA offers comments on issues presented for, or discussed during, the workshop. Underpinning these are, ***first***, the need to recognize that California has evolved into a "fuel island" – the State is effectively disconnected from the national fuels market while continuing to adopt policies that compound the issues SB X1-2 seeks to address: ensuring the adequate, affordable, reliable, safe, and equitable supply of petroleum and alternative transportation fuel supplies for all Californians. What follows is a more detailed explanation of this situation and, ***second***, comments on market-related issues; ***third***, comments on the Lead Commissioner's opening remarks regarding the possible imposition of a gross margin cap and penalty; ***fourth***, comments on how best to frame the Transportation Fuels Assessment; and, ***finally***, preliminary responses to the workshop questions. Our responses to potential policy options represent an initial commentary on what we think these could mean for California's petroleum market based on the limited information presented by the CEC and should not be construed as an endorsement of any option. We look forward to providing additional information to the CEC as implementation of SB X1-2 moves forward.

I. CALIFORNIA IS AN ISOLATED FUELS MARKET

California is a "fuel island" due to decades of constraining land use and permitting decisions paired with policies explicitly intended to reduce the State's supply and consumption of fossil fuels (*e.g.*, in-State oil production bans, internal combustion engine bans) – even as these fuels remain in high demand. Policies such as requiring a specialized CARBOB gasoline formulation, federal Jones Act maritime requirements, and strict seasonal transition standards create even more operational complexity, creating an extremely challenging California fuels market for in-State, out-of-State, and international suppliers. When coupled with California's isolated infrastructure, there are strong *dis*incentives for companies to make the long-term investments necessary to maintain California's current level of refining capacity.

This was not always the case. California was once a domestic gasoline manufacturing hub with abundant local production capacity to affordably supply in-State demand, as well as the demand of adjacent states. The reduction of in-State refining capacity has happened while the State's own policies artificially constrain in-State production and refining to meet demand and *without* having the benefit of ready access to additional domestic supplies.

California is now unable to supply all its own gasoline to meet demand and is more dependent on the global market. The CEC's 2005 Independent Energy Policy Report (IEPR) – a report that is now nearly 20 years old – identified even then that, "California's petroleum infrastructure operates at near capacity. Breakdowns and outages at in-State refinery and pipeline facilities quickly tighten gasoline and diesel fuel supplies and create market volatility. Since California is not directly connected by pipeline to other domestic refining centers, in-State refiners cannot readily procure gasoline, diesel, and other blending components when outages do occur. This contributes to higher and more prolonged price spikes."

While there is a *domestic* gasoline manufacturing hub – specifically along the Gulf of Mexico – there are no economical means of transporting enough gasoline from the Gulf Coast to California. Nor is there a pipeline to move gasoline from that major refining hub to the West Coast. The other very expensive and inefficient alternative to move domestic product to California, via marine transportation, is constrained given limits with efficiently moving very large tankers through the Panama Canal. And it is normally economically prohibitive for new U.S. vessels to supply California from the Gulf Coast due to federal Jones Act and Panama Canal restrictions; California's seaborne trade must therefore be sourced from *foreign* refineries, typically in Asia, thousands of oceanic miles farther away than otherwise readily available domestic supplies.

It now takes West Coast suppliers, on average, 30-45 days (for imports from Asia) to import alternative fuel sources overseas following significant refinery outages. For example, global shipping markets (*e.g.*, availability and freight rates) continue to be dramatically disrupted because of the Russian invasion of Ukraine. Such an unforeseen global event – the largest European land war since World War II – has had a significant effect on the global crude oil commodity market; California consumers, due to the "fuel island" effect outlined here, were especially susceptible to the resulting supply disruptions and price swings.

California's challenging regulatory environment continues to send a strong signal to both refining and production companies that their future in the State is very limited. The overall expense of doing business in California – including operating, capital, and labor expenses – is far higher than in most other states. For example, the California Air Resources Board's (CARB) new "At-Berth" Regulation will further limit the number of calls and/or availability of tankers that can call on California's ports beginning in 2025 – the very same facilities that will need to absorb the delivery of increasing imports due to artificially constrained in-State production and refining policies. The growing costs of California's climate policies and programs are further compounded by multiple layers of federal, regional, and local regulations; that add costs and do impact a fragile, volatile, and constrained California fuels market. We are concerned, for instance, that SB X1-2 compliance obligations appear to be discouraging finished product and component imports into California because counterparties may be unwilling to complete the additional requirements to comply with California's unique new regulation – including to obtain information that could be used to potentially cap gross revenues. Consequently, supplying

California remains difficult, making the State further at risk of future market volatility that will only worsen as additional restrictive State policies take effect or are approved.

All of this contributes to making California an extremely difficult State in which to operate – and, therefore, invest. As some State agencies and legislators continue to champion the closure of refineries, companies that own and operate these refineries could become reluctant to make long-term investments required to operate these needed facilities because the State's own policies disincentivize doing so. It is therefore challenging for California's upstream and downstream assets to compete for investments. *Dis*incentivizing investments in California further constrains our fuels market.

A simple fix to California's supply and demand imbalance is highly unlikely as a series of actions would be needed to resolve California's "fuel island" effect. Because of the complex nature of these issues, we believe longer-term solutions will be challenging, but WSPA would like to work with you to evaluate options for reliably increasing the supply of affordable fuels to California.

II. NEED TO IMPROVE MARKET STABILITY AND ADDRESS MARKET VOLATILITY

The transportation fuels market is global and dynamic. And California's boutique fuels market, as described above, is fragile and more sensitive to market volatility. We agree with the CEC that price spikes are predominantly caused by California's geographic isolation, regulatory bottlenecks, and refinery outages – which are made more acute by regulations and policies that disincentivize capital investments. Indeed, the CEC had identified global supply issues, refinery outages, and taxes and regulations as the causes of price spikes during fall 2022.[1] That conclusion is consistent with the CEC's research dating back nearly 20 years.[2]

Multiple actions and collaborative efforts between policymakers and the industry are necessary to resolve California's long-standing "fuel island" effect. For each energy transition policy implemented, policymakers should ask if the action will encourage longer term investments in gasoline production, distribution, and retail services that Californians will still need for decades to come. If the answer is "No," the State should work with industry stakeholders to determine reasonable solutions to avoid unintended consequences. Because of the complex nature of these issues, we are willing to work with the CEC to evaluate options for increasing the supply of fuels to California, such as:

1) **Choosing policies that encourage investments in adequate, affordable, reliable, safe and equitable transportation liquid fuel supplies.** This would require clear and consistent policies that support resource development, streamline permitting processes for upstream and downstream facilities, support liquid fuel infrastructure development and protect in-State refining, distribution, and retail investments.
2) **Exploring what regulatory barriers can be mitigated during market volatility.** This could include utilizing waivers to allow for the early seasonal transition of CARBOB standards or working with the Federal government to lift Jones Act requirements during exceptional events (*e.g.*, weather, geopolitical, etc.). Please note these actions are

[1] California Energy Commission, *California Gas Prices*, Presentation at November 23, 2022 California Energy Commission Hearing, at 43.
[2] See generally California Energy Commission, 2005 Integrated Energy Policy Report.

levers that may help mitigate temporary supply constraints caused by such volatility, rather than prevent market volatility.

However, some actions can make California's gasoline market ***even more*** susceptible to market volatility, such as:

1) **Imposing a vague, arbitrary maximum gross gasoline refining margin and a subsequent penalty.** Doing so would likely have immediate harmful impacts on gasoline prices and economic activity throughout the State. It may likely lead to more severe gasoline shortages by disincentivizing California production (since refiners may choose not to sell finished product in California to avoid exceeding the cap), and likely create shortages of *other fuels* refiners produce – such as jet, diesel, and other transportation fuels – as these fuels are produced as part of the same refining process as gasoline. Because refiners cannot feasibly reduce the amount of CARBOB gasoline produced without *also* reducing the production of these other fuels, a cap could reduce those fuel supplies too. This could likely mean less available refined transportation fuel and more market volatility for California consumers. Moreover, with less capital on hand to maintain and modernize California's refining infrastructure, including requirements to meet emission reduction projects – we are concerned that this could lead to less reliable operations and potentially reduced refinery capacity, thus exacerbating the supply situation. In addition, if the gross gasoline refining margin is calculated, the amount must be evaluated on an annualized average basis to account for market volatility and periods when margins turn negative.

2) **Increasing California's susceptibility to market volatility.** The State is especially sensitive to market disruptions because of its isolated infrastructure and unique fuel blend. As CEC has recognized, temporary changes in fuel costs result from the forces of supply and demand – not market manipulation or price gouging. But, as we have historically seen, the market corrects itself; as higher prices attract more fuel supply into the State, costs naturally drop. However, a margin cap could tend to decrease the amount of gasoline sold in California and prevent this natural correction, and thus could increase the frequency and length of cost increases due to supply disruptions. This is historically because price spikes tend to reduce demand and subsequently increase supply (from imports). Eliminating the market's natural ability to restore equilibrium could result in widespread supply outages (which have been avoided to this point).

3) **Further increasing reliance on gasoline imports.** SB X1-2 would encourage increased reliance on imported gasoline. Although California's marine terminal infrastructure is already near capacity today, and the ability to import additional product into the State will likely be further reduced if refinery capacity diminishes. Furthermore, not all marine facilities are connected to the pipeline distribution systems; gasoline imports into California would come from overseas, not from the United States, due to the lack of Jones Act vessels and Panama Canal constraints. Relying on overseas imports, if they are available in sufficient quantity and quality, would likely result in higher transportation costs and increase the length of supply shortages due to transit times. In addition, importers will need to cover the cost of crude refining, transportation and throughput expenses likely resulting in higher – rather than lower – costs to Californians.

4) **Not accounting for the cyclical nature of the refining industry.** On average, returns on capital employed in the refining industry are lower than the returns in many other industries. In 2020 and 2021, California's refiners lost billions of dollars as prices plummeted due to the COVID pandemic. In contrast, periods with higher margin allow refiners to make necessary maintenance and regulatory-driven investments to operate refineries safely and reliably, to reduce emissions, and to improve efficiency. These activities can cost hundreds of millions of dollars annually for a single refinery. However, SB X1-2 threatens to impose a penalty on *gross*, rather than *net* margins – thereby undercounting the cost of these investments and potentially reducing the amount of capital available for maintenance and improvements. If that capital decreases, refineries may not be able to operate reliably.

5) **Not accounting for product availability and jobs impacts.** These are other important ramifications to consider. Refineries are not designed to make a single product from each barrel of oil. To be efficient and functional, refineries produce a variety of different products demanded by the market, which are determined by each crude's content. While a margin cap on gasoline could mean that refineries would produce less gasoline for California to avoid penalties, this would also necessarily mean a reduction in production of the jet and diesel fuels needed in California. Furthermore, most jobs at most California refineries are union labor, and there are typically hundreds of additional contract workers onsite helping to maintain a given refinery. To the extent a margin cap discourages refining production and investment in California, it also threatens the long-term job security of thousands of Californians.

6) **Not accounting for impacts in other states.** California is the main hub for oil and gas flowing to Arizona and Nevada. Decreasing the incentive to invest in California's oil and gas infrastructure through a margin cap could increase long-term prices in California, as well as in Arizona and Nevada. SB X1-2 directs the State to defray these increased costs for *California* consumers, but consumers in Arizona and Nevada would be left to bear the full cost of the policy.

III. WSPA RESPONSE TO CEC VICE CHAIR SIVA GUNDA'S COMMENTS REGARDING SETTING A MAXIMUM GROSS GASOLINE REFINING MARGIN

The CEC has been directed to investigate if there is a need for a maximum gross gasoline margin and penalty. Based on years of refining experience, and decades of real-world evidence of how California's transportation fuels market has consistently reacted to fuel supply constraints, WSPA believes a cap on gross margin will likely further decrease California's gasoline supply and increase gasoline costs due to an even tighter market. This could place an even larger burden on Californians – especially upon those least able to afford increased costs.

WSPA is concerned that the imposition of a gross refining margin cap and penalty would likely reduce the supply of transportation fuels for Californians as refiners could seek to stay below knowingly incurring (and publicly reporting) a State-imposed penalty. This should be avoided given the already constrained state of California's fuels market. With the substantial new market data now being collected by the CEC, we encourage the Commission to carefully consider how a margin cap would impact the availability of an adequate, affordable, equitable, reliable, and safe supply of needed transportation fuels for Californians as directed by SB X1-2.

Neither the CEC nor California consumers are served by an incomplete or inaccurate picture of the State's petroleum market. Unfortunately, in the absence of any guiding rulemaking on the subject to date, the collection of information so far under SBX1-2 has resulted in an inconsistent and incomplete patchwork of information. Some information the State requested from the industry to date is easily open to disparate interpretation, reflects data not directly relevant to the market or consumer prices, presents an unreliable representation of industry revenue, or fails to capture the true costs of supplying the California market. We continue to strongly encourage the CEC to conduct the formal rulemaking necessary to solicit clarifications on what information should be collected to best inform its decisions not only about the wisdom of a margin cap, but also about how best to ensure equitable and affordable transportation fuel supplies for all Californians.

Without a rulemaking to resolve data consistency issues, setting an arbitrary – and potentially too low – maximum gross refining margin could *decrease* the availability of refined gasoline for California consumption to the detriment of all Californians. Contrary to some policymakers' belief that refiners can adjust prices to manage a margin cap, there is no straightforward formula for how to adjust ***daily*** prices to keep them within a ***monthly*** profit cap. A SB X1-2 margin cap regime would be extremely difficult to comply with, with refiners potentially penalized for factors beyond their control. In addition, levers available to manage margins may be to reduce not *price* but rather *supply*; as a result, retailers could be forced to either increase prices or run the risk of running out of gasoline. It is also possible that, as a result of a penalty, refiners may end up producing gasoline at a loss in some months.

It is therefore critical that CEC evaluate the potential impacts and unintended consequences of adopting such a cap and assess whether the actual market evidence indicates that such a cap will do anything to help California consumers. The lesson of the past 30 years in California is that lasting consumer relief can only be achieved by addressing the underlying fundamental market variables. Even third-party and the State's *own* experts have concluded that a cap on refinery margins has the potential to *harm consumers and drive prices up* by aggravating California's increasingly structural supply constraint issues – leading to the extreme gasoline price spikes the CEC is tasked with preventing and mitigating. The CEC's own Petroleum Market Advisory Committee, in 2016, had dedicated meetings to supply issues facing the California market and how supply constraints appeared to be getting worse. The Committee also discussed the need to be careful with State regulations to *not* unnecessarily decrease refining capacity, as well as a concern more generally to minimize unintended consequences of any new policy mechanism.[3,4]

To the extent that the Commission is considering a maximum gross gasoline refining margin and penalty under California Public Resources Code (PRC) section 25355.5, WSPA believes that it either does not have adequate information to assess a cap's impact on Californians or may be relying on incomplete, inconsistent, and therefore likely inaccurate information. Despite industry's best efforts to comply, CEC's information requests to date have been ad hoc, do not explain how to interpret new terms introduced by SB X1-2, and have not been informed by the CEC's institutional experience in defining and administering specific reporting obligations. For example, under PRC section 25355, the "[g]ross gasoline refining margin" does not accurately

[3] February 8, 2016 Petroleum Market Advisory Committee (PMAC) meeting transcript (page 203) https://www.energy.ca.gov/data-reports/planning-and-forecasting/petroleum-market-advisory-committee.
[4] PMAC Final Report, November 2014 to November 2016

reflect real-world refinery costs and profit margins, and any penalty based on it would be poorly targeted and could have unintended consequences. These issues necessarily limit how useful CEC's information requests can be. WSPA has advised the CEC that rulemaking is required to provide guidance to industry on the types of information required; to ensure the data the agency receives is consistent, reliable, and useful in shaping California's energy future; and to properly inform the Commission on the potential consequences of a maximum gross gasoline refining margin.

SB X1-2 did not resolve the ambiguities that existed in section 25355, but rather added additional ambiguous terms to a statute that already contained novel and open-ended reporting requirements and terms. For example, SB X1-2 added the term "Net gasoline refining margin" as a separate figure required to be reported, defined as "gross gasoline refining margin minus the refinery's operational costs.[5]" The statute includes a nonexclusive list of "operational costs," but does not suggest what other categories of costs may or may not fit the definition of or indicate how to allocate these "operational costs" among different categories of finished product.[6] Refiners make several products with the same feedstocks and crude oil – such as jet fuel, diesel, heating oils, and the different grades and blends of gasoline (including gasoline that meets California's standards). Many "operational costs" – such as the costs of refinery maintenance, employee salaries, and marketing costs – cannot be easily allocated among those products, and the statute does not provide a consistent, accurate method for doing so. As WSPA has previously stated, those original terms can be reasonably interpreted in multiple ways and thus will likely not produce consistent results across refiners.

There are other issues with the statute that should be addressed before considering the imposition of a margin cap. Even though the "net gasoline refining margin" is a better (albeit still misleading) estimate of refinery profits, section 25355.5(b) instructs the Commission to consider a cap based on the "gross gasoline refining margin." In other words, while the statute reflects legislative recognition that the "gross gasoline refining margin" is flawed and can be improved by accounting for operational costs, it still authorizes punishment of refiners based on this less accurate number. Any process by the Commission to determine whether to penalize refiners under section 25355.5 must account for this discrepancy. Too low of a cap for refiners on the "gross gasoline refining margin" could effectively mandate that a refiner take a loss to avoid a penalty, and/or result in the penalty dipping into operational costs – or worse, determining that these draconian market restrictions do not justify continued operation in California.

Additionally, SB X1-2 does not account for the critical differences in configuration, production, operations, distribution, and marketing between refiners. For example, the statute treats refiners differently based on their distribution models; i.e., refiners that sell wholesale gas to affiliated stations may see a higher "volume-weighted average price of wholesale gasoline" than other refiners, and thus, higher gross and net margins for reporting purposes – all simply by virtue of their distribution model. But differences between distribution models do not accurately reflect real-world differences in profitability of refinery operations, and it makes little sense to unfairly penalize (or reward) refiners for distribution models formed decades before, in a statutory regime supposedly aimed at addressing excessive profits from refining, not from distribution. Indeed, refiners' profits and losses shift over time and are based on a multitude of factors, many of which are not fairly captured or mentioned in the statutory definitions.

[5] PRC § 25355(a)(2), (b)(9)
[6] *Id*. § 25355(a)(3)

In the absence of CEC guidance, refiners are likely to employ different methods, resulting in inconsistent reporting. Moreover, looking at data for an isolated period can provide an unrepresentative and inaccurate view of refinery profitability. The Commission, in collaboration with the industry and other stakeholders, should create a single accounting process that addresses the full slate of products refiners make and the costs related to producing that slate. And it should not rule on the propriety of a profit cap until it clarifies this critical informational input.

The CEC should not move forward with any margin cap before it can fully analyze and account for these discrepancies. The Commission will otherwise not receive fairly comparable information necessary to fulfill its statutory mandate to determine whether a margin cap can benefit California consumers. So far, the Commission has not determined conclusively how to navigate these issues. WSPA asked the Commission to initiate a rulemaking regarding the statute, as amended, because "key terms lack clarity, are contradictory, and/or may have multiple interpretations, which could thereby render reporting inaccurate, inconsistent, and open to misinterpretation."[7] Other industry groups joined in asking the Commission for guidance too.[8] The Commission did not provide clarity, and instead instructed industry participants to refer to other regulatory definitions and "language otherwise commonly understood in the industry."[9] The Commission also denied the requests for rulemaking on June 1, claiming that SB X1-2's "terms . . . are clear as written, and, accordingly, may be implemented without delay."[10] For all the reasons stated above, this is not the case.

IV. INPUT ON THE TRANSPORTATION FUELS ASSESSMENT REPORT

WSPA appreciates the opportunity to inform development of the first triennial Fuels Assessment Report. The statute is clear in requiring the CEC to identify methods to ensure a reliable supply of affordable and safe transportation fuels while evaluating costs, supply and employment conditions, and potential refinery closure impacts, as well as costs and cost-effectiveness. As a basis for the report, we recommend that the CEC use the following set of guiding questions to frame and guide this report:

- How will California ensure the production and delivery of reliable *and affordable* transportation fuels for all Californians that need them?
- How does California plan to address the serious and continuing structural supply constraints for crude oil and gasoline in the world's third largest fuels market?
- How will California continue to meet demand if refining capacity diminishes, given that few out-of-State refineries can produce fuels that meet California's strict specifications (and those that can generally require more than a 30-day waterborne transit time to reach marine terminals that are already at capacity)?
- How is California going to encourage ongoing capital and operational investments to keep our existing transportation fuels system working as the proposed energy transition evolves?

[7] Catherine H. Reheis-Boyd, Western States Petroleum Association, Petition for Formal Rulemaking—Implementation of SBX1-2 & SB 1322 at 2, 8–9 (May 11, 2023)
[8] See Elizabeth Graham & Alessandra Magnasco, California Fuels & Convenience Alliance, Petition for Formal Rulemaking—Implementation of SB X1-2 (May 18, 2023); Michelle Orrock, bp America Inc., Petition for Formal Rulemaking—Implementation of SB X 1-2 (May 30, 2023).
[9] Letter from Drew Bohan, Executive Director, California Energy Commission, to Petroleum Industry Representatives (May 30, 2023).
[10] Order 23-0531-11, California Energy Commission (June 1, 2023)

- How will the State reconcile artificially constrained in-State crude oil production (due to State policies) that outstrips CARB's assumed crude oil production decline rate in the 2022 Scoping Plan Update?[11]
- How do California's policies impact fuel costs to all segments of the population under each scenario?

WSPA recommends that – before evaluating new policies to layer on top of existing ones – the CEC first quantify the relative impact of current regulations on California's fuel supply. This includes identifying infrastructure bottlenecks in our ports, pipeline systems, and elsewhere within the supply chain to determine where there are capacity constraints. By first evaluating these systemic issues, the CEC may then be able to identify important fixes and any unintended consequences of policies intended to reduce the State's fossil fuel consumption. These are strong *dis*incentives to make the required investments needed to maintain California's remaining refining capacity, which should be evaluated to assess their potential drawbacks on the fuels market.

The CEC should also include multiple fuel demand and cost scenarios that incorporate low-, medium-, and high-demand scenarios for ongoing fuel consumption, under multiple time horizons, given the known transportation electrification uncertainties already identified by CARB in the 2022 Scoping Plan Update's uncertainty analysis.[12] This will help ensure the CEC begins with a strong base of knowledge to build from as it works through developing solutions to address California's daily fuel constraint.

Next, we recommend that serious attention be given to the negative impacts the imposition of a maximum gross gasoline refining margin and a subsequent penalty could have on the market. The prior section offered a more detailed explanation of the potential impacts and unintended consequences of adopting such a cap and whether the actual market evidence indicates that such a cap will do anything to help California consumers.

Equity and fuel affordability also must be a central part of the CEC's analysis. As CARB and the CEC itself has recognized, millions of internal combustion engine vehicles (including hybrid vehicles) – and therefore, petroleum-based fuels – will be used and needed by Californians for decades to come. Predicting the market is impossible, but regardless of where actual market demand ultimately settles, there should be little disagreement that California needs to ensure adequate fuel supply for those citizens who will continue to rely on internal combustion engine vehicles. Not doing so could force economic harm on some of California's most vulnerable citizens, those who cannot afford advanced electric vehicles, and for whom gas price increases or supply shortages can have a devastating effect. WSPA urges the CEC to not be bound only by scenarios that "must meet" ambitious climate policies while failing to plan for scenarios that do not anticipate material factors in California's transportation market (e.g., lower than expected Zero Emission Vehicle (ZEV) adoption rates, pressing affordability issues that worsen inequity issues, energy infrastructure constraints, delays or failures, and critical mineral and other supply chain shortages).

During the workshop, CEC staff presented multiple policy concepts for mitigating volatility in California's fuels market. Because California requires a boutique blend of fuel, along with

[11] https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents
[12] https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-j-uncertainty-analysis.pdf

meeting a multitude of regulatory requirements while navigating infrastructure constraints, the State has an extraordinarily constrained market. We therefore recommend that, before evaluating any new policies, CEC first conduct an analysis to quantify the relative impact of current regulations on California's fuel supply. This should further include identifying infrastructure bottlenecks (e.g., in ports and pipeline systems) to determine capacity constraints. By first evaluating these systemic issues, CEC may be able to identify important fixes and any unintended consequences of policies that impact the fuels market. By first conducting analysis of existing issues, CEC will start with a strong base of knowledge to build from as the state works its way through the development of solutions to this long-standing problem.

We appreciate that the CEC seeks policy options towards ensuring "a reliable supply of affordable and safe transportation fuels in California." WSPA believes that California policymakers must ensure that the transportation fuels sector avoids a "Diablo Canyon moment," as we have seen in the electricity sector. There, the State has had to make significant policy reversals to ensure the reliable operation of California's electric grid, following multiple years of rolling blackouts. We have an opportunity here to avoid repeating that mistake.

As part of this assessment, the CEC should include multiple demand and cost scenarios for ongoing fuel requirements, given the uncertainties outlined above. In WSPA's comment letters[13,14] to CARB in developing the 2022 Scoping Plan Update, WSPA repeatedly expressed concerns with CARB's reliance on a ZEV-only approach in pursuing California's greenhouse gas and air quality goals within the transportation sector because it failed to evaluate more cost-effective air quality and emissions reduction benefits that other technology options, such as near-zero emissions vehicles and low-carbon and renewable fuels, could deliver. For example, Ramboll's case studies of the heavy-heavy duty truck fleet[15] and the light duty automobile fleet[16] demonstrate that there are alternate pathways using renewable and other low carbon fuels that can dramatically reduce transportation sector carbon emissions without ZEV mandates. We request the CEC undertake this analysis and consider the benefits of utilizing these technologies for improving air quality while providing more affordable and technically feasible transportation fuel options – options that the State acknowledges will be needed for decades to come.

Stillwater Associates has also studied projected fuel demand based on CARB's work on the Mobile Source Strategy.[17] That analysis showed that, if California's fleet changes as projected, "the fuel projections developed by CARB show gasoline demand to be reduced by 66% and 92% below recent levels by 2035 and 2050, respectively and liquid diesel demand to be reduced by 24% and 60% below recent levels by 2035 and 2050, respectively. By contrast, the fuel projections developed in Stillwater's Scenario show gasoline demand to be reduced by 17% and 24% below recent levels by 2035 and 2050, respectively and liquid diesel demand to

[13] WSPA. 2022. Comments on the Draft 2022 Scoping Plan Update. June 24. Available at: https://www.arb.ca.gov/lists/com-attach/4416-scopingplan2022-BnEAdVQIBTdRCAZn.pdf. Accessed: June 2023.
[14] WSPA. 2022. Comments on the Final 2022 Scoping Plan Update and Appendices. December 15.
[15] The Ramboll HHDT study is available here: https://www.arb.ca.gov/lists/com-attach/78-sp22-kickoffws-B2oFdgBtUnUAbwAt.pdf.
[16] Ramboll. 2022. Multi-Technology Pathways To Achieve California's Greenhouse Gas Goals: Light-Duty Auto Case Study. Available as Attachment D at: https://www.arb.ca.gov/lists/comattach/477-accii2022-AHcAdQBxBDZSeVc2.pdf.
[17] "Possible Market Implications of California's Efforts to Ban Internal Combustion Engines (ICE)," Stillwater Associates LLC, December 31, 2021

increase by 15% and 28% above recent levels by 2035 and 2050, respectively. The gasoline demand reduction is about four times greater for CARB's [Internal Combustion Engine] Ban Case than Stillwater's Case. The diesel demand decrease for CARB's [Internal Combustion Engine] Ban Case is about double the increase projected by Stillwater's Case. These starkly different results have dramatically different impacts on California's fuel value chain and fuel costs over the next thirty years, which are discussed in the rest of this section." The CEC should evaluate options for meeting that fuels demand scenario as part of this assessment.

The CEC must also analyze the current state of California's existing oil and gas infrastructure that is substantially supporting the State's existing energy economy. This analysis must be inclusive of the entire supply chain – upstream, midstream, downstream, and retail/marketing – and should include an analysis of the root causes of infrastructure challenges and related supply issues. WSPA recommends that the CEC utilize CalGEM production data to assess the differential in what CARB has assumed (approximately 3% annual production decline in the 2022 Scoping Plan[18]) versus what CalGEM data has shown (approximately 10-15% decline depending on the data set used).[19] We also recommend the CEC evaluate regulatory barriers preventing needed oil and gas facility maintenance activities, policies and processes that create long-term uncertainties in California's oil and gas industry. It continues to be a critical issue for California gasoline supply that most refineries outside of California cannot produce fuels that meet California's strict specifications.

California produces and refines hydrocarbons available under the strictest environmental policies in the world. Thus, any artificial constraint that reduces in-State supply and production will require that crude oil, intermediates and gasoline be procured from refineries out-of-State and around the world – all facilities outside the jurisdiction of California's strict environmental policies.

We are committed to working constructively and collaboratively to try to identify the factors driving California's high energy costs and how this industry, and our people, can help drive down energy costs for Californians. We must disrupt entrenched beliefs, encourage investment in state-of-the-art lower carbon crude oil production, enhance in-State refinery capacity and critical supply infrastructure, eliminate unnecessary burdens on businesses and, most importantly, create a foundation of mutual respect and collaboration that allows us to work together to help all Californians figure out what needs to be done to ensure that this critically important – and complex – transportation fuels system works for every Californian.

V. WSPA RESPONSES TO INDUSTRY PANEL WORKSHOP QUESTIONS

"What is the leading contributor to price spike risk for transportation fuels in the State?"

As the CEC explained, price spikes are caused predominantly by California's geographical isolation, regulatory bottlenecks, and refinery maintenance issues – which are made more acute by regulations and policies that disincentivize new infrastructure investments. For example, the CEC identified global supply issues, refinery outages, and taxes and regulations as the causes

[18] CARB. 2022 Scoping Plan for Achieving Carbon Neutrality, Page 103. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf. Accessed: August 2023.
[19] California Department of Conservation, WellSTAR monthly production data reports, 2018-2023, https://www.conservation.ca.gov/calgem/Online_Data/Pages/WellSTAR-Data-Dashboard.aspx

of price spikes during fall 2022.[20] That conclusion is consistent with the CEC's research going back nearly 20 years, which shows that California's geographic isolation and aging infrastructure are the primary contributors to price spikes.[21]

The markets are still stretched, years later. This means that resupplying California remains difficult, leaving the State further at risk of future price spikes that will likely only worsen as more new restrictive State policies take effect or are pending approvals. For example, CARB's new At-Berth regulation will limit the number of calls and/or the availability of tankers that can call on California's ports beginning in 2025 – the very same facilities that will need to absorb the delivery of increasing imports due to artificially constrained in-State production and refining policies. The growing costs of California's climate policies and programs are only compounded by multiple layers of federal, regional, and local regulations.

Due to these factors, and the relative inelasticity of Californians' demand for gasoline, even relatively small disruptions in supply can have large impacts on fuel costs. As economist R. Preston McAfee explained to the United States Senate, "A 10% shortfall in quantity, which might arise due to a fire in a refinery or a pipeline break, might require a 40% increase in price to clear the market – because consumers continue to drive almost as much, and the refineries cannot produce much more gasoline than they already do. The inelasticity of demand implies that large price swings are normal – small supply disruptions create large price swings. The oil companies do not create such price changes – they are primarily a consequence of factors outside the control of the industry."[22] Similarly, the CEC concluded in 2019 that "refinery outages have an impact on prices" but that apart from "outage-driven spikes, there has been little to no growth in the difference between the United States and California refinery margin."[23]

Compounding these challenges is the overall expense of doing business in California; operating, capital, and labor expenses are much more expensive in California than in most other states.

This contributes to make California an extremely difficult State in which to operate – and, therefore, invest. As some State agencies and legislators continue to champion the closure of refineries, companies that own and operate those same refineries could become reluctant to make long-term investments required to operate these needed facilities because the State's own policies disincentivize doing so.

WSPA reiterates here that nearly three decades of real-world experience, expert analyses, agency inquiries and various court proceedings have yielded no evidence that California's refiners engage in price-gouging, or that price-gouging is the cause of market volatility. Analyzing gas price spikes during the summer of 2022, the CEC concluded that "Refinery Cost & Profit" added up to only 64 cents each gallon – a number that accounted for the *entire* cost of

[20] California Energy Commission, *California Gas Prices*, Presentation at November 23, 2022 California Energy Commission Hearing, at 43.
[21] See generally California Energy Commission, 2005 Integrated Energy Policy Report.
[22] Congressional testimony of R. Preston McAfee, Murray S. Johnson Professor of Economics and former Chair of the Department of Economics at the University of Texas at Austin. May 2, 2002.
[23] California Energy Commission, *Additional Analysis on Gasoline Prices in California* 1–2 (Oct. 21, 2019), https://www.energy.ca.gov/sites/default/files/2019-11/Gas_Price_Report.pdf

the refining process and margins for refiners, meaning *profits* alone were much less than that.[24] Purported market manipulation by refiners has been studied and investigated repeatedly by multiple California Attorneys General, and the result has been that there is simply no evidence that refiners manipulate the supply of fuel to cause price spikes. In 2019, the CEC categorically concluded that alleged "market manipulation" by refiners was not the reason for California's high gas prices.[25] In addition, a federal court recently rejected a class action lawsuit alleging manipulation of the fuel supply market.[26]

"How do you view the various policy options presented to help mitigate price spike risk? Which do you see as more effective, and why? Are there other options that should be considered?"

It is too soon to opine on the potential effectiveness of the various policy options presented – some of which lack detail or are not readily understood – to mitigate the risks of price spikes. But one recommendation is clear. WSPA urges State policymakers to evaluate ways to incentivize infrastructure investments to maintain a safe, reliable, and affordable California transportation fuels system that will be needed for decades to come. This could be done by modifying policies and regulations that make doing business in California increasingly more difficult – including the permitting process, the Low Carbon Fuel Standard (LCFS), and the Cap-and-Trade program – and instead encourage and expedite projects needed to produce, refine and deliver to market the fuels Californians demand while reducing emissions. Currently, some California policymakers are sending a clear signal that refiners are simply not wanted in the world's third largest fuels market – even as Californians continue to rely heavily on the products, fuels expertise, and extensive infrastructure that the petroleum industry provides. We encourage the CEC to reject this invitation to remake California's fuels market into a more emissive, more carbon intensive, and less reliable import-only market.

Below are more detailed responses, where applicable, to the short- and long-term policy options presented at the workshop. We would appreciate the opportunity to work with CEC staff to better assess the policy options being considered prior to presentation of the draft Transportation Fuels Assessment report.

Potential Short-term Policy Options

- *RVP specifications* – This could be done, when conditions warrant, as has been done in the recent past; while this will not prevent or "fix" all market volatility – and it does come with an emissions impact – the early change could be helpful to alleviate short gasoline supply challenges. When the State sees "risk" to supply in heavy shutdown periods that coincide with low Petroleum Administration for Defense Districts (PADD) inventory levels, policymakers could look to partner with refiners to look for potential temporary regulatory waivers or RVP waivers when applicable.
    - If this is intended to mean some type of cost pressure relief valve, to allow Federal Reformulated Gasoline or conventional gasoline to be sold (presumably with an

[24] California Energy Commission, *What Drives California's Gasoline Prices* (September 2022), https://www.energy.ca.gov/data-reports/energy-insights/what-drives-californias-gasoline-prices#:~:text=Gasoline%20price%20changes%20in%20California,and%20significant%20unplanned%20refinery%20outages
[25] Additional Analysis on Gasoline Prices in California, CEC, October 2019 https://www.energy.ca.gov/sites/default/files/2019-11/Gas_Price_Report.pdf
[26] Persian Gulf Inc., v. BP West Coast Products, et al.

emissions offset mechanism), we encourage the CEC to examine how these gasoline supplies could be quickly delivered to the isolated California market and what challenges may be presented by introducing non-CARB compliant gasoline into the fuels distribution system. The CEC would also need to evaluate how this would affect the integrity of the CARBOB gasoline system.

- *Insurance policies for imports* – WSPA is unclear what this policy option means.
  - If this is intended to mean that importers of gasoline and blending components (e.g., alkylate) would be provided a guaranteed landed price weeks after they depart Asia to remove any potential risk of spot gasoline prices collapsing by the time the cargo arrives, this would presumably incur a significant cost for the State.
  - Further, this concept could result in importers sending cargoes whenever the local spot prices were sufficiently high enough to cover their costs, resulting in even more imports that would potentially create an oversupply of gasoline.
  - The State would also have to ensure that there would be marine infrastructure and on-shore tankage sufficient to handle the influx; WSPA questions the feasibility and availability of such import capacity given existing conditions and forthcoming regulations, including the recently adopted At-Berth Regulation, which currently does not provide a viable long-term compliance path for tanker vessels calling on California ports and terminals.
  - This concept may not prevent market volatility from occurring.
  - If this proposal is intended to mean that the State would "forward purchase" gasoline to reduce import risks, a concept that had previously been presented in August 2016 to the Petroleum Market Advisory Committee,[27] the CEC would need to re-evaluate how this gasoline would be sourced, transported, and delivered. This concept had also been studied for the CEC in April 2003 and found that it would be "unlikely to transform the market" and, "[y]et more problematic, all the state's procedures for procurement and inventory control exemplify the rigidity opposite to the flexibility needed for sophisticated trading in forward markets."[28]
  - U.C. Davis academics Jeffrey Williams and Jennifer Thompson previously studied price spikes and California's forward market for the CEC, concluding that "the forward market for wholesale gasoline in California proves to be sufficiently sensible to attract imports during local refinery outages. California prices spike principally because of the time needed to ship California-grade gasoline, about one month, which, not coincidentally, is the time frame in the forward market." The study revealed that "no quick fix is possible because the state itself cannot provide a fix, and more fundamentally, because the forward market is not broken...Our study of gasoline forward markets further revealed a false premise behind this concern over price spikes. Many point to periods when the price of gasoline was much higher in California than elsewhere, much higher than the known costs of transportation, and imagined that such violations of arbitrage indicate a failure on the part of the marketing system. The comparison of spot spatial prices rests on the false premise that gasoline can move from far away to California within a day. The forward market's prices, which allow for the necessary time for shipments, have

[27] "Market-based Policy Concepts Overview & Issues" CEC staff presentation to the Petroleum Market Advisory Committee, August 16, 2016.
[28] "Price Spikes and Forward Markets for Gasoline," Jeffrey Williams and Jennifer Thompson, U.C. Davis

accorded with arbitrage: The marketing system has been mitigating prices spikes by attracting imports into California."[29]

- *Export coordination* – WSPA is also unclear what this policy option means.
  - If the CEC is implying an option to cease deliveries to Nevada and Arizona in response to market volatility, it should be noted that gasoline exported to those states is not the same quality as California's Reformulated Gasoline. Because the California refineries cannot feasibly make 100% CARB gasoline, any non-CARB gasoline would have to be exported, or refiners would have to reduce crude oil processing – which would also reduce jet and diesel supplies as well. California refiners produce enough CARB gasoline to meet their contractual commitments (local demand) and produce the less capital-intensive products for Arizona and Nevada. Even in times of market volatility, gasoline would still need to be imported to Arizona and Nevada and would still likely have to come through a California port and then be transported through the same pipelines. The State should also examine whether a policy requiring gasoline to be preferentially delivered in California rather than in other states would violate the Interstate Commerce Clause of the U.S. Constitution, and what harms would occur in our neighboring states (including increasing fuel costs).
  - Feedstocks are purchased based on forecasted demands. If these export outlets are closed off, the feedstocks are not procured and there is no quick handle to help in the event of market volatility (e.g., backing exports into the local market quickly by sourcing them from other out-of-State producers). There are also "demand constraints" on industry producing more gasoline – like limitations on the ability to manage oil outside California's jurisdiction. If industry does not have an outlet, this could result in constraints for the oil within California's demand.
  - Private industry is incentivized to be efficient and to minimize potential air emission sources. This results in little capacity to produce or maintain excess fuel supplies. Because of California's administrative processes and approvals to obtain a permit and build a tank, export outlets are critical to help manage the refineries reliability as demands change for fuel.

- *Short-term demand-side management* – WSPA does not believe "flex alerts" would work as intended in the fuels market, versus how they have worked in the electricity sector (i.e., temporary voluntary reductions in consumer demand to ease strain on the electric grid during periods of anticipated electricity shortage). From past real-world experience,[30] we know that consumers' belief that a fuel shortage is coming (even when incorrect) often results in "panic buying" – both to purchase *and store* gasoline – only exacerbating a problem this policy option intends to solve while potentially creating or furthering supply/demand imbalances in an already tight fuels market.
  - The concept of "transit support" is also unclear and potentially could be very expensive. It also would not prevent a price spike.
  - Reducing Vehicle Miles Travelled (VMT) and increasing ZEV penetration, while certainly longer-term policies being pursued by other State agencies, will likely do little to prevent short-term acute periods of market volatility. In considering such policy options, WSPA encourages the CEC to evaluate associated cost shifts; reducing VMTs by shifting

[29] "Price Spikes and Forward Markets for Gasoline," by Jeffrey Williams and Jennifer Thompson, U.C. Davis Giannini Foundation of Agricultural Economics, CEC Publication Number 2003-04-21_600-03-007D
[30] https://www.npr.org/2021/05/11/996044288/panic-drives-gas-shortages-after-colonial-pipeline-ransomware-attack

consumers from internal combustion engine vehicles to public transit is a policy the State already pursues but that necessitates the mass availability of affordable and safe transit options that conveniently meet consumer expectations. Despite the aggressive VMT reduction targets in the 2022 Scoping Plan Update, CARB's most recent SB 150 (2017) Progress Report has clearly indicated that VMT in California is not declining.[31] Reducing VMT is by no means a practical short-term measure on fuel demand management, due to the various planning and infrastructure challenges identified by the SB 150 Report. Dramatically increasing the fleet of new ZEVs on California roadways necessitates a prohibitively massive investment by the State to rapidly incentivize and deploy affordable ZEV options, and to conduct an extensive buildout of new charging/refueling infrastructure statewide – all while also maintaining affordable electric rates. Even CARB has acknowledged that the State does not currently have the electric generation capacity to supply a massive influx of ZEVs, and will need significant buildout and upgrade of California's statewide electrical generation, transmission and distribution infrastructure over the next decade to meet such electricity demand. Moreover, the State already struggles with some of the highest electricity prices in the nation. According to the most recent July 2023 data[32] from the U.S. Bureau of Labor Statistics, Los Angeles households paid 65.7% more for electricity (28 cents per kilowatt hour (kWh)) than the nationwide average (16.9 cents/kWh). For the past five years, Los Angeles area consumers paid 36.5% more for electricity than the U.S. average in the month of July. In the Bay Area, households paid 106.5% more for electricity (34.9 cents/kWh) than the national average – and 58.6% more for electricity in the past five years than the national average for the month of July.[33] A widespread shift to electric vehicles, as envisioned by California's policy leaders, would simultaneously require the delivery of a significant amount of new affordable and reliable electricity service – something California clearly lacks the capacity to do today. Indeed, the California State Auditor recently reported that California's electricity rates have increased by more than 50% during the last seven years according to data from the California Public Utilities Commission.[34]

- *Temporary pause on taxes and fees*
  - WSPA encourages the State to consider how potential amendments to the Cap-and-Trade program and LCFS regulations to dramatically *increase* their stringency may impact gasoline costs in California. WSPA is concerned that proposed amendments to both policies could further compromise the supply reliability and affordability of critical transportation fuels.
  - Temporarily waiving taxes and/or fees may reduce consumer costs but is not likely to reduce consumer demand, which remains highly price-inelastic in California. It also does nothing to alleviate periods of limited fuel supply, nor does it serve to provide the funding necessary to pay for roadway maintenance and improvements. Fiscal policy should include fair and equitable policies that do not disadvantage specific industries or categories of taxpayers.

[31] CARB (2023). 2022 Progress Report on California's Sustainable Communities and Climate Protection Act. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-05/2022-SB150-MainReport-FINAL-ADA.pdf. Accessed: August 2023.
[32] https://www.bls.gov/regions/west/news-release/averageenergyprices_losangeles.htm
[33] https://www.bls.gov/regions/west/news-release/averageenergyprices_sanfrancisco.htm
[34] "Electricity and Natural Gas Rates: The California Public Utilities Commission and Cal Advocates Can Better Ensure That Rate Increases are Necessary," August 2023 http://auditor.ca.gov/pdfs/reports/2022-115.pdf

- Conversely, a new penalty/tax on margins would only reduce the potential capital available to California refineries over time and make it more difficult to recover significant capital expenditures in a reasonable amount of time to make the investment worthwhile. Less investment may impact the ability to produce quality fuels over time, which could further exacerbate existing supply challenges. WSPA further urges the CEC to consider the market implications (including to supply) for a publicly-traded company to knowingly violate a State-imposed margin cap.

Potential Long-term Policy Options

- *State-run storage* – The industry currently operates an extensive storage system; WSPA recognizes that the State would likely face several challenges with implementing and utilizing any State-run storage system in an effort to address complex inventory scenarios. The CEC previously evaluated the feasibility of this concept in 2003 and determined that State leaders should ***not*** proceed with a Strategic Fuel Reserve concept due to several unintended consequences that "could limit its effectiveness as a tool to moderate gasoline price spikes and could reduce the total supply of gasoline in the state" (e.g., displace private inventories, thereby transferring much of the costs of maintaining private inventories to the State without significantly dampening price volatility).[35]
  - The CEC separately focused its attention on the complexity of the tank permitting process. A consultant's report noted, "The possible concerns range from overly complex regulations, to open-ended time frames, to overlapping jurisdictions, and to barriers raised by citizens (known as NIMBY). All of this translates into additional costs that ultimately get passed on to the consumer."[36] That report concluded that, "The permitting process in California is in general detailed and complex. The permitting process for petroleum product storage facilities is particularly challenging for permit applicants and permit writers. The potential benefits of streamlining the permitting process for petroleum product storage facilities include an increase in petroleum storage capacity, which would improve fuel supply reliability throughout the State." They made numerous recommendations, including: additional training and technical assistance services (including for the California Environmental Quality Act), timelines and milestones, independent reviews, and inter- and intra-agency coordination.
  - California would also need to assume pricing risks (just as the Federal government does for the U.S. Strategic Petroleum Reserve); decisions would need to be made of when to buy and when to sell. The challenges will remain in obtaining permits for tanks and maintaining product quality, emission factors, and product stability over time (as fuel cannot simply be left in tanks for years).
  - How California would establish such a program and how it could potentially reduce private storage are key issues that would also need to be reexamined before rendering judgment on whether this could help limit the height and duration of price spikes. Such a program may only have a temporary effect, especially if it serves to reduce or eliminate private storage.
  - If this proposal is intended to mean minimum inventory levels, whereby the State would require each seller to hold a certain amount of inventory, WSPA would be concerned that this could reduce the amount of gasoline available to market participants to address periodic supply imbalances. Minimum inventory levels may also have major drawbacks.

[35] "Feasibility of a Strategic Fuel Reserve in California," Commission Report, CEC July 2003 P600-03-013CR
[36] "Permit Streamlining for Petroleum Product Storage," Draft Consultation Report, April 2003 P600-03-006D

As the CEC previously identified,[37] limiting the draw-down level for current in-service storage tanks will decrease working storage capacity, impeding the operational capability of refiners and marketers. It may also reduce strategic inventories by traders and non-refiners – a consequence of which should be evaluated by the CEC. Minimum inventory holdings may warrant the construction of new storage tanks, though doing so is already a difficult regulatory endeavor. Further, since reformulated gasoline tends to be more difficult to inventory, firms will tend to avoid inventories of it and could obfuscate the market from running storage efficiently. This may actually serve to increase market volatility. In addition, "Boutique fuels increase the problem of storage by eliminating pooling. By proliferating fuel types, the amount of storage needed to prevent significant price spikes rises. Storage works like insurance: it reduces costs to be large. By dividing the nation into many smaller, separate fuel types, we increase the costs of storage and reduce its effectiveness."[38] It would likely also not prevent market volatility.

- *Increase ethanol blend requirement* – WSPA understands that CARB is still in the process of reviewing the required multimedia analysis. Amongst the factors to consider with this potential option are that:
  - While this proposed policy option could enable an expanded supply of lower-carbon gasoline provided any issues with a "blend wall" can be addressed; once available, it would not prevent market volatility.
  - Ethanol blending supports market-based mechanisms that promote lowering the carbon intensity (CI) of fuels. Feedstock availability is critical to growing the supply of lower-CI biofuels and policies should support the co-processing of traditional and biofeedstocks; any artificial constraint – such as instituting an arbitrary cap on biofuel-based feedstocks in the LCFS program – would also limit ethanol blending in addition to constraining the supply of products like renewable diesel.
  - Increased ethanol blending requirements could also result in compatibility issues at retail sites, such as for piping connections, which should be considered.

- *Regional blends* – WSPA is not sure if this means requiring the sale of CARB reformulated gasoline in Arizona and Nevada, or something entirely different. The different fuel specifications in Arizona and Nevada likely do not create market volatility, as the gasoline delivered here is not the same California reformulated blend sold in California. In any event, we see no evidence that Arizona and Nevada consumers would agree to pay much more for a different gasoline specification that is otherwise not required for air quality compliance in those states, or that those states would allow such a strategy in the first place.

- *Non CARBOB blends* – WSPA is also not sure what this means. If it means that non-CARBOB gasoline should be allowed to be imported into California during market volatility, it fails to address the insufficient capacity in the Pacific Northwest to surge imports into California in the initial days of a market disruption. Further, there is no spare barge or Jones Act vessel capable of moving large quantities of incremental barrels that were not previously planned as part of another supply obligation. This proposed option would likely not prevent or significantly mitigate market volatility. If it implies that non-CARBOB blends would be allowed, WSPA is concerned with how this could impact the integrity of California's gasoline

[37] "Market-based Policy Concepts Overview & Issues" staff presentation to Petroleum Market Advisory Committee, August 16, 2016
[38] Congressional testimony of R. Preston McAfee, May 2, 2002.

system; preventing contamination of tanks, valves and pipelines could be both costly and time consuming.

- *Large-scale shift to a public utility model* – If this potentially means California would take over in-State refineries, this would almost certainly constitute a substantial taking requiring just compensation.
  - Electric and natural gas utilities are natural monopolies that compel a single operator to avoid the deployment of multiple transmission and distribution systems into a single home or business. The transportation fuel market is not a natural monopoly as it allows for separately operated product distribution systems.
  - This would be anti-competitive and signal the State's deliberate acceptance of market monopolies. This is not allowed under existing State statutes and has been proposed (and failed) in the past.
  - California taxpayers may not be amenable to purchasing refineries and taking on all associated liability.
  - Perhaps most significantly, even this radical step would likely not prevent market volatility. A State monopoly on petroleum refining and supply would not address the supply and infrastructure challenges inherent to the California system, nor would it prevent unplanned equipment failures that lead to temporary supply disruptions, nor would it address continued demand by California consumers for petroleum fuel supply for the decades to come. It should also be noted that price controls implemented in other regions have failed to provide lower costs and needed energy investments.[39]
  - Additionally, California's insurance market may provide a cautionary tale regarding price controls. California law requires insurers to have their proposed rates approved by the Insurance Commissioner before they can charge policyholders. Because of rising costs, insurers have applied to charge substantially higher rates and have generally been denied. As a result, some larger insurers recently stated that they would stop insuring new policyholders in California. A cost-controlled model could similarly challenge the viability of the gasoline-refining industry in the State.

- *More imports* – if this potentially means adding more marine terminals, WSPA questions whether this would be achievable given known regulatory constraints and anticipated local opposition. As discussed above, CARB's recent At-Berth Regulation still provides no permanent path to compliance for petroleum tankers, and only incentivizes fewer port visits, not more.
  - If this potentially means more rail shipments, we question whether there is sufficient rail capacity and availability to absorb the additional supplies into California. The CEC's 2009 IEPR recognized the constraints additional imports would place on California's transportation fuels system: "Reliance on foreign oil imports increasingly puts the state's fuel supply at risk, not only because of security and reliability concerns, but also because the marine ports are not expanding to meet expected growth in demand...The Energy Commission forecasts that crude oil imports will continue to increase, requiring expansion of the existing crude oil import infrastructure. This infrastructure is critical in ensuring a continued supply of feedstocks to enable refiners to operate their facilities and maintain a reliable supply of fuel for California and neighboring states." The report continued by focusing on Southern California constraints, noting "To add further strain,

[39] https://www.nbcnews.com/id/wbna12690142

especially in Southern California, staff expects the increased imports of crude oil to result in a greater number of marine vessels arriving in California ports, with 46 to 272 additional arrivals per year by 2030. Additional storage tank capacity beyond that already identified as part of the Berth 408 project must be constructed to handle the incremental imports, and it is unclear where these can be located given the competition for land in and around the ports."

- Whether we are describing imports from other states or overseas – or crude oil, intermediates or finished gasoline components – California would need significant upgrades to infrastructure and outlet logistics to manage the flexibility. This includes increasing options for exports, more pipelines, and adding storage capacity. Pipeline infrastructure is already at-risk given the known permitting, investment, and construction challenges.
- As it works on the SB X1-2 Transportation Fuels Transition Plan, we urge the CEC to consider these infrastructure limitations and how the introduction of renewables places strain on the California supply chain. This supply chain has had decades to optimize the supply of fossil fuels and is now being expected to react at record pace to facilitate the introduction of renewables. Moving too quickly without the infrastructure to support new fuel products, or lacking a reliable supply of existing fuel products, could leave California at risk of more frequent transportation fuel supply shortages.
- *Export pipeline modifications* – WSPA is also unsure what this means. If it means reversing the flow of pipelines to Arizona and Nevada, this would be infeasible.
- *Rail* – If this is intended to capture the development of rail transloading sites in California by the State to enable shorter duration resupply options to refiners and marketers, it may enable market volatility to be alleviated more rapidly compared to resupply from foreign sources via marine vessels. This would also be beneficial to the State for emergency planning purposes in the aftermath of a catastrophic event (e.g., an earthquake that shuts down in-State refining capacity in either Northern or Southern California). However, rail transport would likely require a vapor disruption unit to be able to move the product from one tank to another, which would be quite laborious and resource intensive.
- *Jones Act* – If this concept is suggesting an elimination of the Jones Act, then domestic marine movement costs could be reduced. However, the federal Jones Act is not the cause of California gasoline costs, nor is it within the State's jurisdiction to repeal or amend.
- *Some State-managed imports* – If this concept infers that the Department of General Services starts purchasing fuel from foreign producers to sell to California consumers, WSPA urges that the State consider where that fuel could be off-loaded, into whose storage tanks, and how the fuel would get to retail locations. Again, regardless of whether some fuel imports are managed by the State, we would not expect this step to have any effect on the ongoing fuel supply infrastructure issues discussed above.

Other Policy Options That Should Be Considered

Permit streamlining – Additional transfer, storage and related infrastructure would be needed to accommodate the anticipated growth of imported fuel supplies – particularly if California continues to disincentivize and/or artificially constrain in-State production and refining – as a replacement resource. This would include modifications to, and additions of, marine terminal infrastructure and, potentially, rail infrastructure (for additional renewable fuels and associated feedstocks) for gasoline and jet fuel. We would suggest that the CEC consider supporting

streamlining and/or consolidation of the permit processes needed to get the necessary fuel supply infrastructure in place.

The 2005 IEPR called for "improving and expanding petroleum infrastructure to meet California's needs in the next 20 years." It found that "regulatory and permitting coordination among a potpourri of local, state, and federal agencies presented a barrier to infrastructure expansion" and recommended "initiating an effort to identify and develop permitting guidelines for petroleum infrastructure projects, with no reduction in environmental standards." The 2005 IEPR further recognized that regulatory challenges at the State, regional, and local government levels delayed permitting of transportation fuel facilities. However, "[m]ost of the problems can be addressed by 1) clearly and accurately defining the issues and 2) balancing competing interests when designing/maintaining environmentally and technologically robust and safe infrastructure. There is industry and agency acknowledgement that better coordination and information transfer will facilitate permitting."

There is industry and agency acknowledgement that better coordination and information transfer will facilitate permitting. Amongst the recommendations to address permitting challenges from the 2005 IEPR were: 1) identifying key responsible trustee, and cooperating agencies; 2) providing timely CEQA/NEPA documentation consultations and comments to facilitate lead agency decision-making that may expedite the issuance of permits; 3) partnering by agencies and private actors during preparation of environmental documents and project permitting processes; 4) coordinating agency review of projects and/or environmental documents to avoid duplication of effort and expedite decisions; 5) establishing an interagency workgroup group to inform agency staff on the policy implications of particular projects or activities; 6) establishing, coordinating, and adhering to project timelines and milestones; 7) considering expedited agency reviews or permit applications when appropriate and feasible; 8) considering approval and use of master plans, rather than per-improvement requirements; 9) ensuring adequately trained staff (including those trained with energy facility siting experience); 10) clearly identifying a "chain of command;" and 11) creating and using clear criteria for regulatory decisions, amongst others.

Incentives for use of California-produced crude – California policies that push for setbacks and other crude producing restrictions will limit options for local crude and result in the same adverse impacts associated with increased importation of foreign crude and/or refined products. For this reason, we would also recommend that the CEC consider supporting incentives for local crude production here in California. Local production would not only avoid the emissions associated with transport of oil and finished products, but would also continue to support good paying blue-collar jobs in the State.

In conclusion, any proposed intervention that entails an increased regulatory burden on refiners, importers, or other market participants will likely raise barriers to local production and refining here in California, disincentivize investment in needed additional supply infrastructure, discourage additional production and long-term commitment to the California markets, increase reliance on foreign imports and the greater emissions they would cause, fail to address Californians' continuing demand for refined petroleum products over the next several decades, and only worsen the existing negative constraints on transportation fuel supply that will ultimately drive gasoline prices *up*, not down. This has historically been true for the LCFS and gasoline taxes, and it would certainly be the case for any proposed penalty on gasoline margins.

The CEC should partner with the industry to reduce regulatory barriers that keep gasoline prices high and exacerbate natural factors that cause price spikes.

"Have other costs been particularly problematic for stable prices for retailers or producers of fuels?"

First, it is important to note that transportation fuel prices are never "stable" in an openly competitive market. Prices in the California transportation fuels market are influenced by a multitude of global factors beyond the control or influence of any one business, industry, State agency or governmental body. These factors include the global prices of crude oil, levels of crude oil exploration and extraction, international shipping rates, the availability of international fuel supply for importation to California, the number and intensity of competing buyers for the same crude oil supplies and/or refined products, available refining and storage capacity in different regions, global demand for passenger and light/heavy-duty vehicles, the costs of refining or importing fuels meeting the California reformulated gasoline standards, pipeline capacity, weather impacts, and foreign events/conflicts that disrupt commodity supply. Similarly, transportation fuel costs are never "stable" due to numerous local and regional factors, including the availability and prices of marine/rail and pipeline transport, costs of meeting applicable regulatory requirements, applicable taxes and fees, costs and availability of labor, the capacity and durability of fuel supply infrastructure, the degree of isolation of a market from out-of-State markets and their capacity to quickly resupply during local supply disruptions, and individual pricing decisions made by thousands of wholesalers and retailers on a day-to-day basis.

Wholesale fuel cost escalation typically occurs in the aftermath of significant unplanned outages, a reflection of increased supply scarcity, providing a necessary incentive to attract incremental supplies of costlier imports to enable the alleviation of any temporary supply tightness. If fuel prices were set to fixed or artificially capped levels, fuel providers outside the State may have little or no incentive to periodically send transportation fuel to California to take advantage of favorable market prices. Under the free market model, supply and demand result in encouraging investments for more supply and/or reduce demand by lowering consumption. California must recognize that, if policies are implemented to simply eliminate fossil fuels in the State as quickly as possible, *investments are thereby discouraged at all levels of the conventional fuels supply chain.* We are already seeing these policies implemented by multiple local jurisdictions across California that are adopting local ordinances[40,41,42,43,44,45,46] or moratoriums,[47] or considering similar motions,[48] prohibiting the development of new gas stations. Such measures likely only serve to force investment out of the State, thereby artificially reducing competition.

[40] https://petaluma.granicus.com/MetaViewer.php?view_id=31&clip_id=3218&meta_id=483708
[41] https://napavalleyregister.com/community/calistogan/news/city-of-calistoga-approves-gas-station-ban/article_105c83fd-3b37-51b0-a886-06248936a3d0.html#tncms-source=signup
[42] https://legistarweb-production.s3.amazonaws.com/uploads/attachment/pdf/1292848/6L_Ordinance_Gas_Ban.pdf
[43] https://www.jurupavalley.org/AgendaCenter/ViewFile/Agenda/_08032022-520
[44] http://santa-rosa.legistar.com/gateway.aspx?M=F&ID=c127403c-d5c1-428d-9d38-04b715fff38a.docx
[45] https://legistarweb-production.s3.amazonaws.com/uploads/attachment/pdf/1619091/ord731_Gas_Station_Prohibition.pdf
[46] https://www.marinij.com/2022/11/22/fairfax-bans-new-and-expanded-gas-stations/
[47] https://www.cityofamericancanyon.org/home/showpublisheddocument?id=18832
[48] https://clkrep.lacity.org/onlinedocs/2021/21-0533_mot_05-18-21.pdf

In addition, other costs have increased too. In July 2023, consumers paid 27.2% more for natural gas in the Los Angeles area[49] and 29.7% more in the Bay Area[50] than the national average. The industry has been impacted by a multitude of costs to operate a refinery, supply racks, and stations with long lead times for materials, higher employee costs, higher constructions costs, etc. With the Consumer Price Index for the West consistently experiencing double digit differences between the average for U.S. cities, these costs impact all manufacturing as well as refiners.[51]

"Are refineries expecting any new or exacerbated distribution bottlenecks for logistics outside the refinery gates?"

- Shipping constraints at marine terminals, through the Panama Canal, and the general availability (or unavailability) of specialized ships create logistical bottlenecks as described above. Freight costs have also skyrocketed, creating another barrier for imports (and resulting in high costs on the West Coast for gasoline shipped in from overseas).
- Also, as discussed above, CARB's recent amendments to its At-Berth Regulation provide no permanent compliance path for petroleum tankers in California due to its requirement that tankers install emissions control equipment not yet demonstrated in practice for tankers. As such, many petroleum tankers may be forced to limit their visits to California ports and terminals in an attempt to comply with the amended Regulation as soon as 2025. We are concerned that, until and unless the Regulation is further amended to provide a clear compliance path for tankers that does not artificially limit vessel visits, it will continue to be a barrier to marine imports of crude oil, refined transportation fuels, and renewable fuels into California.
- Finally, as discussed above, we believe the CEC should consider measures to encourage increased domestic production and refining, as this local and lower-cost product competes more effectively and avoids the increased emissions associated with importing crude oil and/or refined product.

"How do local air pollution district rules influence site operations and how are they interacting with other state programs?"

Local air pollution control regulations can yield marginal emissions reductions at facilities, but can also come with exorbitant cost requirements for impacted refiners, and can disincentivize or even punish increased fuel supply into the market. These regulations can directly influence business decisions regarding potential refinery consolidation or relocation outside California, activities that are both counter to the State's statutory charge to ensure "adequate and affordable fuel supplies for California motorists and businesses."

As noted above, refineries compete for internal capital with other refineries that a company owns throughout the country. When an air regulation mandates a rigorous new emission standard, even if it only produces a very tiny reduction in ambient emissions, the investment required to bring facilities into compliance can range into the hundreds of millions of dollars for that marginal reduction. Companies must make internal decisions on whether such massive investments are economically feasible for their California facilities. Further, if the State expects

[49] https://www.bls.gov/regions/west/news-release/averageenergyprices_losangeles.htm
[50] https://www.bls.gov/regions/west/news-release/averageenergyprices_sanfrancisco.htm
[51] Consumer Price Indexes Pacific Cities and U.S. City Average - July 2023 (bls.gov)

to rely on more marine imports, doing so could be extremely difficult in Southern California if the South Coast Air Quality Management District's Indirect Source Rule is approved at year-end. That rule could potentially limit the import (and export) of goods from the ports of Los Angeles and Long Beach in an effort to address mobile source emissions – despite the fact that all port operations-related emissions sources are currently regulated by international treaties, federal law, State regulations, port policies, tariffs and leases.

Permitting delays at local air districts can have a negative impact for improvement projects, and the associated emission reductions, at various facilities as well. The resulting regulatory uncertainty can lead to reduced investments in critical infrastructure projects, hurting progress on achieving air quality goals. This is a significant issue the State should help address.

Local air district rules also affect in-State production. Kern County's drilling permit program includes the highest air quality mitigation fees for drilling a new well (because mitigation requires zero emissions). The San Joaquin Valley Air Pollution Control District's air quality fees for continuous operations and operational equipment also contribute to one of the highest expenses for companies to comply with. This is in addition to the federal Environmental Protection Agency's Title V permit program requirements.

"Alkylate has been brought up as a primary blending component for gasoline production. Please describe the supply chain for obtaining this material and why has it become more valuable in recent years. Are other blending components similarly situated?"

When refineries have unplanned downtime that impacts octane balances, Alkylate can sometimes facilitate additional blending of components into finished CARB fuels that would otherwise need to be exported (i.e., Alkylate can quickly swell the production of gasoline).

Alkylate is a type of gasoline blending component with more desirable properties (such as low sulfur and high octane) that enable refiners to meet stricter CARB reformulated gasoline standards and produce sufficient volumes of premium gasoline to meet consumer demand. Alkylate has increased in value in recent years due to such factors as: growing demand for premium gasoline to meet increased sales of higher-performance vehicles, implementation of the Tier 3 regulations requiring refiners to reduce gasoline sulfur content that has a tradeoff of lower octane values for some blending components, and inadequate U.S. refining capacity to upgrade lower-octane blending components.

Most California refiners operate alkylation units to meet most of their needs to achieve CARB gasoline standards and produce sufficient volumes of premium gasoline. Alkylate is the predominant type of gasoline blending component imported into the State due to its versatility and availability in southeast Asia and India.

The "supply chain" for obtaining imports of blending components, renewable fuels, and refinery feedstocks usually involves marine movements, except for ethanol imports via rail tank car. Consequently, this type of chain is vulnerable to: shipping availability and rates, international competition for more desirable components (such as alkylate), and impediments to California marine infrastructure lease renewals and local opposition for industry attempts to expand said infrastructure to meet changing market needs.

SUMMARY

The comments described above are certainly not an exhaustive list of every issue WSPA members have relating to the SB X1-2 Transportation Fuels Assessment Workshop, or regarding the implementation of SB X1-2 generally. WSPA reserves its right to supplement these comments as additional or different issues arise in the course of implementing SB X1-2 and in the CEC's further consideration of whether a refining margin cap would benefit California consumers or the California transportation fuels market. We would also reserve the right to submit additional comments in the context of any formal rulemaking process CEC decides to conduct as part of its consideration, and we would continue to strongly encourage a formal rulemaking for the benefit of CEC, the stakeholder, and California consumers.

We would like to work with the State to identify ways to encourage investment in state-of-the-art lower carbon crude oil production, enhance in-State refinery capacity and critical supply infrastructure, eliminate unnecessary burdens on businesses and, most importantly, create a foundation of mutual respect and collaboration that allows us to work together to help all Californians figure out what needs to be done to ensure that this critically important and complex transportation fuels system works for every Californian.

Thank you for considering our comments. We look forward to working with the CEC to provide ongoing input. Please do not hesitate to contact me at (916) 835-0450 or creheis@wspa.org with any questions, or Tanya DeRivi on my staff, who can be reached at (916) 325-3088 or at tderivi@wspa.org.

Sincerely,



Catherine H. Reheis-Boyd
President and CEO

cc: The Honorable David Hochschild, California Energy Commission, Chair
The Honorable Siva Gunda, California Energy Commission, Vice Chair
Drew Bohan, California Energy Commission, Executive Director
Shant Apekian, WSPA

Catherine Reheis-Boyd
President and CEO
Western States Petroleum Association

May 17, 2024

California Energy Commission
Docket Unit, MS-4
Docket No. 23-SB-02
715 P Street
Sacramento, California 95814
Uploaded to CEC Docket #23-SB-02

RE: SB X1-2 Draft Transportation Fuels Assessment

Thank you for the opportunity to comment on the California Energy Commission's (CEC) "Draft Transportation Fuels Assessment" (CEC-200-2024-003-D), published on April 12, 2024, and the focus of the CEC workshop on May 3, 2024.

WSPA is a non-profit trade association representing companies that import and export, explore, produce, refine, transport, and market petroleum, petroleum products, natural gas, and other energy supplies in California and four other western states, and has been an active participant in transportation fuels planning issues for over 30 years.

The CEC's Draft Transportation Fuels Assessment is a reasonable initial draft and recognizes California's fundamental structural gasoline supply challenges – but much work is left to be done.

With the Draft Transportation Fuels Assessment (herein referred to as Draft), the CEC, working with the California Air Resources Board (CARB), has provided the public with a useful primer on the California liquid transportation fuels system, focused primarily on gasoline. The description of the realities of the California transportation fuel system makes adequate reference to both the structure and the structural risks associated with refining and distributing liquid fuels in the State.

In the Draft's Executive Summary, the CEC acknowledges the basic reality of California's gasoline supply dynamics: California's constrained local refining capacity, limited number of available local suppliers, regionalized supply chains, reliance on marine transportation of fuel supplies, and stringent fuel specification requirements combine to make it a "fuel island" isolated from the rest of the nation's transportation fuels market. The limited number of spot market gasoline transactions in California also give the local spot market an outsized influence on California prices that is not seen elsewhere in the country. At the same time, the CEC emphasizes that "gasoline remains California's dominant transportation fuel" and demand will remain robust well beyond 2035. As the CEC correctly points out, "[t]hese vehicles will need fuel to operate, and many of the vehicles may be owned by lower income individuals and families, making it even more compelling to identify ways to ensure an affordable, reliable, equitable, and safe supply."[1]

The first chapter describes the California "fuel landscape" and briefly dwells on market dynamics,

[1] Draft, p. ES-1

including price spikes and potential causes of disruption to the system. It emphasizes the mandate of Senate Bill (SB) X1-2 (2023) to the State agencies and explains how the CEC and CARB addressed this mandate in the Draft.

The chapter also focuses on anticipated changes to demand for fuels in the near future, and expectations of how the market will respond to declining demand. The declines in demand, according to the analysis, will be due in large part to the eventual electrification of the light duty vehicle fleet and anticipated reductions in vehicle miles traveled (VMTs) over time by gasoline engine powered vehicles. The chapter further explores pathways by which refiners might attempt to keep pace with declining demand and identifies "how the state might intervene to assure an affordable, reliable, equitable, and safe supply of gasoline for consumers who need it."[2]

The second chapter undertakes a high-level "primer on petroleum" including crude oil sources and refining basics. The narrative attempts to give the public a very basic education on blendstocks, California gasoline requirements (such as California Reformulated Blendstocks for Oxygenate Blending (CARBOB)), and briefly explains the differences between summer and winter blends, based on Reid Vapor Pressure (RVP). The chapter concludes with another high-level discussion of the distribution system from refinery, to spot market, to retail, including brief discussions of spot markets and the differences between branded and unbranded gasoline sales at the pump.

Finally, a third chapter presents in very brief form about a dozen "policy options" for future consideration by the CEC for meeting the mandates in SB X1-2 to ensure market stability and benefits to consumers.

The Draft fails to address critical elements of the supply chain.

SB X1-2 directs the CEC to submit an assessment to the Legislature and to the Governor that "[i]dentifies methods to ensure a reliable supply of affordable and safe transportation fuels in California."[3] The statute further calls for "the evaluation of oil and gas extraction and refining"[4], but this Draft only covers the supply of transportation fuels, primarily gasoline. A proper transportation fuels assessment must look at all current fuels, e.g., gasoline, diesel (petroleum and renewable), jet (petroleum and SAF), LPG, natural gas (CNG, LNG, and RNG), hydrogen (combustion and fuel cell), and electricity. Such an assessment should also review the entire value chain for each transportation fuel. For example, petroleum fuels segments would include upstream, pipelines, marine infrastructure, storage terminals, refineries, distribution, and retail service station networks, while a review of the electricity value chain would include generation, the grid (transmission and distribution), charging networks (industrial, commercial, single-family, multi-family), and zero-emission vehicle (ZEV) availability.

WSPA notes that the CEC had the resources in hand to include assessments for diesel and aviation fuel by using the same outlooks used for their gasoline assessment, as is reflected in the data presented in the 2023 Independent Energy Policy Report (IEPR).[5] Each of these fuel sources

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[2] Draft, page 17.

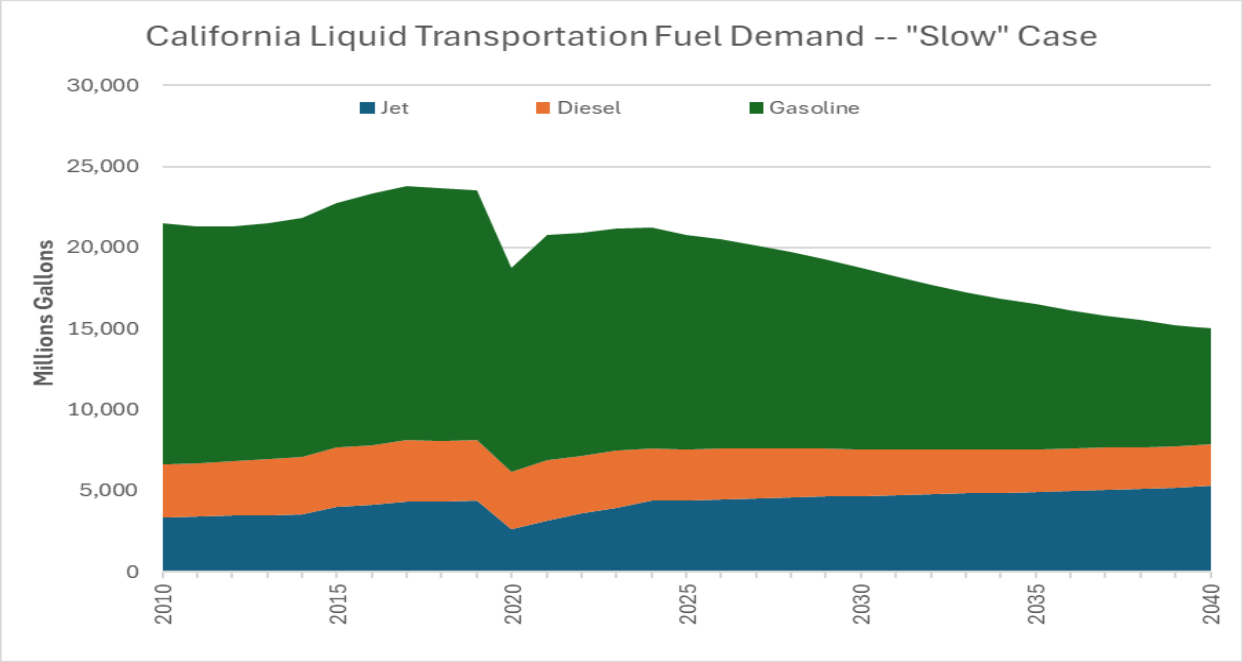
[3] Cal. Pub. Res. Code (PRC) § 25371(a)(2)

[4] PRC § 25371(a)(2)

[5] Bailey, Stephanie, Jennifer Campagna, Mathew Cooper, Quentin Gee, Heidi Javanbakht, and Ben Wender. 2023. 2023 Integrated Energy Policy Report. California Energy Commission.

were analyzed under “slow”, “fast”, and “rapid” scenarios, in which key assumptions about declines in demand were made based on the CEC’s demand modeling. To remind the CEC of its earlier published work, we include graphs from the 2023 IEPR report and from the modeling data submitted as supplemental to the CARB 2022 Scoping Plan Update. [6]

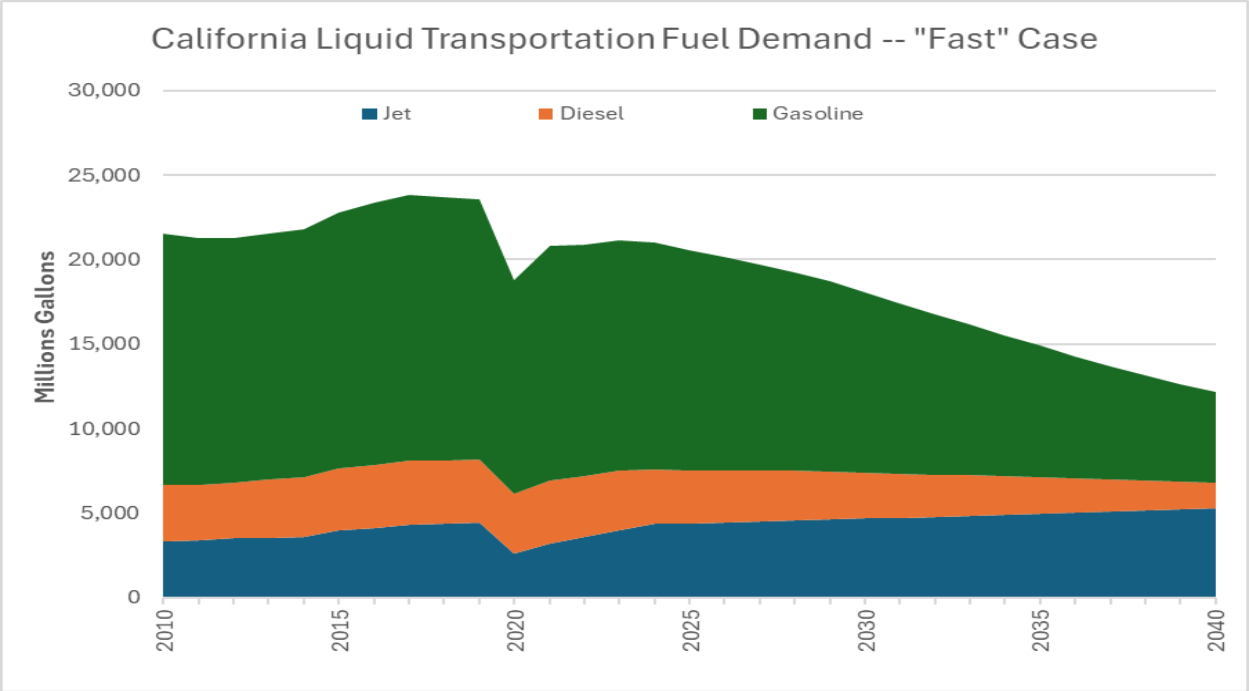
Figure 1 - CA Liquid Transportation Fuel Demand - "Slow Case"



Publication Number: CEC-100-2023-001-CMF.

[6] 2023 Statewide Fuel Demand Forecast - CA Energy Planning | California Energy Commission, last accessed May 14, 2024 at https://www.energy.ca.gov/media/9574. And from the Scoping Plan: 2022-sp-PATHWAYS-data-E3.xlsx (live.com). Note: We concur with CEC’s aviation fuel assumption that it has the same demand profile as the IEPR baseline case.

Figure 2 - "Fast" = 2023 IEPR AATE3 Case



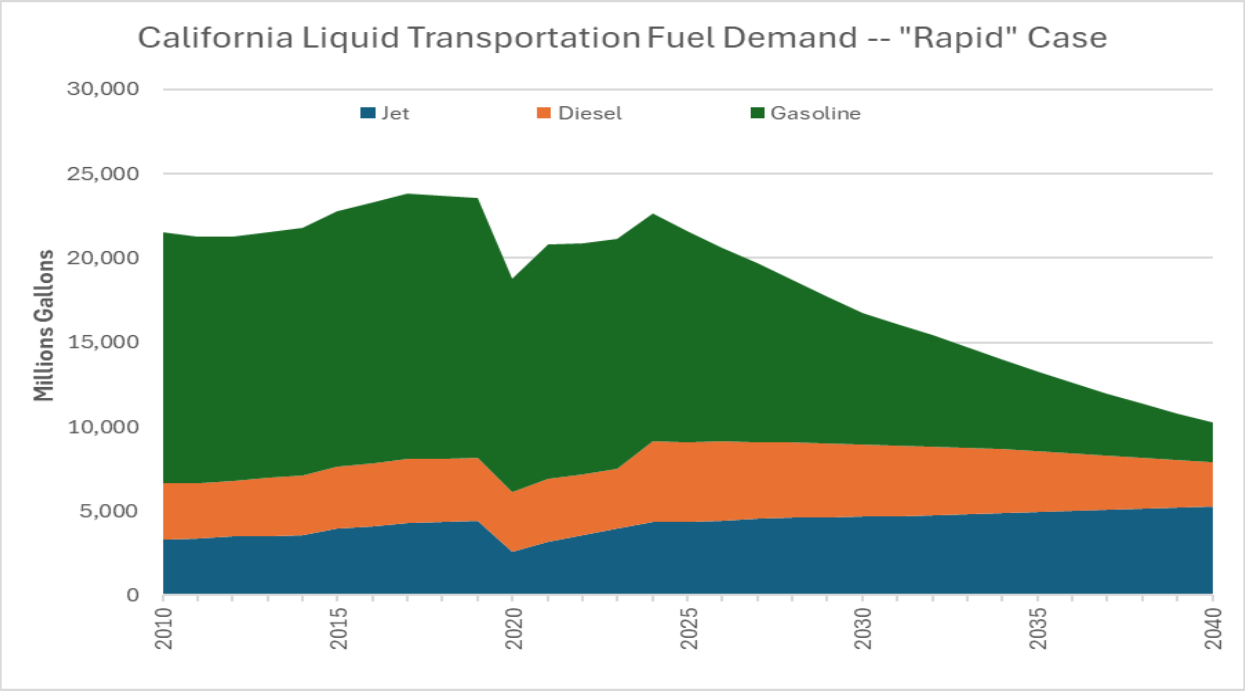


Figure 3 - "Rapid" = 2022 CARB Scoping Plan

The Draft is explicitly meant to underpin the CEC's and CARB's obligation under SB X1-2 to formulate a Transportation Fuels Transition Plan encompassing California's full range of transportation fuels and potential future demand scenarios for each. However, this Draft presents

just one preferred scenario (i.e., varying degrees of sustained declining gasoline demand) rather than evaluating other possible scenarios. The scenario in this Draft implicitly assumes that everything works as planned in terms of policy implementation and required investments. That is not a proper transportation fuels assessment that leaves the State agencies prepared to develop a robust transition plan and strategy for the transportation sector.

An assessment evaluating the status of the value chain of all transportation fuels as described above (and required by statute) would provide the State agencies with a range of fuel scenarios, which would enable them to develop a more robust transition plan. There are several potential demand pathways the various fuel supply chains could follow in the future, and not all of them involve perfect implementation of the State's current policies. One cannot simply assume that gasoline demand will fall off precipitously (as do the three scenarios above), nor that the gasoline (or for that matter, diesel or jet fuel) supply chain will smoothly adapt to the CEC and CARB's predicted declining market. ***A more robust assessment would explore several "failure points" (e.g., meeting a significant reduction in Vehicle Miles Traveled) or places in the system that are lacking resilience (e.g., port infrastructure or electric grid build-out), and would model scenarios that take into account those potential failures***. The only vulnerabilities that are explored in this Draft are those related to the spot market and the vaguely defined potential for "manipulation", with several other key vulnerable elements left unexplored.

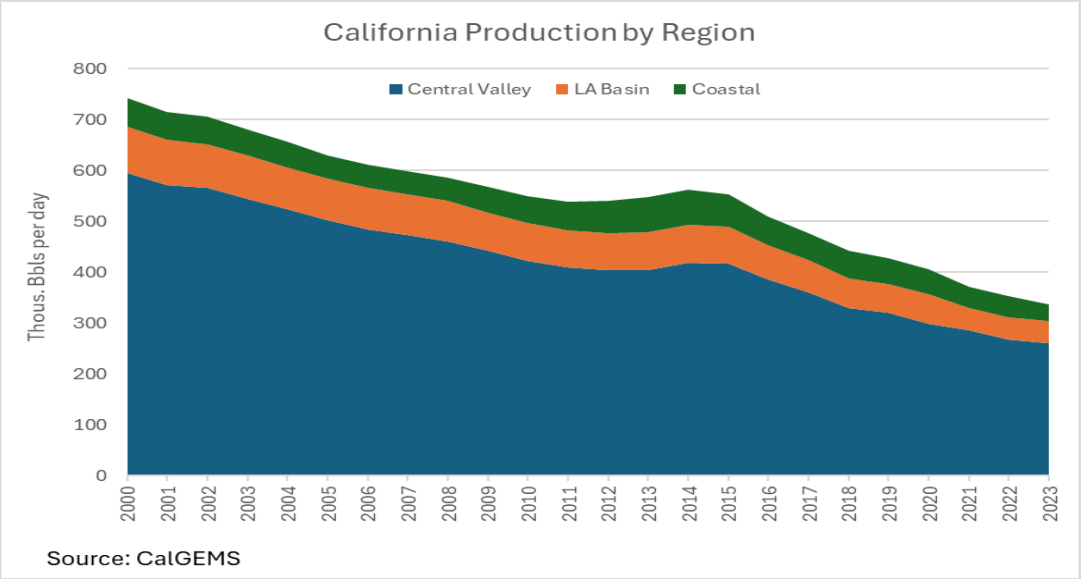
What is missing from the current Draft?

Crude Oil Production in California

SB X1-2 requires the first assessment to analyze the upstream (i.e., oil and gas extraction) and refining segments of the petroleum industry.[7] California has historically produced a substantial portion of the total amount of crude oil that is locally processed and refined in the State, predominantly for consumption in California, but also to meet supply obligations in other states and markets.

[7] PRC § 25371(a)(2)

Figure 4 - Crude Oil Produced in California by Region



California crude oil production has declined at an average annual rate of 3.4% since 2000. The decline rate has been accelerating and was close to 14% in the second half of 2023. The decline in California domestic crude oil production has more to do with difficulties in obtaining permits to drill than lack of oil reserves. As of December 2022, California held almost 1.5 billion barrels of proved and probable crude oil reserves, which ranked it sixth among the 50 states.[8] The observable decline in production is not due to resource availability or the "natural decline" in production often cited in State reports. The actual decline in domestic oil production is due to highly constraining policies and a permitting environment with increasing barriers to oil and gas production. This is a more aggressive decline rate than was modeled in CARB's 2022 Scoping Plan Update. [9] Constraints on domestic production have put substantial pressure on other parts of the system, including pipelines that transport crude oil to key refining locations in the State.

Producers and Permitting

WSPA does not see any evidence in the Draft that information about production conditions or constraints was sought from domestic producers of California's crude oil. This is worrisome given that SB X1-2 explicitly requires the State agencies to "consult with the state's fuel producers and refiners"[10] in preparing the Transportation Fuels Transition Plan, for which this Assessment is an

[8] https://www.statista.com/statistics/790790/us-oil-reserves-by-state/.

[9] CARB 2022. 2022 Scoping Plan Update. pp. 101-5. While the 2022 Scoping Plan Update does not specifically "model" future declines in oil production, it assumes that production will decline at an average annual rate of approximately 2%, based on a UC Santa Barbara study commissioned by the State (https://zenodo.org/records/4707966). The 2022 Scoping Plan Update also notes that shifting domestic production volumes to marine imports may also have GHG leakage effects, and "could require more infrastructure to store and move larger volumes of crude oil to the refineries in state" (p. 104).

[10] SB X1-2, Section 25371.3.

essential foundation. Had the CEC and CARB sufficiently explored these key upstream parts of the fuel supply chain, they would have discovered what the industry knows quite well: California geographically has some of the largest and most accessible oil reserves in the world. California producers simply are not permitted to get to them due to State impediments.

It is well understood on the production side of the industry that development of reserves requires a program of continuous evaluation, investment, and development. It is almost never the case that a substantial reserve is developed in one phase and depleted through the first initial tranche of investment. Permits for drilling, whether for exploration or production, are an essential requirement of a properly functioning production sector. However, in the California case, new permits for drilling have been severely curtailed and many producers have been forced in the short term to rely on existing investments to be economically viable. This is only a short-term adaptive solution; extended denial of access to the resource means that operators must make hard decisions about the economic viability of their production enterprises.

Therefore, lack of new drilling permits is forcing producers to rely predominantly on existing permitted facilities to maintain production. To date, as of May 2024, the primary permitting agency responsible for production-oriented permitting, CalGEM, has approved only about 300 production-related permits.[11] Compared to "normal" periods of business, this level of performance is less than 20% of what producers in California have long recognized is needed to meet the requirements of a properly functioning permitting process required for production operations to in turn meet demand for crude oil in the state. A proper fuels assessment would go as far upstream as necessary to assess the availability of crude oil assets and the cost constraints on acquisition of the 1.4 million barrels per day required to supply the State's refinery processing demands.

[11] CalGEM approves more than 18 different types of permits for subsurface activities, including injection wells, monitoring wells, testing wells, and other wells related to the overall operations of a producer. However, only five types directly relate to production of crude oil: new drills, reworks, sidetracks, well stimulation (fracking), and deepening. These five permit types have been stalled out at CalGEM since the Newsom administration began giving direction to CalGEM in 2019 to limit or halt the approval of permits for all manner of production activities, including well stimulation and high-pressure cycling steaming. Not only has permit approval declined precipitously, but the average time between submission and approval has increased over seven-fold in the five years since 2019. (Source: WSPA analysis submitted to CalGEM through various regulatory processes).

Figure 5 - CalGEM Oil and Gas Permits 2011-2024[12]

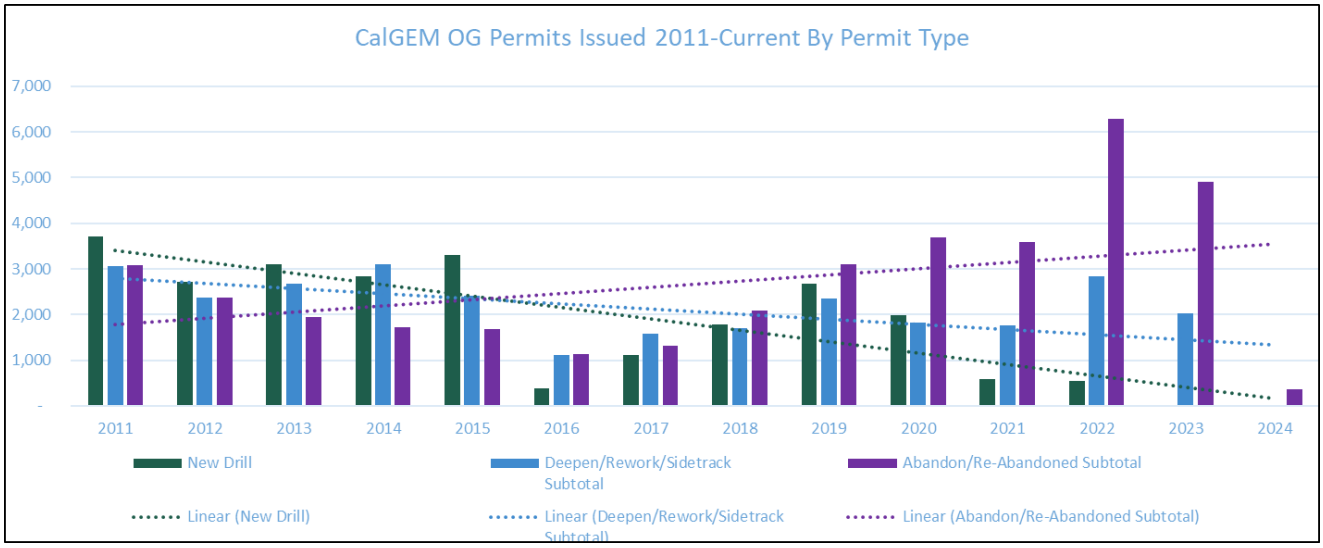
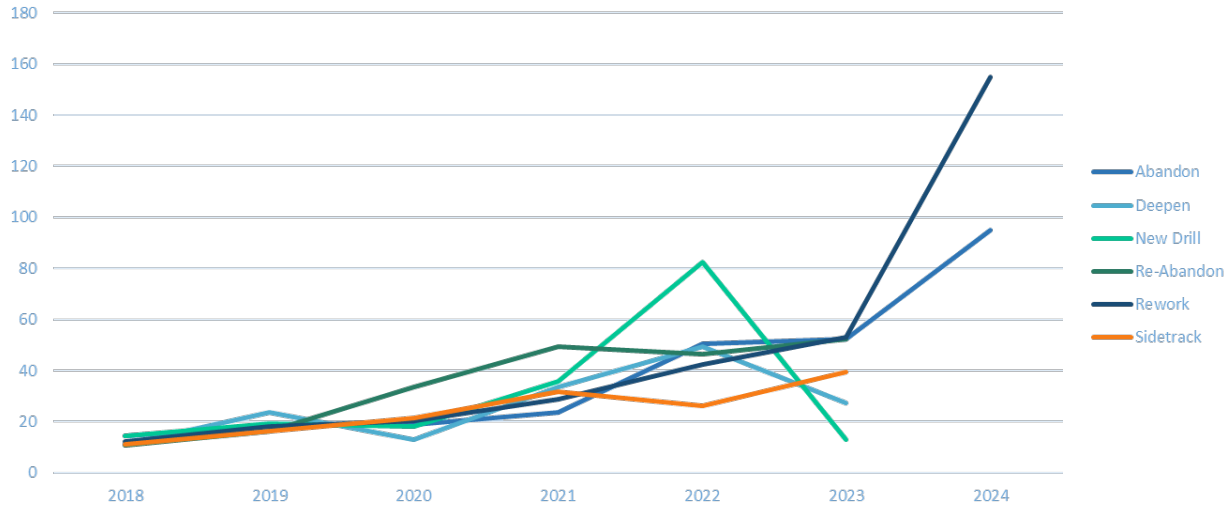


Figure 5 shows the decline in production-related permits approved since 2011. Historically, the agency has approved an average of 8,000-10,000 permits each year. Since 2019, the number of production-related permits has dropped to insignificance. The shift from production-related permitting to plugging and abandonment permits is dramatic, beginning with the upturn in global oil prices in 2017-18 and the increasingly politicized focus on shutting down and shutting-in production in California.

As a further impediment, the time that CalGEM takes to approve a production-related permit has expanded by over seven times in a mere five years, from an average of about 12 days to more than 185 days (see Figure 6, below). These are conditions that severely impact production in the state and explain a great deal of the decline in crude oil volume produced domestically.

[12] CalGEM WellSTAR data; Catalyst Environmental Solutions analysis, *unpub. reports.*

Figure 6 - Time to permit approval of oil and gas permits at CalGEM



Crude Oil Pipeline Capacities

As the Draft notes, "Kinder Morgan operates the only common carrier pipeline network within California."[13] However, the Draft only discusses the pipelines carrying refined product. Crude oil pipelines are a major component of California's domestic refining supply and are not even mentioned in the Draft.

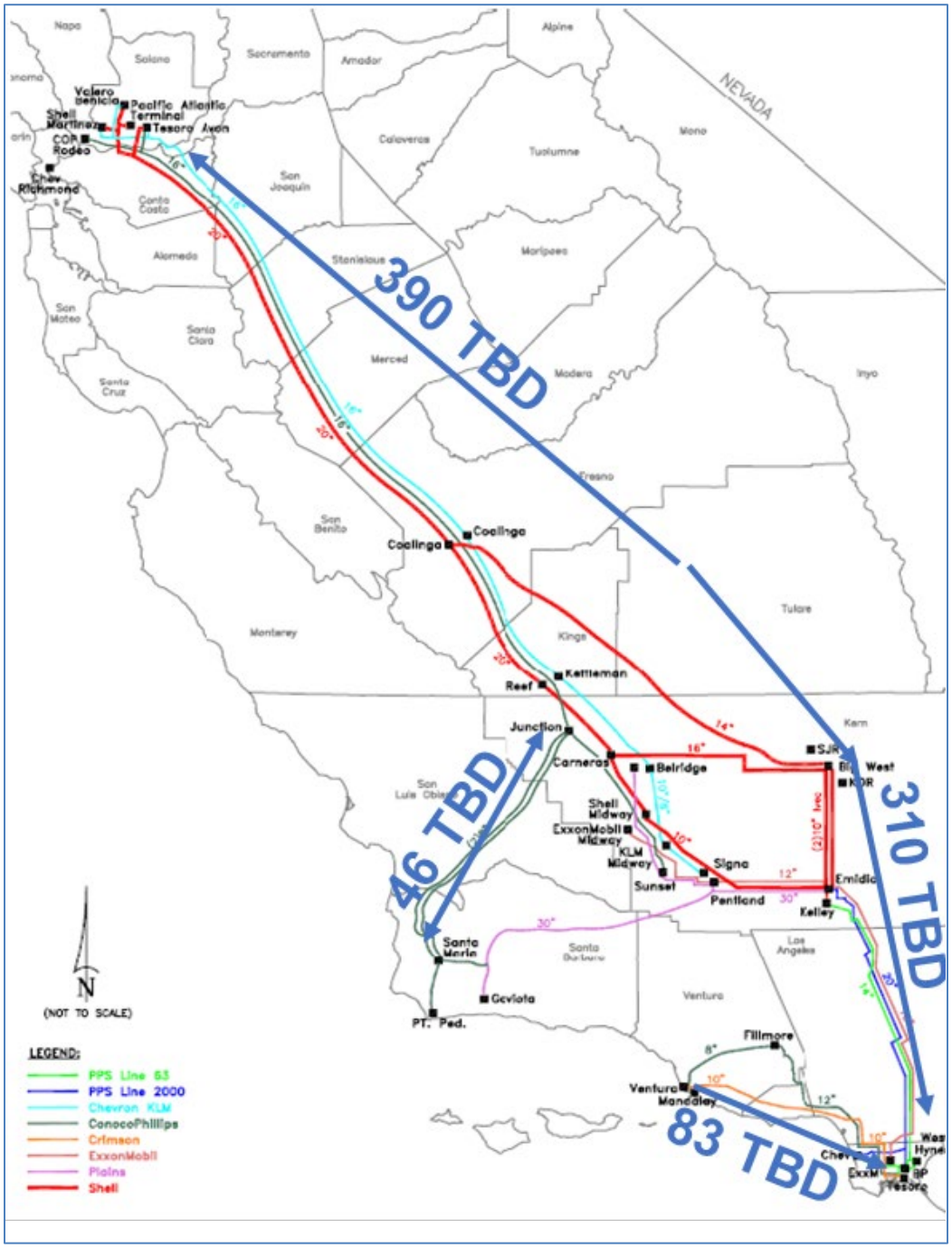
Pipeline entities play a key role in the supply chain that is critical to moving crude oil from domestic sources to the two regions (Los Angeles basin and San Francisco Bay Area) where domestic crude oil supply is essential to refinery performance. Were the CEC and/or CARB to have consulted the operators of these pipelines, they would have learned that this part of the supply chain is running at critically low volumes.

Figure 7 shows the alignment of several critical pipelines for crude oil and indicates their current design capacities. These design capacities were engineered with long-term production in view and took into account the reserves and likely future demand for transportation from oil fields to refineries dating from the 1980s onward.[14]

[13] Draft, P. 31

[14] Sources: Analysis of key company and government public websites. Turner Mason & Company, *unpub. analysis.*

Figure 7 - Location, alignment and carrying capacity of key crude oil pipeline infrastructure



Each crude oil producing area is connected to a given refining center by multiple pipelines of various diameters (capacities). While this can be good for redundancy, in the event of an interruption, it also creates challenges in keeping the system operational as local oil production continues to decline. A pipeline must maintain some minimum volume so the crude oil will continue to move. This minimum throughput volume is a function of the pipeline's design (e.g., diameter, length), operating conditions (e.g., pressure, temperature), geography (e.g., elevation changes), the age of the pipeline, the regulatory environment, and the characteristics of the crude oil itself

(e.g., gravity, viscosity). The vast majority of crude oil produced in California, and in the San Joaquin Valley in particular, is heavy oil (high specific gravity) and therefore requires lift and heating specifications to move the crude oil over long distances.

It is critical to understand that California's crude oil pipeline infrastructure was designed to support decades of growing demand, both in California and the other western states. They are also key elements of the national security infrastructure on the west coast, supporting strategic U.S. interests in the Pacific.

Marine Terminal Throughput Capacity

The Draft, and indeed much of the California policy direction on fuel supplies, appears to assume that reductions in domestic crude oil production can be easily compensated for by increasing imports of both crude oil and refined products. ***However, the Draft fails to adequately address the actual throughput capacity of the marine terminals that are assumed to be required by this substantial increase in imports, and also fails to address regulatory constraints that CARB has imposed on tanker vessel calls at California ports starting in 2025.*** We further elaborate on some of the impacts of the Ocean-Going At-Berth Regulation (At-Berth Regulation) in greater detail below.

Further, an adequate assessment of the realities of refining crude oil in the State, along with a proper assessment of the displacement of Ultra-Low Sulfur Diesel (ULSD) with Renewable Diesel (RD), would clearly show that the same marine terminals that the CEC and CARB assume will accommodate transfers of millions of barrels of refined fuel will already be busy hosting ever-increasing volumes of imported crude oil from foreign countries.

This Draft does not present a realistic assessment of these factors, nor does it examine the critical pinch point in the system that marine terminals represent, which could have major impacts on supplies and prices. The CEC and CARB must assess marine terminal constraints if they are to determine if or how additional refined fuel volume flows will be accommodated by existing marine terminals. There are four incremental marine terminal throughput flows that should be properly analyzed, critically including a sharp eye toward impacts of constraining policies such as the At-Berth Regulation:

1. Additional crude oil receipts to compensate for the continued and accelerated decline of in-state oil production.
2. ULSD export volume increases as a consequence of increasing RD use in California. This also includes RD movements from Northern CA and other domestic and international renewable fuels facilities into Southern CA (i.e., the Ports of Los Angeles and Long Beach).
3. Growth in biorefinery feedstock receipts to supply renewable diesel and sustainable aviation production facilities – other than rail imports that supply biofuel feedstocks directly to those biorefineries.
4. Changes in product flows associated with the likely closure of a refinery – such as the need to import gasoline and other refined products to maintain contractual supply obligations if a refiner elects to transition the facility to a fuel terminal.

Other Marine Logistical Constraints

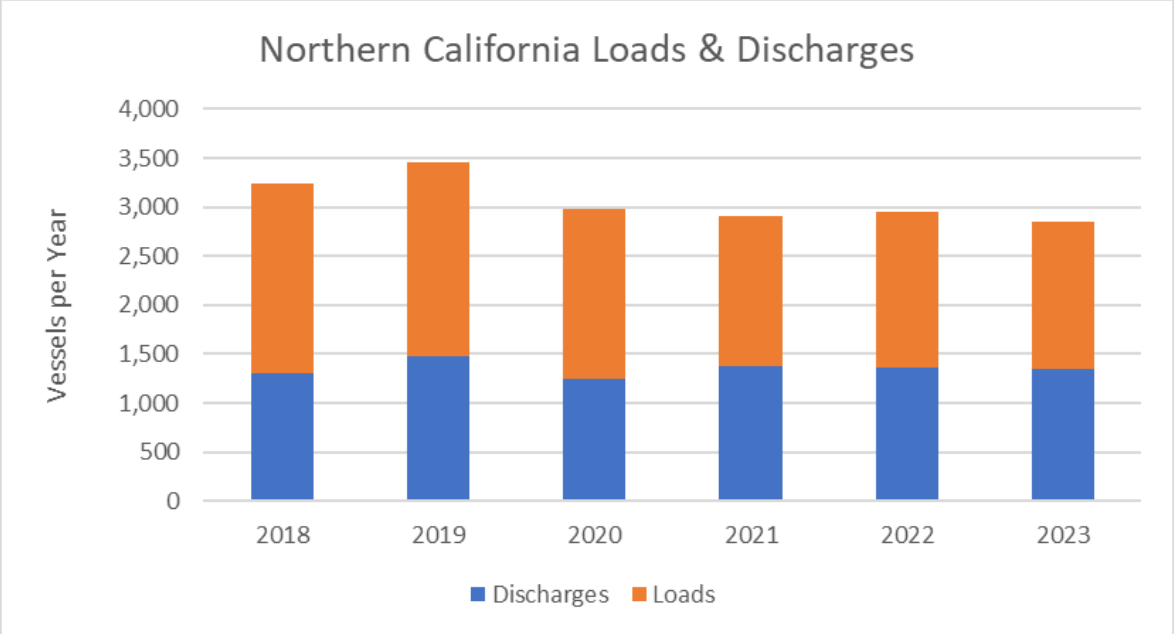
Vessel Traffic

The State Lands Commission (SLC) collects data on vessel movements (both barge and ship) for each marine facility in California. The CEC and CARB can analyze these data to assess how trends in California crude oil production and transportation fuel demand are impacting ship traffic.[15] Under its recently adopted emergency regulation,[16] the CEC will now be collecting this data as well. For example, Figure 8 below shows total vessel movements for loads (outbound) or discharges (inbound) cargoes in the North (greater San Francisco Bay Area).

A vessel "load" occurs when petroleum products are transferred from onshore storage tanks to compartments aboard the product tanker or barge. Some of these transfers can include multiple types of refined products or feedstocks segregated by compartments. Loaded vessels will then depart a marine terminal as an export (to foreign destinations or the Pacific Northwest) or intrastate movement to another California terminal.

A vessel "discharge" occurs when a petroleum product or refinery feedstock is transferred from the marine vessel to onshore tankage. The vessel's cargo may have originated from outside the state, another California marine terminal, or in some cases from a ship-to-ship transfer. Details are contained in the SLC datasets (e.g., if the vessel is a barge or ship and whether the ship is an international or Jones Act tanker). Since 2018, there has been a decline in the number of loads, but the number of discharges has remained fairly constant.

Figure 8 - Northern California Loads and Discharges (Vessels per Year)



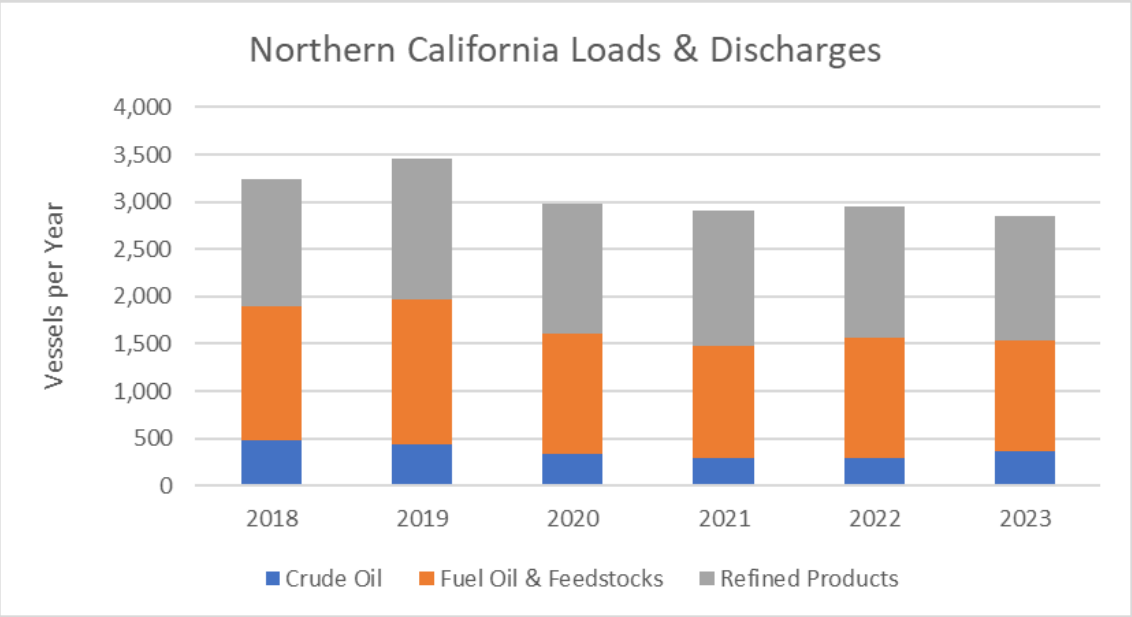
These data can also show what materials are moving across the docks. Figure 9 shows vessel movements in the North (i.e., San Francisco Bay Area) for crude oil, fuel oil and feedstocks, and refined products that consist of traditional transportation fuels (gasoline, diesel. and jet fuel) and

[15] California State Lands Commission and Turner Mason & Company analysis, 2024.

[16] Docket No. 23-OIR-03 under Resolution No. 24-0508-07, "General Rulemaking Proceeding for Developing Regulations, Guidelines, and Policies for Implementing SB X1-2 and SB 1322."

renewable fuels (renewable diesel and sustainable aviation fuel).

Figure 9 - Northern California Loads and Discharges – Crudes, Fuels and Oil Feedstocks, & Refined Products



Most of the recent decline in loadings seen in Figure 8 has been fuel oil ships seen in Figure 9. What these data do not show are potential constraints to the marine logistics system. Those constraints can come in two forms: available dock space and regulatory constraints of the At-Berth Regulation, both of which we discuss below.

Dock space

Refineries have limited berths (some have only one) and can be limited by the length of the ship or its draft.[17] The growth in containerized freight imports in the Ports of Los Angeles and Long Beach impacts the traffic patterns within the port and creates constraints on tanker movements within the port. All of these factors make the scheduling of ship traffic critical and increasingly more difficult as vessel traffic grows. The CEC and CARB should analyze the capacity for energy-related vessel traffic in ports in both the North and South in order to fully test its hypothesis that more vessels and port capacity can be made available to replace California's domestically produced crude oil.

- Regulations limiting the number of vessel calls and ships at dock.
- Another limitation to vessel traffic is whether the tanker originated from a domestic port, which requires it to be a Jones Act-flagged tanker. There are only 55 of these U.S.-flagged vessels and eight of them are dedicated to moving renewable diesel from the Gulf Coast to California.[18] The market for Jones Act ships is extremely tight, especially for spot charters.[19] Spot charter availability is critical to the CEC's transportation fuels assessment because it is the charter class used if ships need to be quickly contracted in the event of a

[17] Draft is the distance from the waterline to the bottom or keel of the ship.

[18] Survey: Jones Act rates get renewable diesel boost | Latest Market News (argusmedia.com)

[19] A "spot charter" is a shipping industry term for one-off or short term duration shipping contracts. See, for example, https://www.scorpiotankers.com/glossary_/spot-charter/. Last Accessed: May 16, 2024.

supply outage in California.

At-Berth Regulation

CARB's At-Berth Regulation will impose new requirements on marine terminal operations. It requires operators to reduce emissions from crude oil and product tankers by capturing stack emissions or by electrification of the marine vessel discharge operations by the use of shore-based power. Absent the ability to implement one of these options, most California tankers will be severely limited in the number of visits they will be legally permitted to make to California ports and marine terminals. At this time, the vast majority of the California tanker fleet, and the California ports and terminals that serve them, are not equipped to utilize shore power. Moreover, no stack emissions capture system has yet been developed, tested, or approved for use by tankers, and vendors will not be ready to provide such a system for many years to come.

WSPA submitted comments to the CEC on 4/25/2024 indicating our concerns about the impacts of implementing the new At-Berth regulations.[20] In that letter, we indicated that "CEC should take note that the California Air Resources Board's (CARB) recent amendments to the Ocean-Going Vessels At-Berth Regulation (At-Berth Regulation) will serve to further constrain refined products, renewable fuels, and crude oil supply into California. By requiring petroleum tankers to use emissions capture or shore power technology not yet developed, tested, or implemented on the vast majority of California's tanker fleet or tanker terminals, CARB's At-Berth Regulation will force many tankers to reduce visits to California ports starting in 2025 to meet the At-Berth Regulation's requirements. This is another example of a State policy that will further restrict the availability of gasoline in the State of California and will limit the State's ability to mitigate in-state shortages of gasoline supply with marine imports. And it is another policy that will likely hurt California consumers rather than helping them."

Given these concerns, we would urge the CEC and CARB to consider the following issues as the agencies seek to harmonize any future policy proposals with existing regulations that are already in place and will have near-future impacts that may conflict or exacerbate new or proposed policies.

- Marine terminal operators (refiners and port authorities) are unable to provide an accurate critical-path compliance schedule for the At-Berth Regulation, due to the inadequate number of commercially viable vendors of barge-mounted emission capture technologies that could be potentially modified and approved for use for the California tanker fleet.
- Similarly, shore power is unavailable for the vast majority of the California tanker fleet, as most tankers, ports, and terminals do not have appropriate shore power infrastructure for tanker use. Even if that hurdle could be overcome, the State grid currently lacks the electrical generation, transmission, and distribution capacity to electrify all vessels and terminals covered by the At-Berth Regulation.
- These realities put at risk the obligated parties' ability to comply with the At-Berth Regulation's deadline of January 1, 2025 for vessels visiting the Ports of Los Angeles and

[20] https://ww2.arb.ca.gov/our-work/programs/ocean-going-vessels-berth-regulation; WSPA comments may be found at https://content.govdelivery.com/accounts/CNRA/bulletins/398c8a0, Docket 23-OIIP-01, Western States Petroleum Association Comments - WSPA Comments on April 11 SB X1-2 Margin Cap and Penalty

Long Beach, and further unlikely to be able to meet the January 1, 2027 compliance deadline for vessels visiting any other California marine terminal.

- Absent an extension of the current compliance deadline schedule, there is a risk that some marine terminal operators will have to significantly reduce the number of product tanker port calls to reach the exemption level of 20 per year until the required control technology is developed and implemented.
- This complex of challenges will create yet another constraint on refineries' marine throughput capacity for crude oil and products.

A Potentially Critical Scenario

According to CalGEM, California's domestic crude oil production averaged 338 Thousand Barrels per Day (TBD) in 2023.The U.S. Energy Information Administration (EIA) estimates that production fell to 293 TBD by February 2024. Meanwhile, California refiners processed an average of about 1,430 TBD of crude oil during 2023. Thus, in-state production in 2023 accounted for 25 percent of California's total crude oil feedstock needs.[21] However, the recent continued decline for the month of February 2024 means that in-state oil production represented approximately 20% of California's total refining needs. California in-state oil production has been declining at an overall average annual rate of about 10% since 2015, but it is important to note that this rate of decline has been ***accelerating***. Measured over the last ***four*** years, the average annual drop in production has been about 14%. No matter how the rate of decline is measured, it is still far steeper than any of the CEC or CARB planning and strategy documents project. For example, as mentioned above, the 2022 CARB Scoping Plan Update projects that annual California domestic oil production will decline at a gradual rate of approximately 2% per year, consistent with their demand projections. Clearly, reality has gone beyond the modeling and must be accounted for.

This higher-than-predicted rate of decline in California oil production is challenging some pipelines to maintain minimum flow rates. As mentioned earlier, pipelines must maintain some minimum throughput to remain commercially and operationally viable. When a pipeline is forced to close, the production it carried must find another pipeline, or another mode of transportation, such as rail or truck. The alternative is to cease production altogether in the oil fields that require pipelines to move crude oil to refineries. The Central Valley has multiple pipelines running north and south. While each corridor has a number of trunk pipeline options and destinations, declining production makes it difficult to keep all lines at minimum throughput. The risk of closure could be higher for northbound lines leaving the Central Valley because these pipelines tend to have larger capacity and must negotiate undulating terrain, with intermittent pump stations to boost flow.

The decline in California crude oil production is a challenge for California refiners as well. California crude oil has fallen to 25% of refinery crude oil supply, down from 50% in 2000, and 62% in the 1980s. In the future, if a pipeline shuts down and a refinery cannot find an alternative pipeline for California crude oil, it must source crude oil by another means, such as rail or ship. No California refineries have crude oil unit train[22] transfer facilities, so they must rely on marine infrastructure to replace diminishing availability of California crude oil. Replacing California crude oil with waterborne sources increases vessel traffic, ship channel congestion, and emissions – and

[21] https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA2&f=M

[22] A unit train for crude oil consists of about 100 cars containing about 70k barrels of crude oil.

presents regulatory challenges, as discussed above.

Some refineries have limited access to marine facilities. If a refinery has only one berth, the refinery must choose between bringing in crude oil, refined product blendstocks, or finished products. They must also consider potentially exporting other products. For example, a refiner may need to increase waterborne crude oil imports and exports of fossil-based diesel (displaced by renewable diesel) and would face increasingly constrained marine terminal throughput with limited dock capacity. A refinery in such a scenario would be faced with serious decisions about whether to remain in business in California.

Depending on the size of the dock, onshore tank capacity, and pumping rates, it can take two to three days to unload a ship. Some refiners could only receive or load 10 to 15 vessels per month for all crude oil and refined product volumes. Based on an average refinery and average crude oil tanker delivering to California, this would not be enough crude oil to keep the refinery viable.

If a refinery were to convert to a product terminal, it would increase vessel traffic by 3 to 5 times to supply the market with same volume of product because clean product tankers are much smaller than typical crude oil tankers. In other words, it takes more time, investment, and space to replace crude oil imports with refined products.

Policy Options Presented in the Draft

WSPA appreciates that the CEC and CARB are trying to be as creative as possible in presenting policy options to mitigate fuel supply shortages. However, we believe that only some of the policy options presented in the Draft warrant serious further consideration, analysis, and development. WSPA also believes that each of the viable policy options not only deserves to be developed in detail, but that the CEC and CARB need to invest heavily in both public input and qualified industry expertise in order to vet them thoroughly and explore the potential unintended consequences on the fuel supply, as well as other potential effects of these policies on other sectors of the economy, and on California's consumers.

WSPA is aware that the CEC and CARB engaged other industry experts in developing the Draft. WSPA has also worked extensively with many of those experts and their organizations in the past, and we are fully aware of their capabilities. We do not believe that the current version of the Draft reflects the full suite of the capabilities of those experts, whose known expertise spans the entirety of the supply chain, from production to logistics, to refining, and to marketing and distribution.

For this reason, WSPA has engaged the expertise of Turner Mason & Company (TM&C) to perform detailed analyses of several elements of the supply chain. Seeing that the Draft clearly did not present analyses of the full range of transportation fuel supply scenarios, as we have observed above, our work with TM&C has examined a number of areas of vulnerability and risk in the supply chain. WSPA would be pleased to have an opportunity to engage in a meaningful collaboration with the CEC and CARB to share our expertise, as well as the findings of our industry experts.

WSPA further encourages the CEC and CARB to workshop key options for subsectors of the supply chain, to more completely understand the dynamics, business models, and capacities of the supply chain in more detail than was demonstrated in the Draft. For example, should the CEC and CARB wish to examine the effects of marine terminal complexities and limitations on imports and exports more carefully, we would hope that the agencies would use their convening power and resources to engage port facility managers, shippers, vessel leasing experts, and dock-to-refinery system managers to learn from their perspectives.

We would also encourage the CEC to convene a public hearing asking CARB to explain why it has chosen to significantly restrict tanker visits to California ports and terminals at a time of great need for the state, rather than considering amendments to the At-Berth Regulation to allow those visits to occur until emissions control technology is developed and implemented throughout the tanker fleet. Further, should the agencies wish to more fully understand the factors that go into spot market trading decisions, perhaps the CEC would be willing to engage with actual traders to gain some knowledge about their decision-making processes.

While we appreciate that the CEC and CARB have described 12 potential policy pathways in brief form, with pros and cons, decisions of such gravity and consequence cannot be made based on a few mere paragraphs and tables. Other similarly significant changes in California's energy policies have involved multiple studies and extensive analyses by experts that have taken months, if not years, of meaningful deliberations and consultation to explore, develop and implement. We firmly believe that the Transportation Fuels Assessment and the Transportation Fuels Transition Study proposals envisioned by SB X1-2 warrant at least the same level of engagement, analysis, development, and vetting before significant and consequential decisions are taken by State policymakers that could hurt Californians more than help them. These are decisions that could easily put the entire fuel supply chain at risk, not only for the State of California, but for our two neighboring states of Nevada and Arizona, whose fuel supplies are firmly dependent on the viability of California's petroleum supply chain and most notably, California's refiners.[23]

Finally, the CEC has the resources and authorities under the Petroleum Industry Information Reporting Act of 1980 (PIIRA) and SB X1-2 to learn from the industry through the request for and analysis of confidential business information. This is the kind of information that WSPA and other entities are not allowed to either know or share, due to important antitrust protections. However, given the level of understanding of the industry revealed through the Draft, WSPA would strongly encourage the CEC to meet with individual companies under PIIRA protection and ask key questions in order to learn whether many of the assumptions the CEC and CARB have apparently based their Draft on have any substance or reality. For example, the presumption (perhaps based on an economic theory) that refiners have much more excess capacity, either in utilization percentages or storage, should be tested with each company rather than simply asserted as a public conclusion without sufficient evidence. Or, as another example, that the CEC appears to assume that refiners can be compelled to increase reserve capacities in order to mitigate supply shortages during planned and unplanned outages of refinery operations. However, without actual knowledge or evidence, or an analysis of the time or logistical steps this would require (including local permitting), this assumption cannot be tested as a viable policy option.

In the following sections, we comment on the policy options presented in the Draft that we believe warrant further development. WSPA believes that the policy options we are choosing not to comment on simply do not have any realistic place in the array of policy choices the agencies have before them, nor do they warrant serious further consideration or staff time. We suggest that these ideas be moved to an appendix in the final version of the Assessment to document that they were considered. However, we do not believe they warrant further time, energy, or resources from state agencies.

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[23] According to the CEC, California's refineries provide most of Nevada's and nearly half of Arizona's transportation fuels. https://www.energy.ca.gov/data-reports/energy-insights/what-drives-californias-gasoline-prices. *Last accessed: May 16, 2024.*

Cost of Service (COS) Policy Option

We are addressing the COS model only because it has received so much attention by public members at CEC workshops and during recent State Legislature oversight hearings. We have very serious concerns about the viability of this model as it could be applied to a global multi-commodity market, such as petroleum, which is not a natural monopoly and has not traditionally been regulated in the United States as a utility.

A utility-based COS model for electricity and natural gas distribution is a regulatory oversight and control structure intended to address natural monopolies that provide a single type of energy commodity to customers in a specific geographic marketplace. Price controls and cost recovery for operating expenses and capital improvements at a profitable return-on-investment are primary elements of a utility model.

Such an approach does not easily lend itself to the transportation fuels market, which is neither a natural monopoly nor a single energy commodity. Exactly how a cost-of-service model could be applied to California refiners' operations and the other transportation fuel value chain segments (i.e., upstream producers and pipelines, storage providers, marine infrastructure, downstream distribution infrastructure, wholesalers, and retailers) has not been explained in the Draft. More concerning, the Draft does not discuss the potential benefits to consumers of a COS model, nor does it address the potentially deleterious unintended consequences associated with an inadequate fuel supply in that model. If the State were to continue to pursue such a policy option, we would strongly urge the agencies to develop a report that, at minimum, addresses the following critical questions:

- How would the California Public Utilities Commission (CPUC) regulate the prices of all output from refiners ranging from liquified petroleum gases (butane and propane), to refined products (gasoline, diesel, jet fuels), to other products (residual fuels, fuel oils, lubricants, asphalt, plastics, and petroleum coke)?
- If this policy were only intended to be applied to gasoline sold in California, how would a cost-of-service model be applied to only a single commodity for firms producing scores of other petroleum-based commodities? How would cost recovery be apportioned just to California gasoline output?
- How would the CPUC regulate all, some, or none of the domestic and international refinery feedstocks such as crude oil and gas oils?
- How would the CPUC regulate the other costs incurred by the refiners for operating expenses and necessary capital investments for planned refinery maintenance, unplanned outages, and compliance with myriad local state and federal regulations involving fuel regulations and emission limits?
- How would the CPUC regulate the cost of marine logistical services associated with imports, export, and intrastate movements of refinery feedstocks, refined products, and renewable fuels? We would ask the same question about truck transport services.
- If other refined products and refinery feedstock prices are regulated, how would the CPUC compel foreign suppliers to sell to California refiners at set price levels? Would the Federal Energy Regulatory Commission (FERC) or the U.S. State Department have authority to set these prices? Would the State cover the incremental costs refiners incur above the set values for imported crude oil, other refinery feedstocks, and refined products?
- How often, under what circumstances, and by what adjudicated process would the CPUC revise commodity prices?

- How would other prices be controlled downstream of the refiners by the CPUC to ensure that other market participants such as wholesalers and retailers would not take advantage of set price levels by increasing their margins to end-use customers? Does that mean the CPUC would set prices at all distribution terminal racks, and the 10,000-plus retail station outlets?
- How would the CPUC's role at the State level interface with the Commodity Futures Trading Commission (CFTC) role at the Federal level?
- How would a COS model for the California fuel supply chain affect contractual obligations that refiners currently have with other states, such as Arizona and Nevada? Does this require addressing legal issues, such as the commerce clause or other federal preemption questions?
- How does a COS model avoid or mitigate a loss of supply due to an unplanned outage?

Policy Options WSPA Recommends for More Complete Treatment

Recognizing that the CEC and CARB have already acknowledged California's structural fuel supply barriers as a key element in contributing to price spikes, WSPA recommends that the agencies invest additional energy and resources into any of the policy options that have the potential to increase inventory and stabilize in-state fuel supplies. We would discourage the agencies from spending further resources on the other policy options, as further development would only increase risk and potentially exacerbate the current policy impacts that are constraining local fuel supply. If the agencies feel obligated to keep all options open in their final Transportation Fuels Assessment, we recommend placing the remaining options in appendices that demonstrate that the agencies creatively considered even the most implausible options.

We do not discuss the demand-oriented policy options presented in the Draft because we feel that these kinds of programs are already under sufficiently robust development through CARB and the CEC, and reflect the State's other policies designed to reduce consumer demand. We only note, as mentioned above, that predictions or forecasts about future fuel demand in California must account for and compare scenarios beyond the State's preferred declining gasoline demand scenario. We further urge the agencies to avoid unrealistic expectations that lower income Californians will somehow be able or willing to transition to more expensive electric vehicles on the schedule the State prefers, rather than the schedule these consumers are able to accommodate financially.

The Draft offered brief descriptions of three inventory-related policy concepts that merit additional analysis and public discussion: a Strategic Fuels Reserve, Minimum Inventory Levels, and E15 Blending. We address each of these briefly below.

Strategic Fuel Reserve

The CEC previously studied the concept of creating a Strategic Fuels Reserve (SFR) in 2000 and 2001, at the direction of Assembly Bill 2076.[24] The purpose of the SFR concept was to reduce the magnitude and duration of fuel price spikes in California. Given the analogous situation cited in SB

[24] Assembly Bill No. 2076, Shelley, Chapter 936, Statutes of 2000, State of California, approved by the Governor September 29, 2000. Link: http://www.leginfo.ca.gov/pub/99-00/bill/asm/ab_2051-2100/ab_2076_bill_20000930_chaptered.pdf]

X1-2, and the mandate to the CEC to explore all options, we recommend the agencies direct due attention to the work previously done.

During that process in 2000, the CEC assessed the concept of a strategic fuels reserve using a combination of consultant and internal technical staff resources. A revised consultant report was published in July 2002.[25] Over the following year, the CEC held workshops and conducted a hearing that concluded that "…the Governor and Legislature should not proceed with the strategic fuel reserve concept evaluated by the Commission. The Commission found that a strategic fuel reserve could have several unintended consequences, which could limit its effectiveness as a tool to moderate gasoline price spikes and could reduce the total supply of gasoline in the state. In addition, the Commission has determined that investment in private storage capacity is increasing, which reduces the need for SFR public storage."[26]

The transportation fuels supply chain has continued to evolve since that initial assessment of an SFR concept, which merits a re-examination of this potential strategy to:

- Quantify the State's inventory capacity at both refinery locations and third-party facilities.
- Identify changes in storage capacity and types (leased versus community storage).
- Determine throughput limitations for marine terminals that could be used as part of the initial filling and subsequent restocking of the SFR.
- Reassess parameters of the original SFR concept to identify potential operational barriers or limitations to address price spikes, as well as potential negative consequences on private sector inventory holdings.

Minimum Inventory Levels

The other inventory-related policy concept identified in the Draft was related to a requirement for refiners to prevent their gasoline and component inventories from dropping below some yet-to-be-determined level, except under certain conditions. WSPA is concerned that such a concept could have unintended consequences for refinery operations, and constrain refiners' flexibility to meet changing market or operational conditions. If the CEC and CARB intend to pursue this course, we would urge the agencies to develop a report that would provide detailed responses to several critical questions about this concept, such as:

- How would the minimum inventory level be set?
- Would there be a different level for each refinery location?
- How would minimum inventories be managed through seasonal RVP transitions where inventory must be taken to minimum levels for tank turnover?

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[25] California Strategic Fuels Reserve, Revised Contractor Report, California Energy Commission, P600-02-017D, July 2002. Link: https://stillwaterassociates.com/wp-content/uploads/2023/03/Strategic-Fuel-Reserve-Study-Stillwater-Associates-7.3.02.pdf]

[26] Feasibility of a Strategic Fuels Reserve, Commission Report, California Energy Commission, P600-03-013CR, July 2003, page 2. Link: https://web.archive.org/web/20100607193136/https://www.energy.ca.gov/reports/2003-07-31_600-03-013.PDF]

- Would minimum inventory levels be extended to include third-party terminals?
- Does setting a minimum inventory level include increasing total storage capacity in the state for gasoline and blending components? How does the State anticipate incentivizing investment and potentially sharing risk?
- What are the feasibility studies and permit timelines for constructing additional storage capacity at refineries?
- If no additional storage tanks are constructed as part of this concept, do minimum inventory level requirements constrain refinery operational flexibility by effectively increasing storage tank "heels" and reducing "working storage capacity?"
- The CEC should better understand product allocations, which are essentially minimum inventory levels set to conserve supply, for example, during hurricane events in the Gulf Coast region.

E15 Blending

The CEC noted E15 as a production enhancement strategy to allow increase blending of ethanol from 10% (E10) to 15% (E15) to augment existing CARBOB supply. WSPA believes that such a change should not be mandated because it can be invoked during times of tight supply. Existing infrastructure for ethanol, and ship and rail offload capacity exist for short-term increased blend percentages. To allow for blending up to E15, CARB must update the Predictive Model that is used to certify CARBOB emissions. Under current modeling assumptions, E15 blends could potentially put the State Implementation Plan (SIP) at risk for being out of compliance.

Rail Supplies

The Draft listed a policy option concerning the capability to import transportation fuel by rail and transload to tanker trucks at various locations throughout the State. The CEC accurately characterized this potential policy as a strategy that could be deployed in response to a significant emergency, such as in the aftermath of a catastrophic earthquake. However, if the State were to develop such a capability, then transportation fuel market participants (refiners, importers, and large marketers) might take advantage of rail transloading infrastructure to bring in additional supplies of gasoline under certain market conditions. The agencies should conduct a detailed assessment that would include at minimum:

- Identification of existing rail transloading facilities for refined products, if any;
- Attributes required for a typical rail transloading site;
    - Rail siding;
    - Tanker truck access;
    - Transloading equipment;
    - Personnel;
    - Security;
    - Rail access agreements;
- Estimated range of investment required per site and rail transportation costs from specific domestic refining centers;
- Minimum number of locations and basis for making that determination;

- Timing for delivery from key points of domestic origin, compared to waterborne resupply; and
- Potential barriers to private sector operation related to rail car availability and availability out-of-state suppliers capable of producing CARB gasoline.

We also recommend that the agencies take care not to treat each of these options in isolation. Rather, once an assessment and analysis for each policy option has been completed, the agencies should examine whether market and fuel supply stability might be enhanced further by combining viable options into a more comprehensive suite of policy solutions.

Conclusion

WSPA appreciates the opportunity to comment on the Draft Transportation Fuels Assessment. We wish to reiterate that, while we believe this Draft is an important foundation to initiate serious public engagement, we firmly believe it is incomplete and not ready to become the basis of a comprehensive transportation fuels policy. Nor is it – in its current form – a sufficient foundation to underpin the Transportation Fuels Transition Plan mandated by SB X1-2.

Should the agencies wish to correct the deficiencies in the Draft that we have identified here, WSPA and its member companies are eagerly disposed to assist and collaborate in multiple venues to develop the information base and policy recommendations that one would expect any comprehensive strategic effort of this scope and gravity would require. WSPA has already invested heavily in analytical work on multiple subsectors of the entire fuel supply chain. We would be pleased to work with the agencies to share our information and analytical products. All of our analyses so far have been conducted using publicly available data (much of it published by the CEC and CARB themselves).

WSPA wishes to note that, throughout multiple hearings and workshops, CEC Commissioners have reiterated their commitment to full, good-faith engagement with industry to ensure the most comprehensive Transportation Fuels Assessment and Transportation Fuels Transition Study. This commitment, as we understand it, is not just to fulfill the Commission's specific obligations under SB X1-2. It is to ensure that the State and its citizens have reliable access to affordable, adequate, reliable, clean, and safe fuels from all sources for the energy needs of a thriving population and economy. We share that commitment, and we are ready and willing to work with the Air Resources Board and the Energy Commission to achieve those goals.

Sincerely,



Catherine Reheis-Boyd
President and CEO

CC: Liane Randolph, Chair, California Air Resources Board

TESCII STUDY REPORT

POTENTIAL IMPACTS OF CALIFORNIA REGULATIONS & POLICY ON THE TRANSPORTATION FUELS SUPPLY CHAIN

JUNE 15, 2024



Turner, Mason & Company
energy consulting & advisory

Table of Contents

- TM&C Engagement Team 3
- Executive Summary 4
- Transportation Fuel Demand 14
- Crude Oil Production 20
- Logistics 27
- Refining 41
- Scenarios 50
- Appendix 101

TM&C's Engagement Team



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- Turner Mason & Company (TM&C) conducted a study of the California transportation fuel system (upstream, refining, logistics, regulatory) with a focus on identifying potential "pinch-points" that could significantly impact the ability of the system to meet future transportation fuel demand in the State.
- Founded in 1971, TM&C provides technical, commercial and strategic consulting services to worldwide clients in the crude oil, midstream, refining, refined products, biofuels and renewable fuels industries.
- Core competencies – Market Analysis, Refinery Strategic Studies, Feasibility Studies / Project Independent Assessments & Due Diligence, M&A / Transaction Support & Due Diligence, Crude / Feedstock Valuation, Asset / Fair Market Value Assessments, Industry Studies, Regulatory Support, Fuels Compliance, Litigation Support.
- TM&C engagement team collectively has over 120 years of experience in the industry across integrated oil companies, independent refiners, and energy consulting firms.

EXECUTIVE SUMMARY

PREFACE

- There are three main tasks assigned to the CEC in SB X1-2
  - Providing a transportation fuels assessment, including an evaluation of oil and gas extraction.
  - Assessing if a refining gross margin cap "likely benefits to consumers outweigh the potential costs to consumers."
  - Develop a process for refiners to report planned maintenance and turnaround schedules.
- This study is a holistic view of potential impacts on the petroleum supply chain
  - CEC's gasoline demand is taken as given (e.g., policies are implemented that achieve the "Slow", "Fast", or "Rapid" cases).
  - Our focus is on risks for the liquid transportation fuels supply chain across those cases.
  - We also look at risks to the system from other factors, such as California crude oil production profiles, crude oil pipeline operating limitations, and marine logistics constraints.
- Several prospective policies are not included in the analysis because we lack sufficient definition at this time to model them:
  - Gross Margin Cap
  - A tighter LCFS carbon intensity
  - A tighter Cap and Trade carbon intensity
- Our results are based entirely on public information and TM&C analysis
  - We leverage public information to calculate state-level supply/demand balances.
  - Where public data are not available, we make assumptions based on our collective experience, industry interviews, and sensitivity analysis.

Note: CEC is California Energy Commission
SB X1-2 refers to California Senate Bill 2 which was signed in to law by Governor Gavin Newsom on March 28, 2023
LCFS is Low Carbon Fuel Standard

KEY FINDINGS

- California crude oil production is in terminal decline
  - Recent production declines are approaching an annualized rate of ~15%, which is about 50% *faster* than gasoline demand declines in the CEC's most aggressive Transportation Fuels Assessment ("Rapid") case.
  - Risk of decline rates accelerating given recent slowing in pace of drilling permit approvals.
  - Setback rule (SB 1137) could shut-in ~20% of current production.

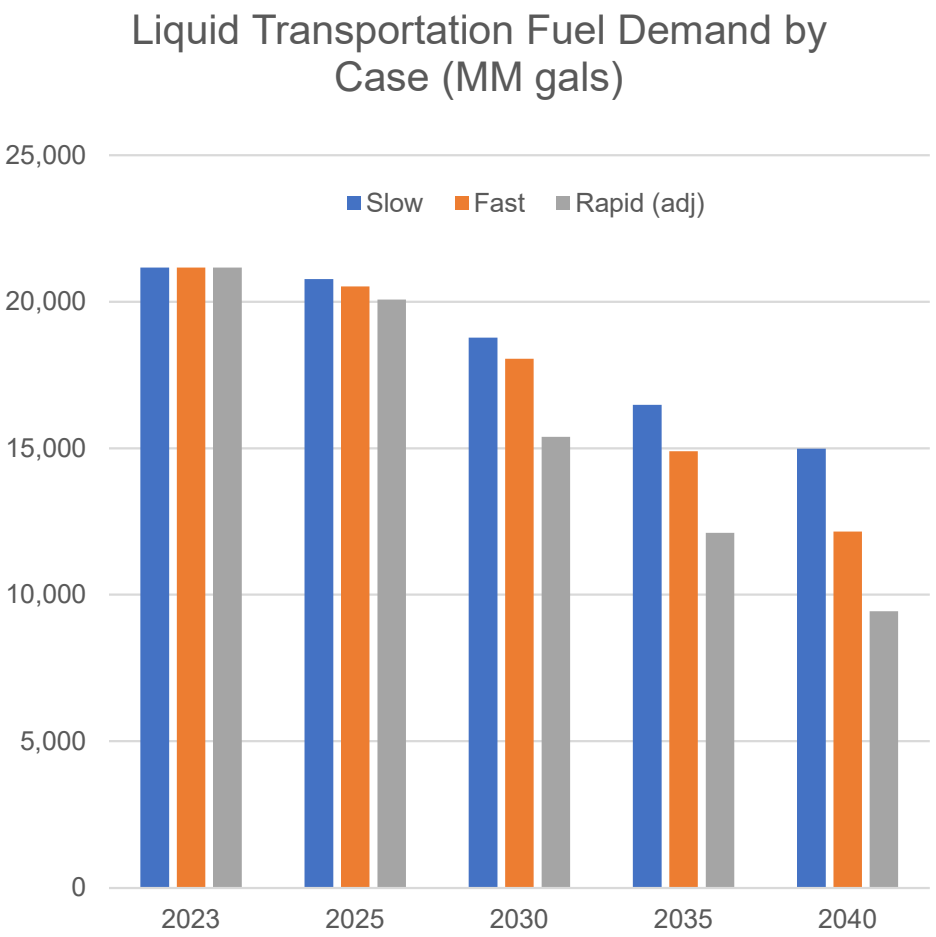
- California refineries could be approaching critical infrastructure constraints
  - Crude oil pipelines are at increasing risk of falling to minimum throughput levels.
  - Central District pipelines serving the San Francisco Bay area appear to have the greater risk.
  - If pipelines close, refineries become more dependent on waterborne crude oil imports.
  - Marine facilities could face a limit on vessel movements before limits on flows or emissions.
  - Marine logistics limits could come from combinations of constraints rather than imposing a single constraint.

- There are several refineries, in the North and South estimated to be on the verge of reaching these logistical constraints of challenged pipeline flows and lack of marine options.

- CARB's "At-Berth" regulation could critically impair marine logistics in the liquid transportation supply chain.

- It is not a question of "if", but "when" refiners could be forced into difficult decisions. The ability of a refinery to adapt to major shifts in crude supply or product demand could be limited without major investments.

LIQUID TRANSPORTATION FUEL DECLINE ESTIMATED TO BE 11% TO 27% BY 2030

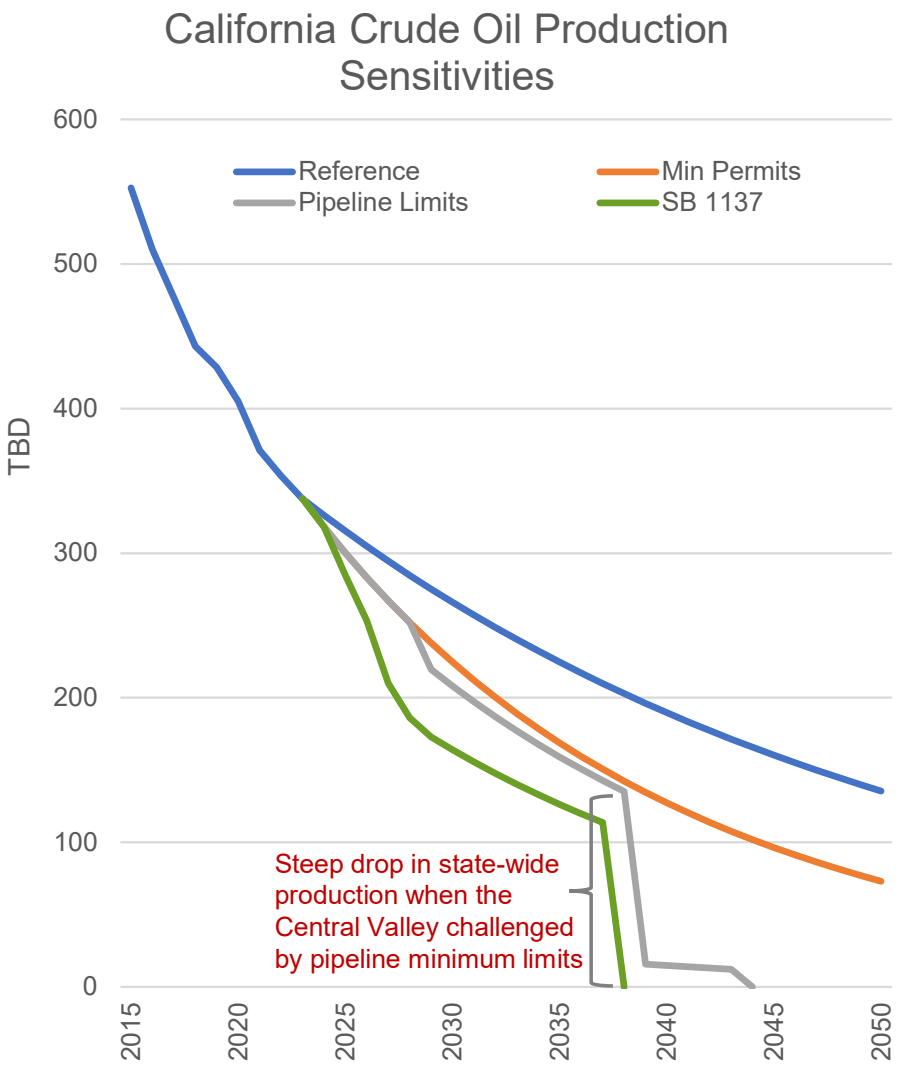


- CEC's draft Transportation Fuel Assessment only examines gasoline
- TM&C uses CEC's draft Transportation Fuel Assessment scenarios to map non-gasoline transportation fuels:
  - "Slow" = 2023 IEPR Baseline
  - "Fast" = AATE3 in the 2023 IEPR
  - "Rapid" = CARB 2022 Scoping Plan
- TM&C adopts the CARB Scoping Plan assumption on aviation fuel
  - CARB uses the same demand profile (+1.7% p.a.) across all scenarios due to aviation's decarbonization challenges
  - Aviation fuel continues to grow even though total liquid road transportation fuel demand declines

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Source: Turner Mason analysis, CEC Draft Fuels Assessment, CARB 2022 Scoping Plan
Note: CARB is California Air Resources Board
TM&C adjusts diesel demand in CARB's 2022 Scoping Plan to 2023 actuals (from CEC data) and preserves the plan's rate of demand decline

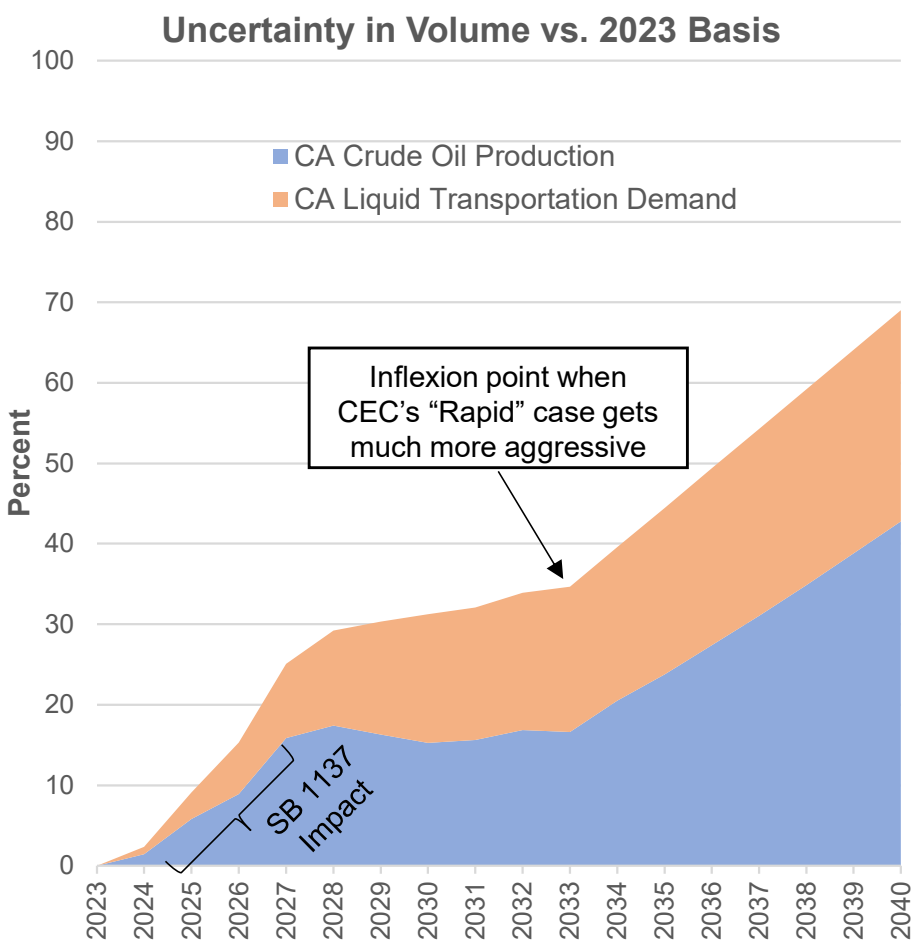
Several factors could impact future California crude oil production



- **Reference**: Production of crude oil in California declines at the 2000-23 rate (3.4% p.a.), which assumes there is a recovery from recent upstream activity, i.e., early-2024 decline rates have accelerated to -15% on an annualized basis.
- **Minimum permits**: Production declines at the 2019-23 rate (5.8% p.a.) driven by the slowing pace of drilling permit approvals.
- **Pipeline limits**: Step changes in production declines caused by shutdowns of pipelines due to minimum throughputs; we assume trucking is not a viable transportation alternative.
- **Setback limit (SB 1137)**: Implementation would accelerate decline across the entire state. The LA Basin could be entirely shut-in by the early-2030s.

Source: CalGEM (California Geologic Energy Management Division), Catalyst Environmental, EIA (US Department of Energy, Energy Information Agency), TM&C analysis

GROWING MARKET UNCERTAINTY MAKES INVESTMENT DECISIONS INCREASING MORE CHALLENGING

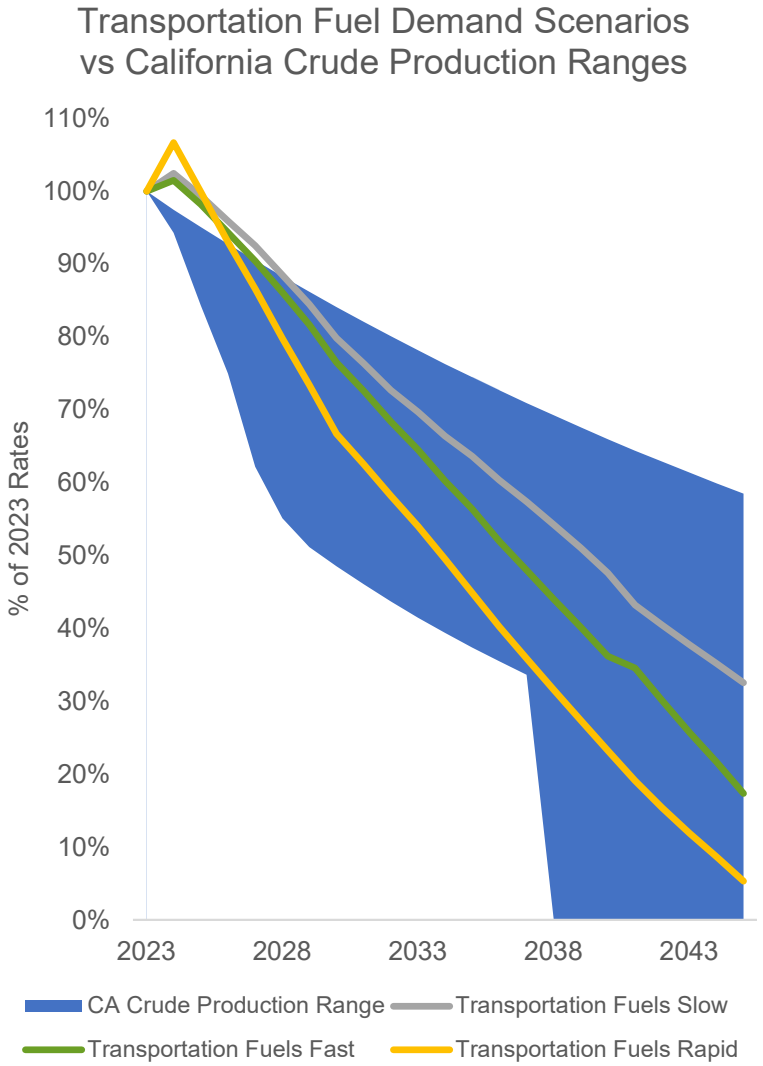


- Crude oil producers and pipeline operators would have to contend with the uncertainty of the blue shaded area when making business decisions.
- Refiners must contend with the uncertainty of both sourcing crude and fulfilling demand:
  - How to source crude oil supply? (blue area)
  - Where product markets might be? (tan area)
  - What projects might improve the ability to adapt?
- Combining these uncertainties could exacerbate the challenges of decision-making ("the whole is greater than the sum of the parts").
- The increase in uncertainty looks to be greatest in next 5 to 7 years, when determining the long-term viability of the supply chain will be most critical.
- How this uncertainty impacts the competitiveness of California assets for corporate capital relative to other assets is likely to vary across companies.

Source: CEC, CARB, TM&C analysis

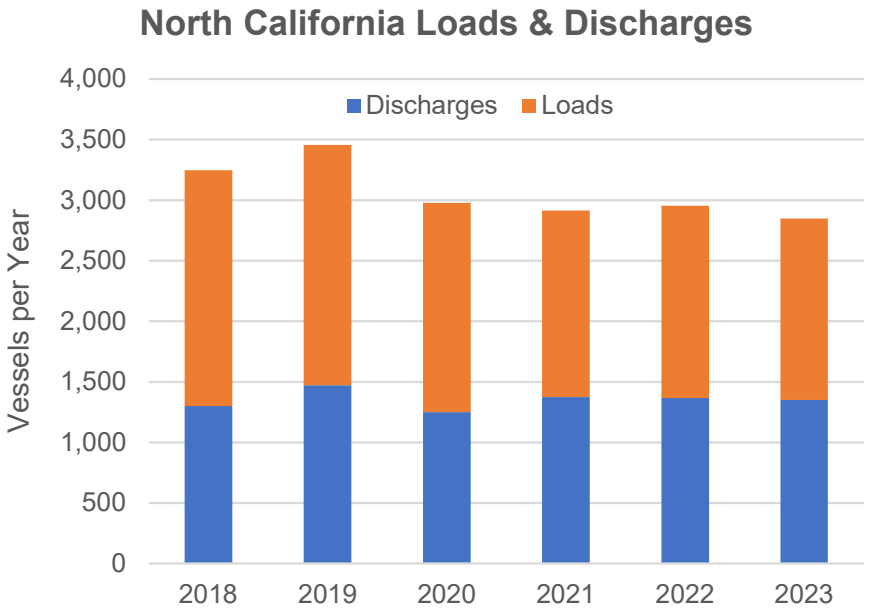
Refinery operations driven by shifts in Supply-Demand dynamics

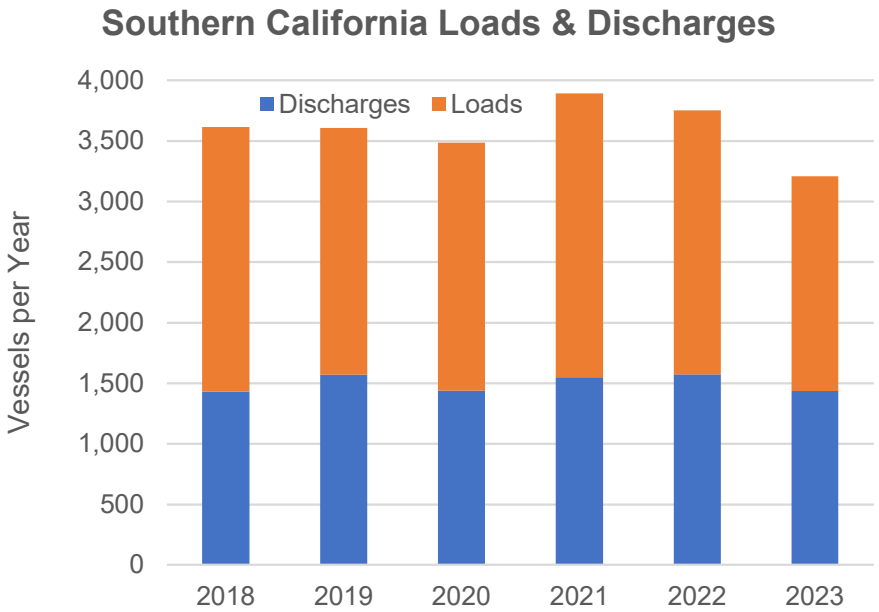
- As product demand declines, refineries would increase product exports, reduce crude oil runs, or eventually shut-down
- Exports must compete in the global market against other refiners with potentially lower costs
- If exports are not economically competitive, or reach logistic / permitting constraints, refineries may then reduce runs or shut-down
- There is a great deal of uncertainty in both future California crude oil production and transportation fuel demand, which may lead to a variety of business decisions as refiners compete within California and across a global market
- The decline of crude oil production relative to transportation fuel demand opens a range of marine logistics decisions (increasing imports/exports) to maintain, slow down, or cease operations. Each refiner may respond differently based on these uncertainties and additional business factors, such as, ability to acquire necessary permits.



Source: TM&C Analysis Refinery Scenarios (Supply-Demand), CalGEM, CEC, CARB

TOTAL MARINE TRAFFIC HAS DECLINED AS CRUDE VESSEL DECLINE IS FASTER THAN PRODUCT VESSEL GROWTH





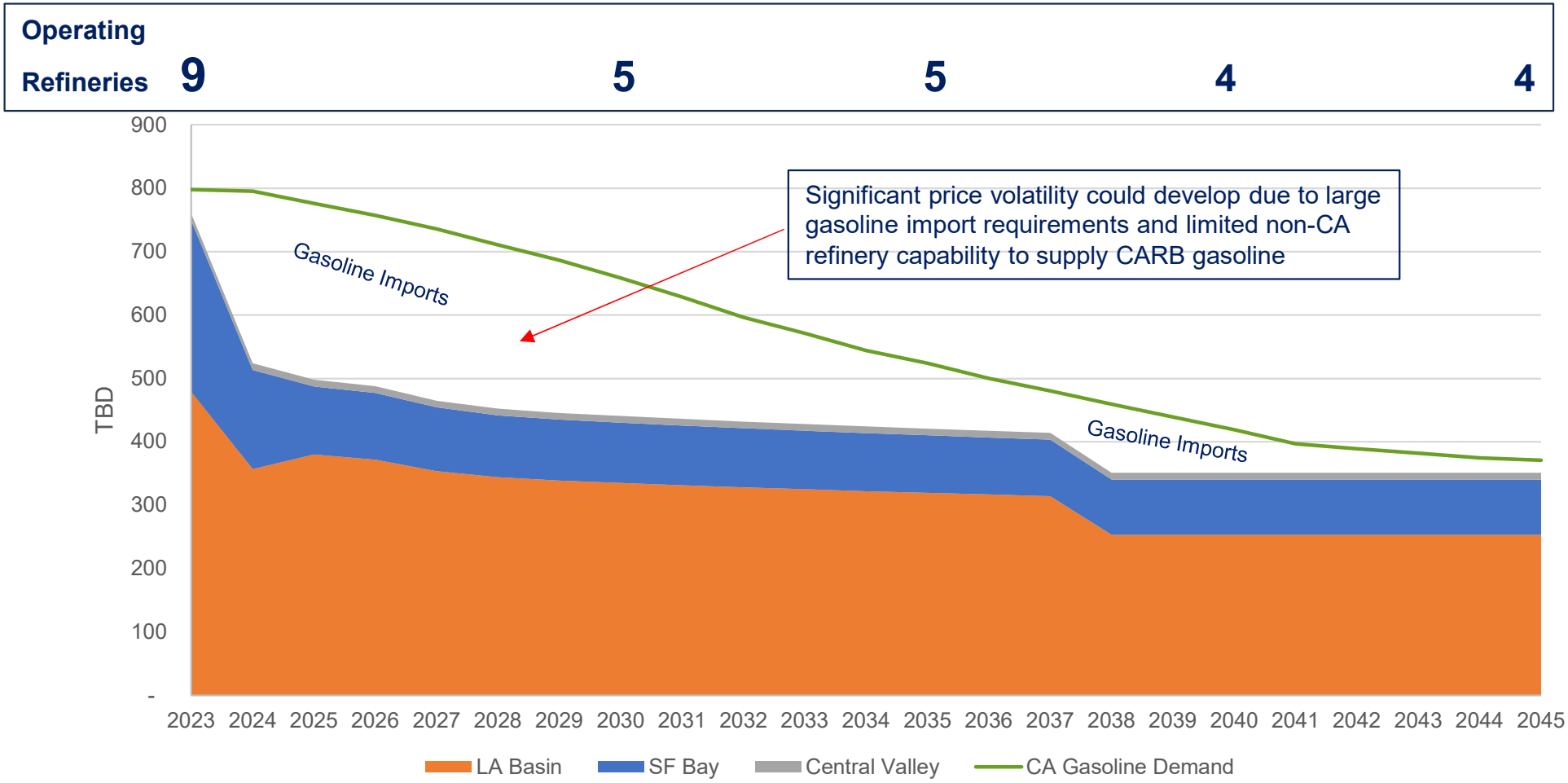
- Crude oil discharges are down in the North from pre-pandemic levels and expected to drop further with recent refinery shutdowns.
- However, product discharges are growing in the North and South resulting from a mix of growing imports of petroleum products and renewable feedstock cargos.
- It takes 3 to 5 product vessels to replace a crude oil tanker on a product volume equivalent basis.
- Product loads are declining in both the North and South; declines in fuel oil loads in response to new IMO regulations on sulfur content is masking increasing diesel loads (exports) in the South.

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Source: California State Lands Commission, TM&C analysis
Note: Discharges and Loads refer to volumes received from/loaded to a vessel. These volumes could originate from/destined to another location within California so should not be confused with exports/imports

Risk of significant immediate refinery shutdowns if refiners face CARB "at-berth" crude restrictions

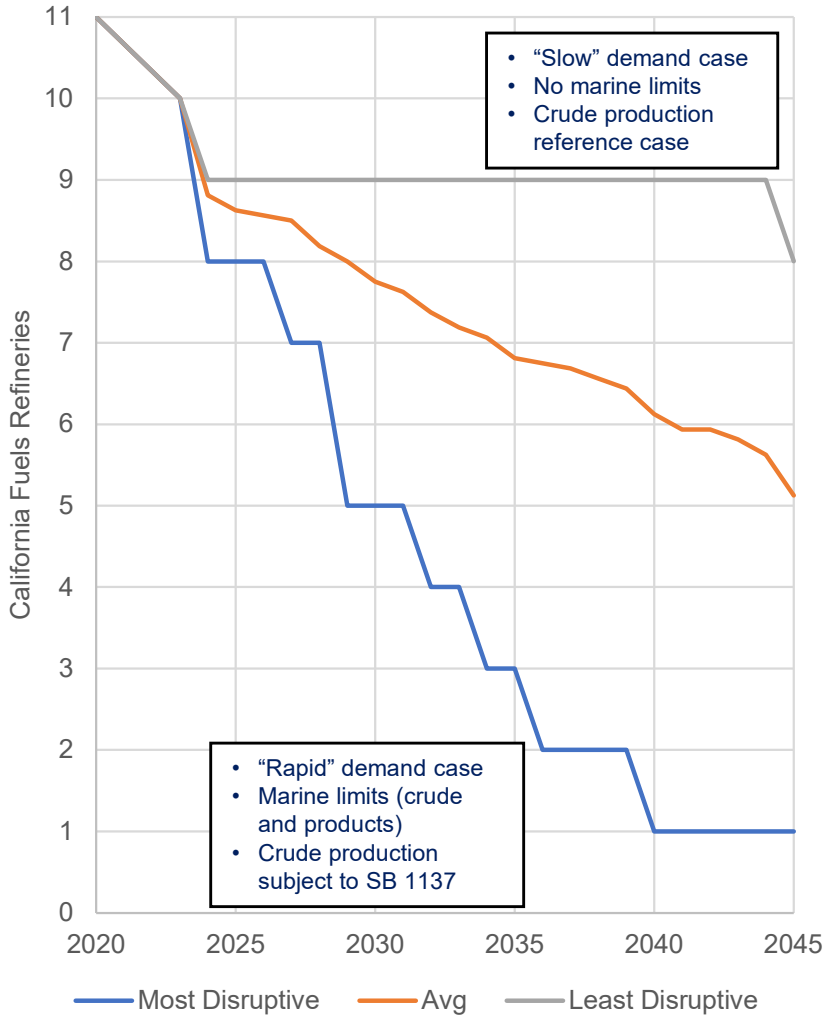
- CEC "Slow" fuels demand case
- CARB "At-Berth" limiting crude imports
- California crude oil production at SB1137 case
- Refinery utilization falls to 65% before shut-down



Source: TM&C analysis

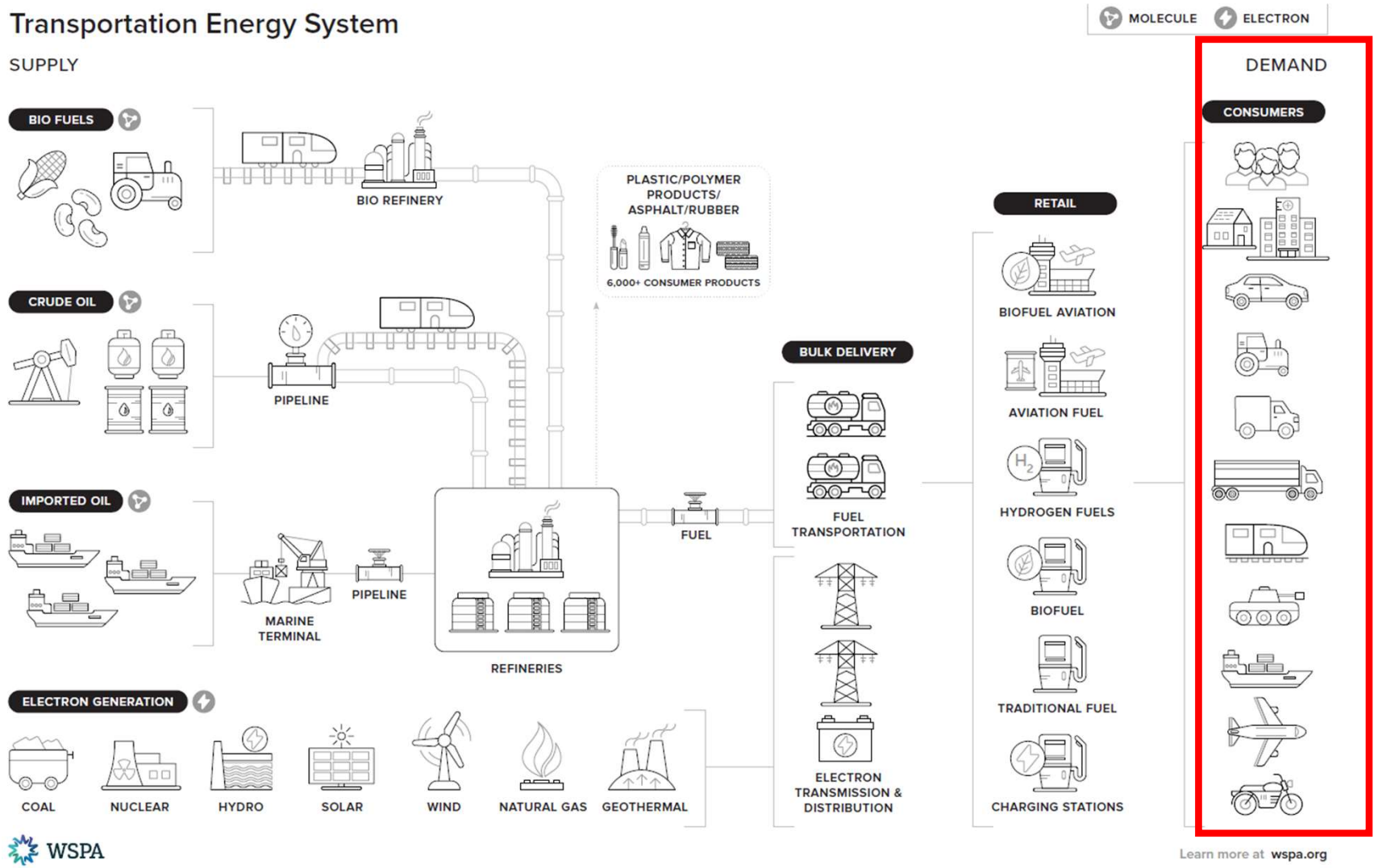
REFINERY CLOSURE RISK IS HIGHLY DEPENDENT ON SCENARIOS

- TM&C evaluated potential refinery closures across 16 scenarios covering combinations of:
  - Transportation fuel demand cases,
  - Crude oil production profiles,
  - Logistics constraints,
  - Refining operating environments.
- Across all scenarios, on average, about half of California's fuels refineries could close by 2045.
- In the most disruptive scenario, only one fuels refinery remains by 2040.
- Even in least disruptive scenario refineries could close
  - Major shifts in business (increases in exports) and operations required.
  - Assumes no new limitations to importing crude and exporting products.
  - Requires exports to be globally competitive.
- If onshore power is unavailable or on-ship capture is infeasible, full enforcement of "At-Berth" restrictions could close 3-4 refineries almost immediately.
- **Refineries may close faster than demand declines, which could put pressure on marine logistics and vessel traffic limits.**



Source: TM&C Analysis
Note: Refinery utilization falls to 65% before shut-down

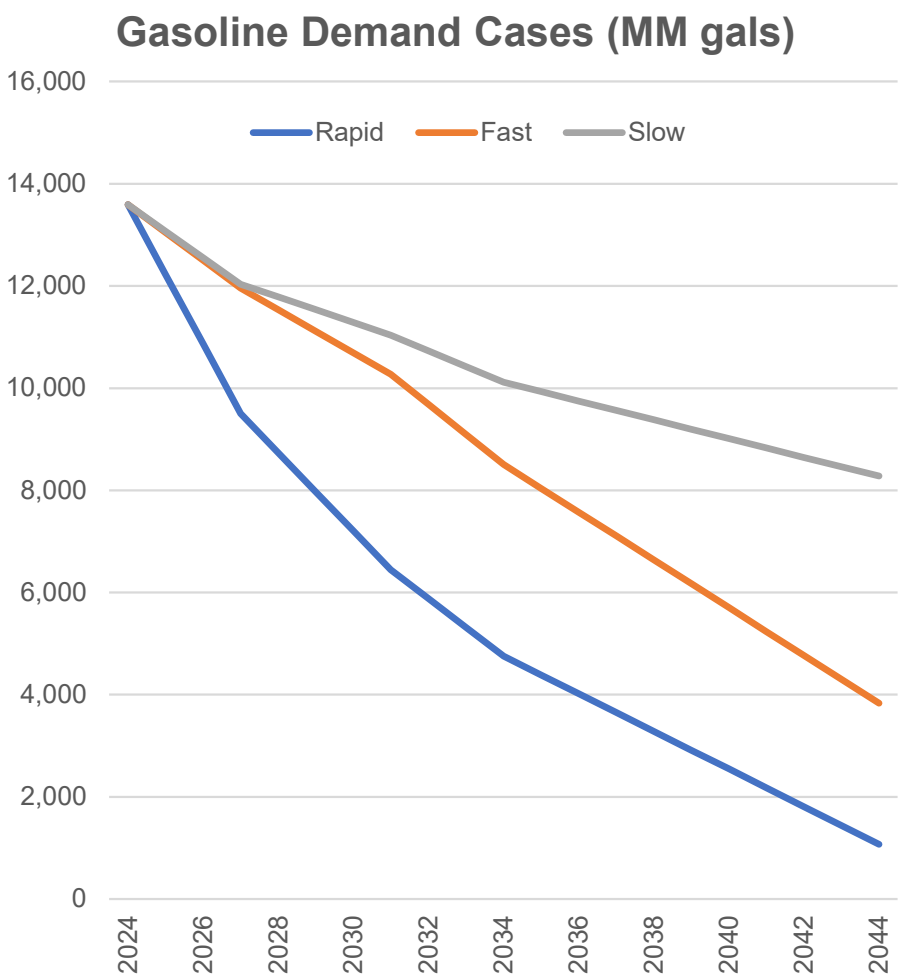
TRANSPORTATION ENERGY SYSTEM: FUEL DEMAND



DEMAND SUMMARY

- California liquid transportation fuel demand has declined ~9% since 2005
- No liquid fuel, except renewable diesel, has recovered from COVID-19 demand destruction
- Across all future demand cases aviation fuel continues to grow even though total liquid transportation fuel demand declines
- In 2023 biomass-based diesel (BBD) was 63% of California's diesel supply, which is greater than at any point in in the future under CARB's Scoping Plan. TM&C's view is that BBD could completely displace petroleum-based diesel as early as 2026.

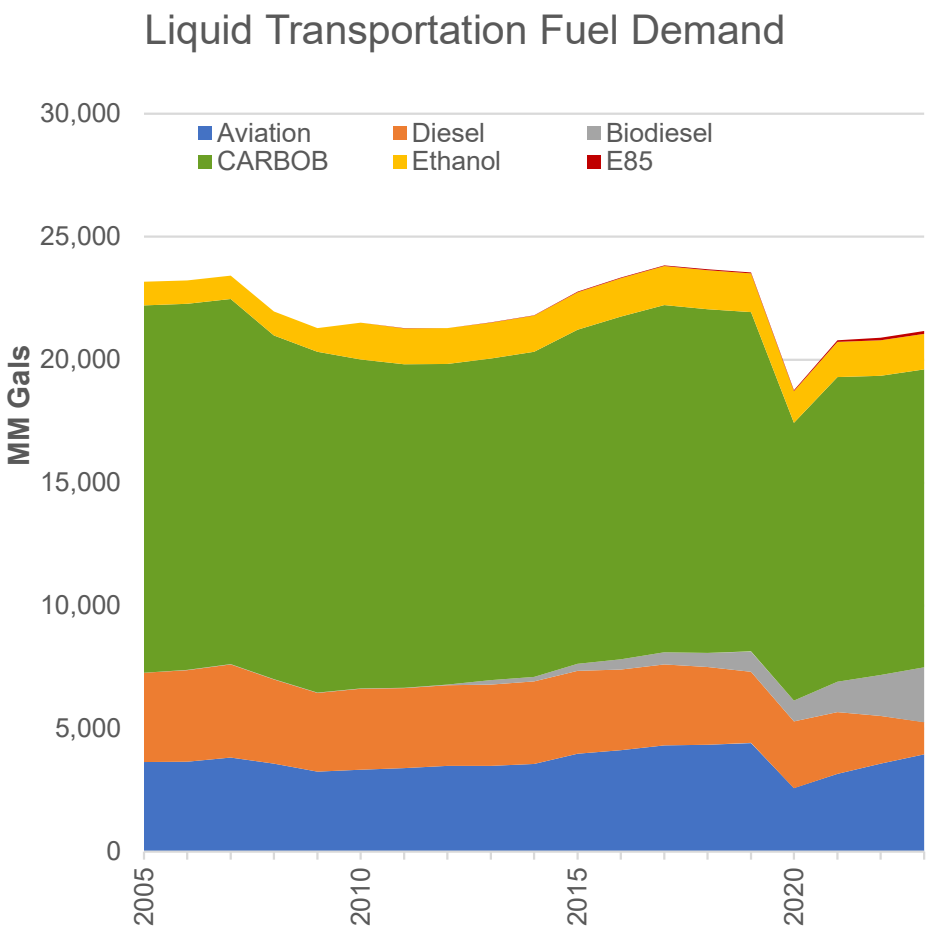
CEC's draft Fuels Transportation Assessment shows a variety of gasoline demand scenarios



- "Slow" scenario
  - 2023 IEPR Baseline
  - Demand declines at 2.4% p.a.
- "Fast"
  - AATE3 case in the 2023 IEPR
  - Demand declines at 6.1% p.a.
- "Rapid"
  - CARB 2022 Scoping Plan
  - Demand declines at 11.9% p.a.
- For historical reference: demand decline (2005 – 2023) = 0.8% p.a.

Source: CEC – Draft Transportation Fuels Assessment

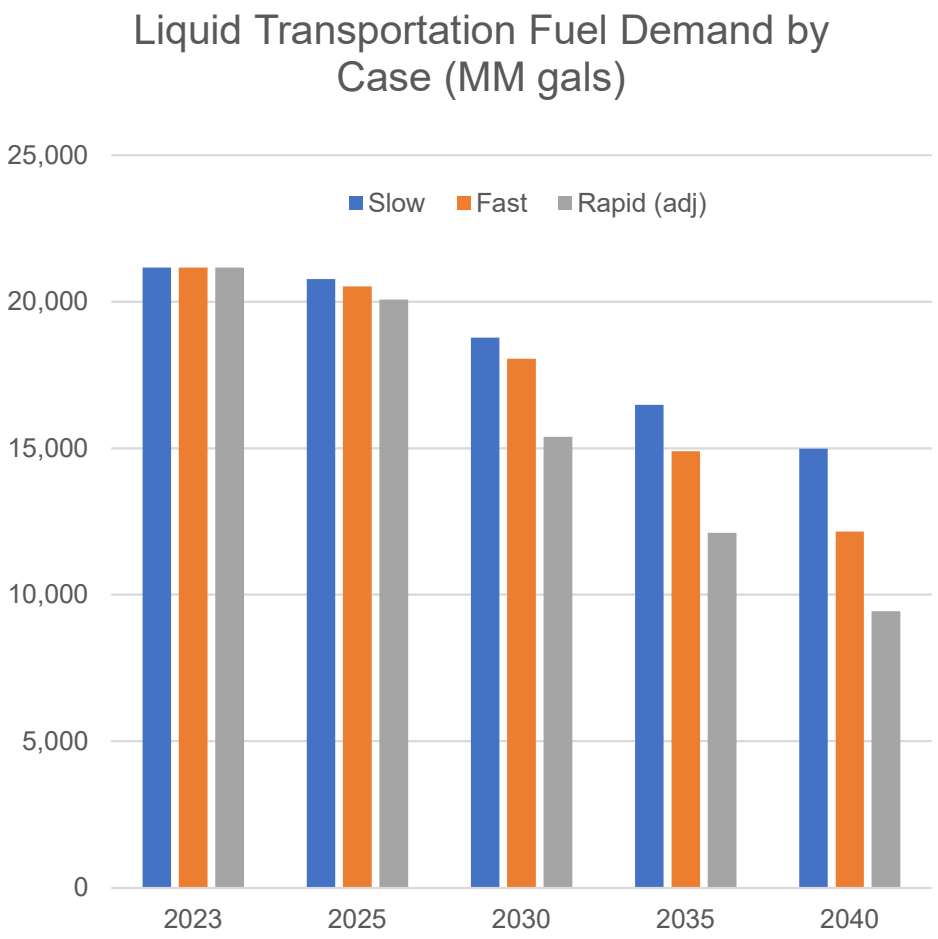
California liquid transportation fuel demand has declined 8.6% since 2005



- No liquid fuel, except renewable diesel, has recovered from COVID-19 demand destruction
- Total diesel demand has declined 2.3% since 2005
  - Petroleum diesel has declined over 60% (-5.5% p.a.)
  - Renewable diesel grew over *45% p.a.*
- Gasoline demand declined 14% from 2005
  - Decline from EV penetration and improving fuel efficiency has been gradual (-0.8% p.a.)
  - Recovery from COVID-19 destruction has been about 50%
- Aviation fuel demand has grown 8.5% since 2005 and has recovered about 75% of its COVID-19 destruction

Source: California Energy Commission

LIQUID TRANSPORTATION FUEL COULD DECLINE 11-27% BY 2030

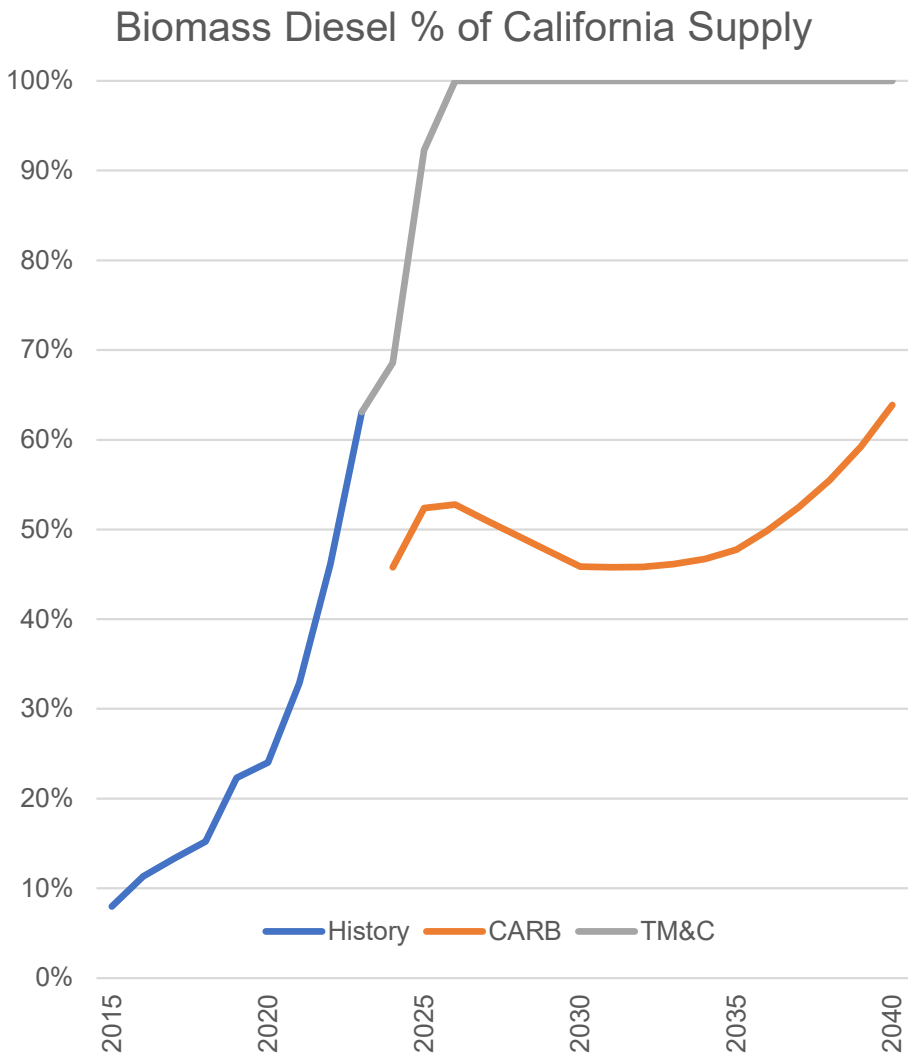


- TM&C maps non-gasoline fuels demands to CEC's draft Transportation Fuel Assessment scenarios in the following way:
  - "Slow" = 2023 IEPR Baseline
  - "Fast" = AATE3 in the 2023 IEPR
  - "Rapid" = CARB 2022 Scoping Plan
- Aviation fuel continues to grow even though total liquid transportation fuel demand declines
- TM&C adopts the CARB Scoping Plan assumption that aviation fuel has the same demand profile (+1.7% p.a.) across all scenarios due to its decarbonization challenges

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Source: Turner Mason analysis, CEC Draft Fuels Assessment, CARB 2022 Scoping Plan
Note: Turner Mason adjusts diesel demand in CARB's 2022 Scoping Plan to 2023 actuals (from CEC data) and preserves the plan's rate of demand decline

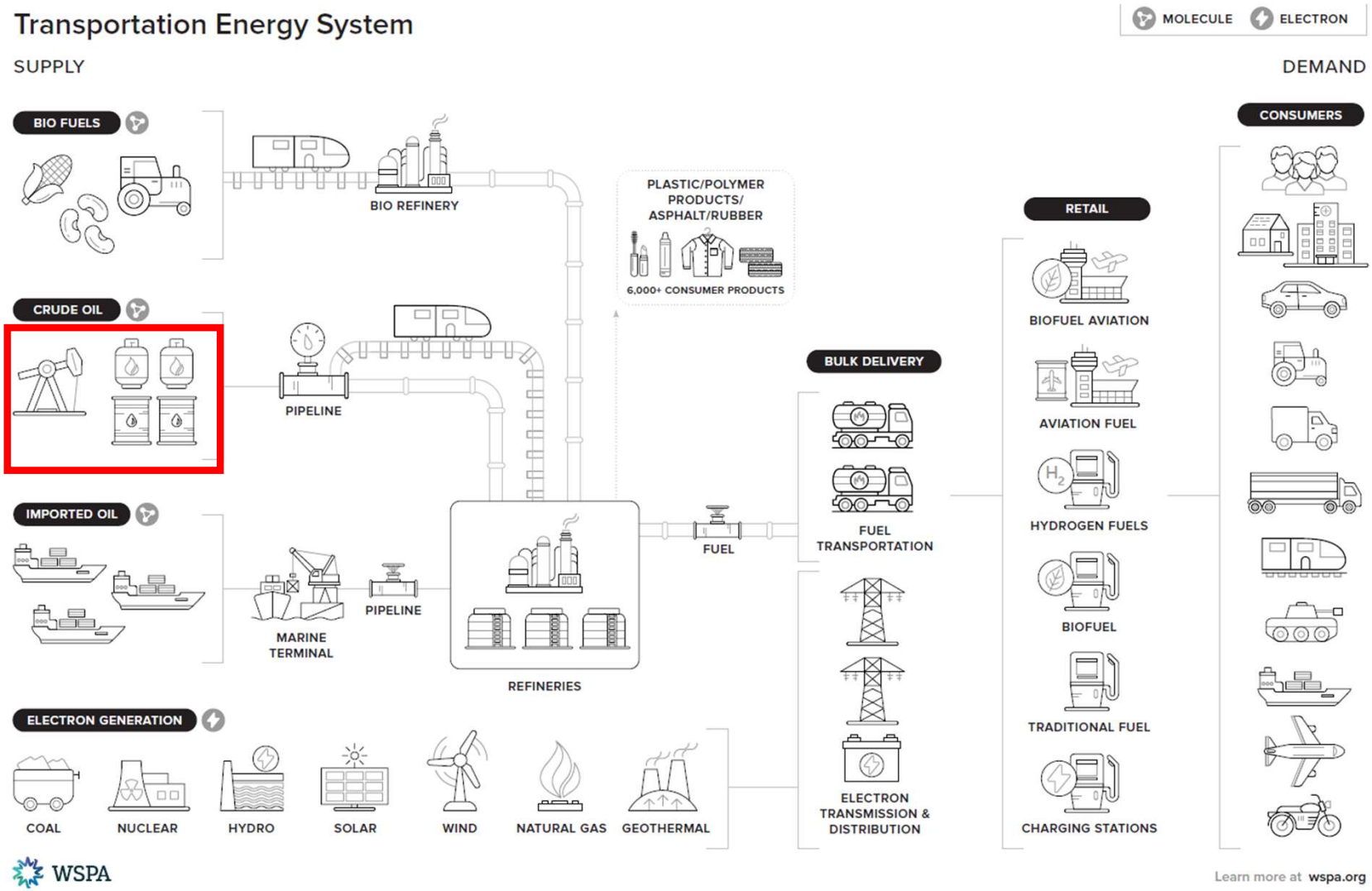
RAPID PENETRATION OF BIOMASS-BASED DIESEL CAN PUT SIGNIFICANT PRESSURE ON REFINERY PRODUCT YIELDS



- In 2023 BBD was 63% of California's diesel supply.
- CARB's Scoping Plan from 2022 already understates BBD penetration into California's diesel supply
- Focus is shifting towards RD (renewable diesel) given its cash margin advantage over biodiesel.
- Imports from out of state could fill the gap of credits needed to comply with increased LCFS compliance targets until all petroleum diesel is displaced.
- TM&C's view is that BBD could completely displace petroleum-based diesel as early as 2026.

Source: CEC, CARB, TM&C analysis
Note: LCFS is Low Carbon Fuel Standard

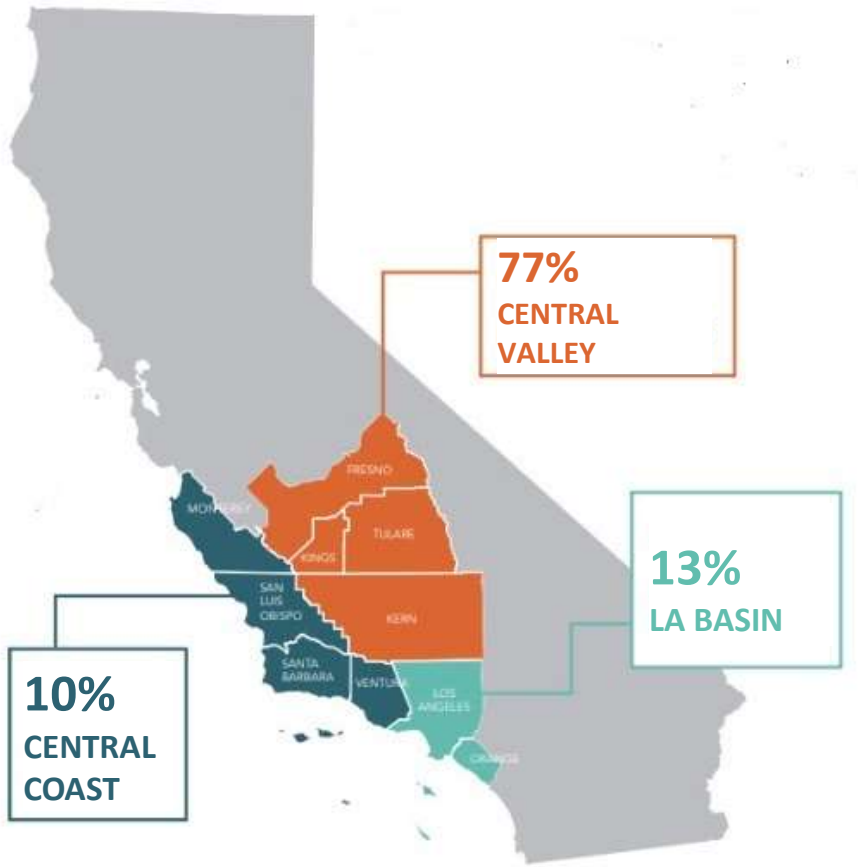
TRANSPORTATION ENERGY SYSTEM: CRUDE OIL PRODUCTION



Upstream Summary

- California crude oil production has fallen over 50% since 2000
- Decline rates have accelerated over time; especially post-COVID
- Wellhead production is at risk of being shut-in, while still economic, because pipelines cannot operate below minimum throughput levels
- Alaska production could see some recovery with new projects, but eventually decline would return; California refineries would continue to compete with Washington refineries, which offer better economics to Alaska producers

California crude oil production is divided into three regions and dominated by the Central Valley

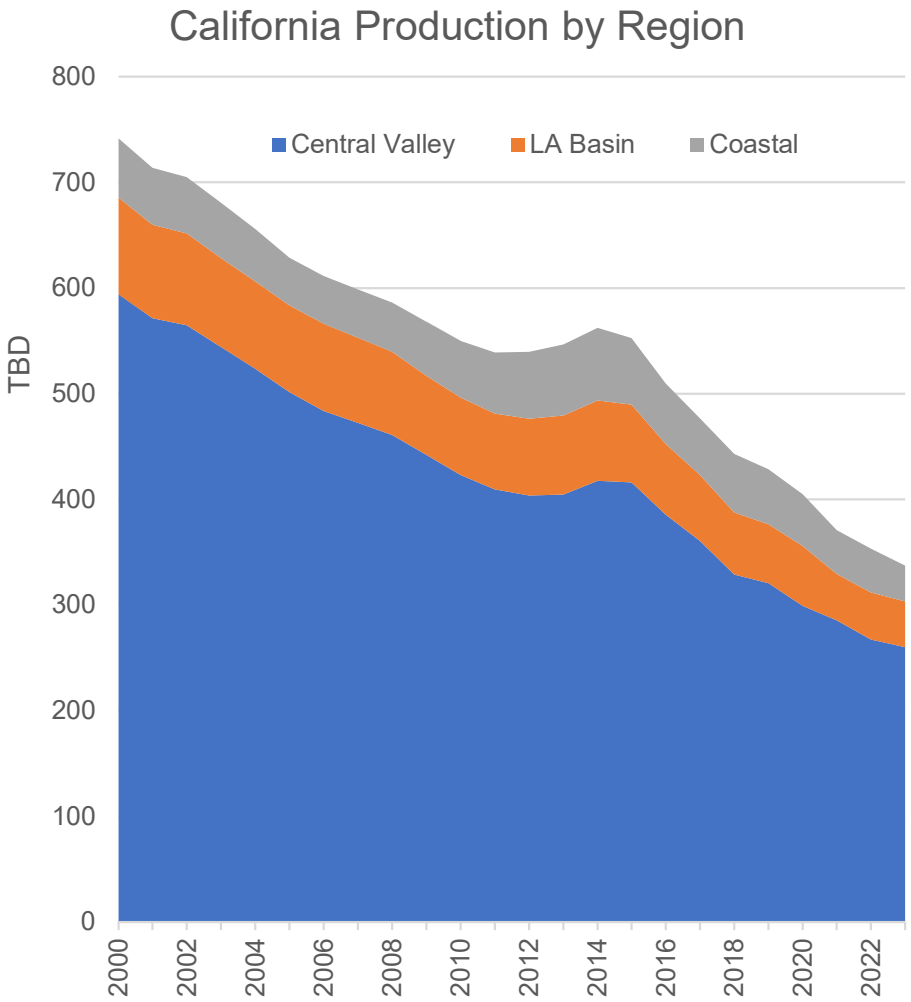


Location	2023 Production (TBD)	2019-23 Decline (% p.a.)
Central Coast	34	-9.9
Central Valley	260	-5.1
LA Basin	43	-6.1
California Total	338	-5.8

- Majority of production in Central Valley.
- Central Valley and LA Basin production face significant regulatory (setback) hurdles in addition to declining production.

Source: CalGEM

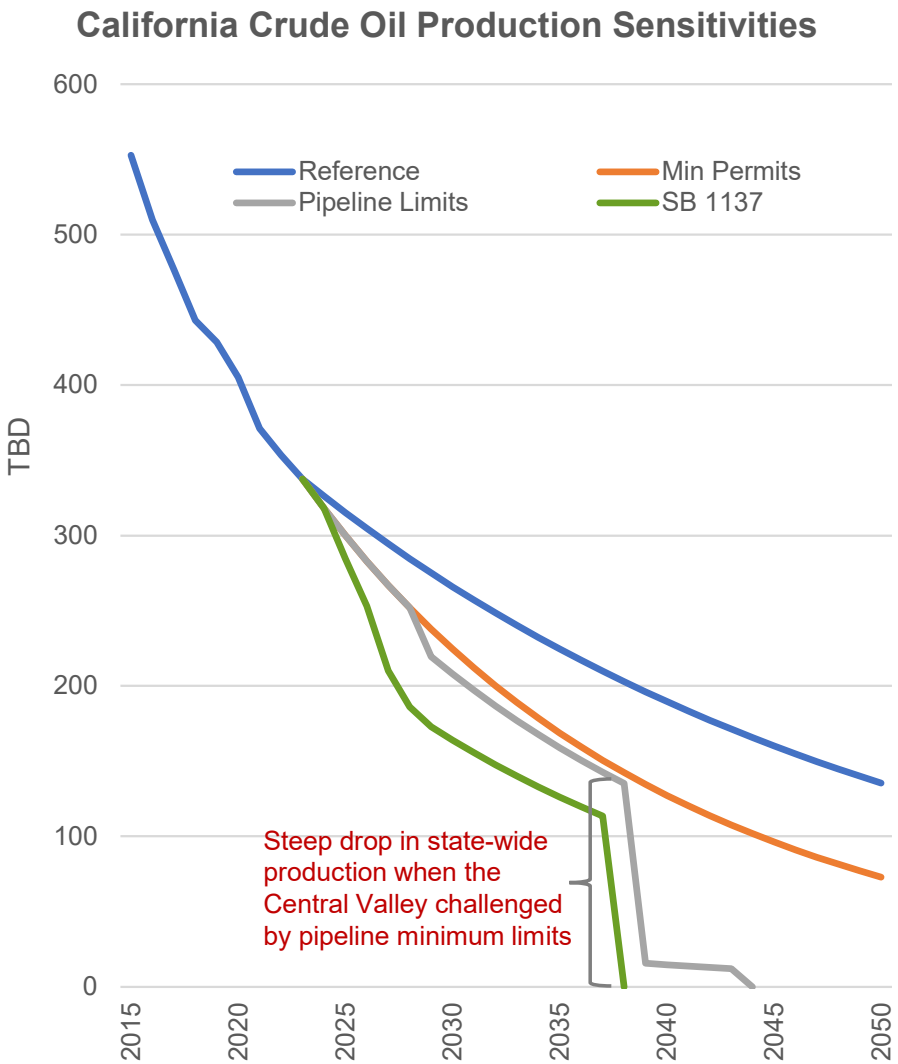
California crude oil production has fallen over 50% since 2000



- Decline rates have accelerated over time; especially post-COVID
- Most of the decline (both by volume and percent) was in the Central Valley (San Joaquin Valley)
- Coastal district production is challenged increasingly by pipeline access

Source: CalGEM

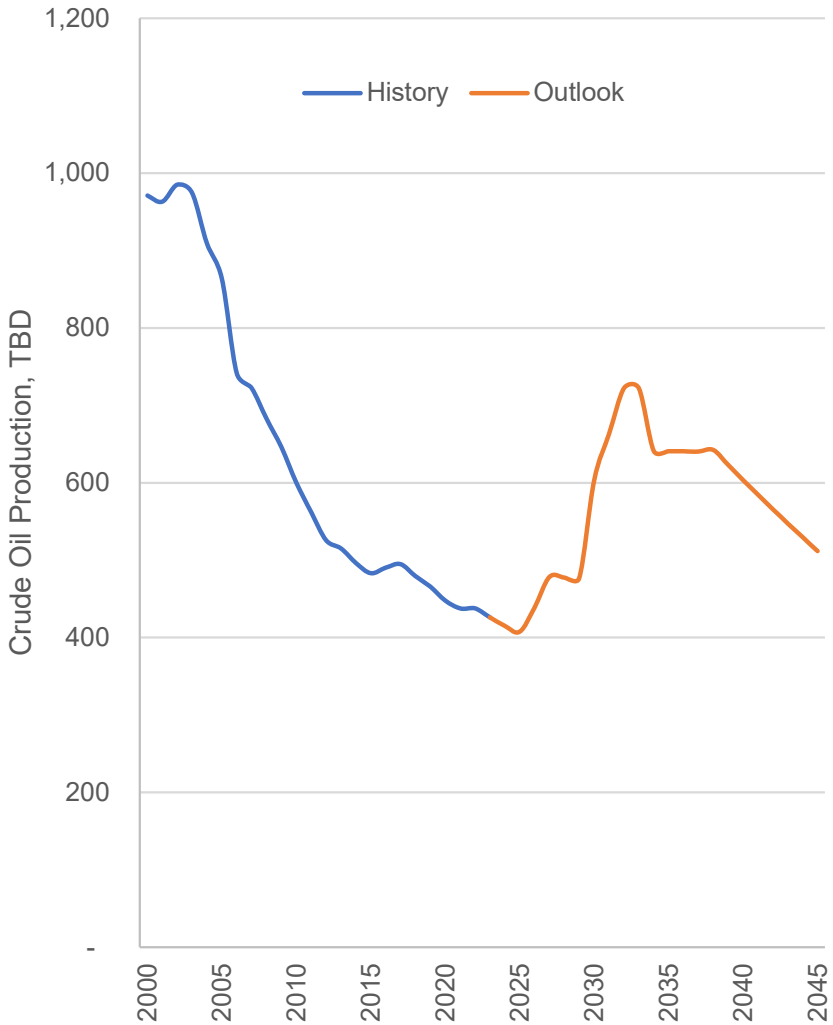
Several factors could impact future California Production



- **Reference**: Production declines at the 2000-23 rate (3.4% p.a.), which assumes there is a recovery in upstream activity, i.e., early-2024 decline rates have accelerated to -15% on an annualized basis
- **Minimum permits**: Production declines at the 2019-23 rate (5.8% p.a.) driven by a slowing pace of drilling permit approvals
- **Pipeline limits**: Step changes in production caused by shutdowns of pipelines due to minimum throughputs
- **Setback limit (SB 1137)**: Implementation would accelerate decline, particularly in the LA Basin, which could see the entire basin shut-in by the early-2030s

Source: CalGEM, Catalyst Environmental, EIA, TM&C analysis

Alaska Production recovers with Piko and Willow projects, but eventually returns to decline



- Production peaked at 2,017 TBD in 1988 and has since been in decline (-4.3% p.a.)
- Santos expects to start its Pika project (80 TBD) in 2026
- ConocoPhillips intends to start-up its Willow project in 2029, eventually adding 180 TBD of new production
- These projects extend the useful life of the TAPS (Trans-Alaska Pipeline System)
- California competes with Washington area refineries for Alaska crude oil via marine vessels
- California's future consumption of Alaska crude oil is assumed to decline due to Washington refineries maintaining their consumption and offering better economics to Alaskan crude producers

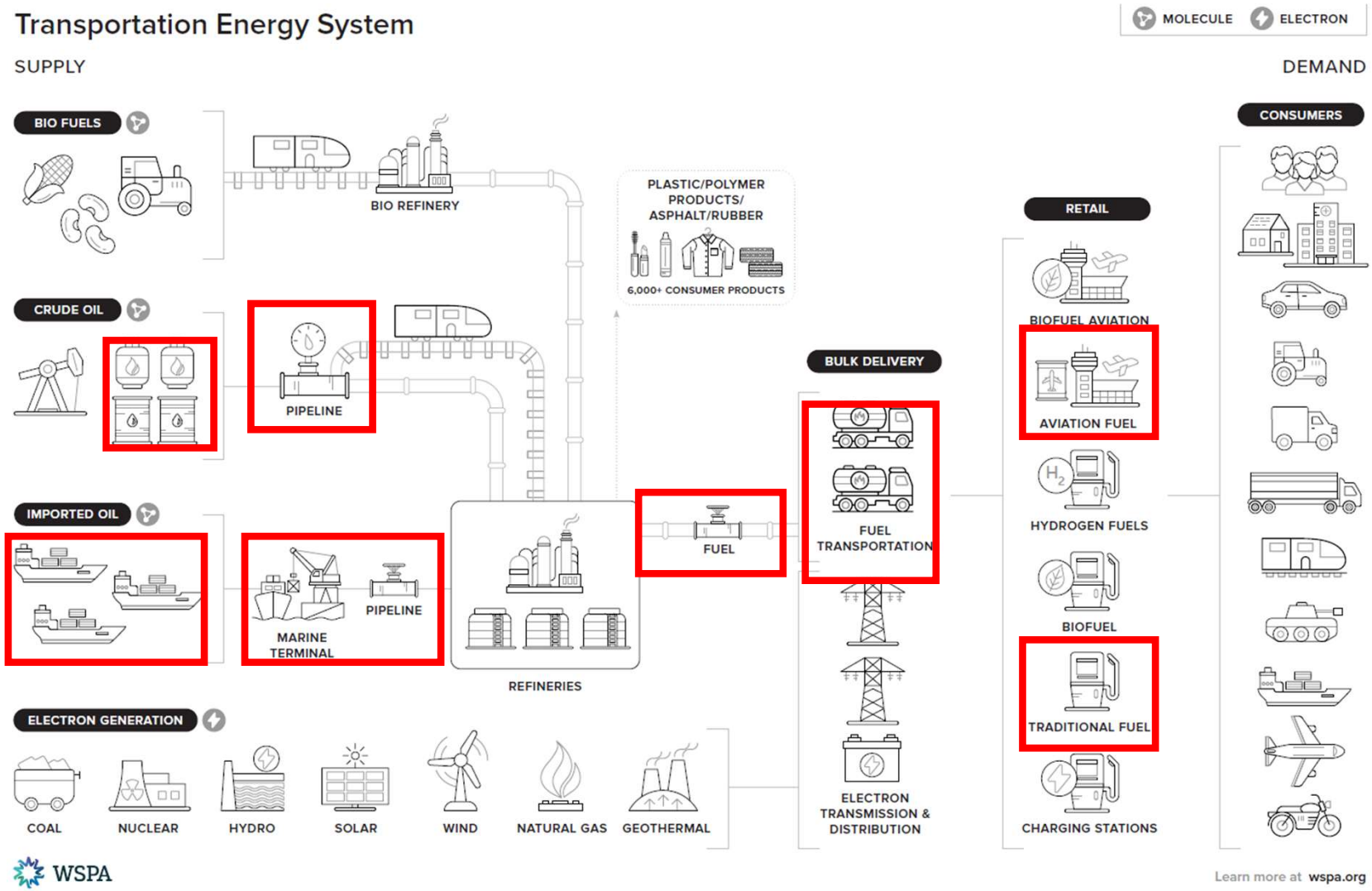
Source EIA, TM&C *Crude and Refining Product Outlook*

IMPACTS OF TMX PIPELINE

- The Trans Mountain Expansion (TMX) pipeline (590 TBD) runs from Edmonton, Alberta to the port in Burnaby, just east of Vancouver, British Columbia. The new pipeline runs parallel to the existing Trans Mountain pipeline (300 TBD).
- TMX is started-up in May 2024 and eventually has the potential for up to 590 TBD of waterborne exports of Canadian crude oil
  - Increases WCS (Western Canadian Select) to global crude markets, particularly US West Coast and Asia
  - Could help replace heavy California grades that are in decline
  - Would reduce need for other foreign imports into California, though WCS would still enter California via marine ports
- Full ramp-up of TMX is a multi-step process and may take 2-3 years
- Some TMX specifications (e.g., vapor pressure, TAN) are so wide some California refiners are concerned they might not be able to buy crude oil shipped on the pipeline.

Source: https://www.transmountain.com/, Argus Media
Note: TAN is Total Acid Number
WCS is Western Canadian Select

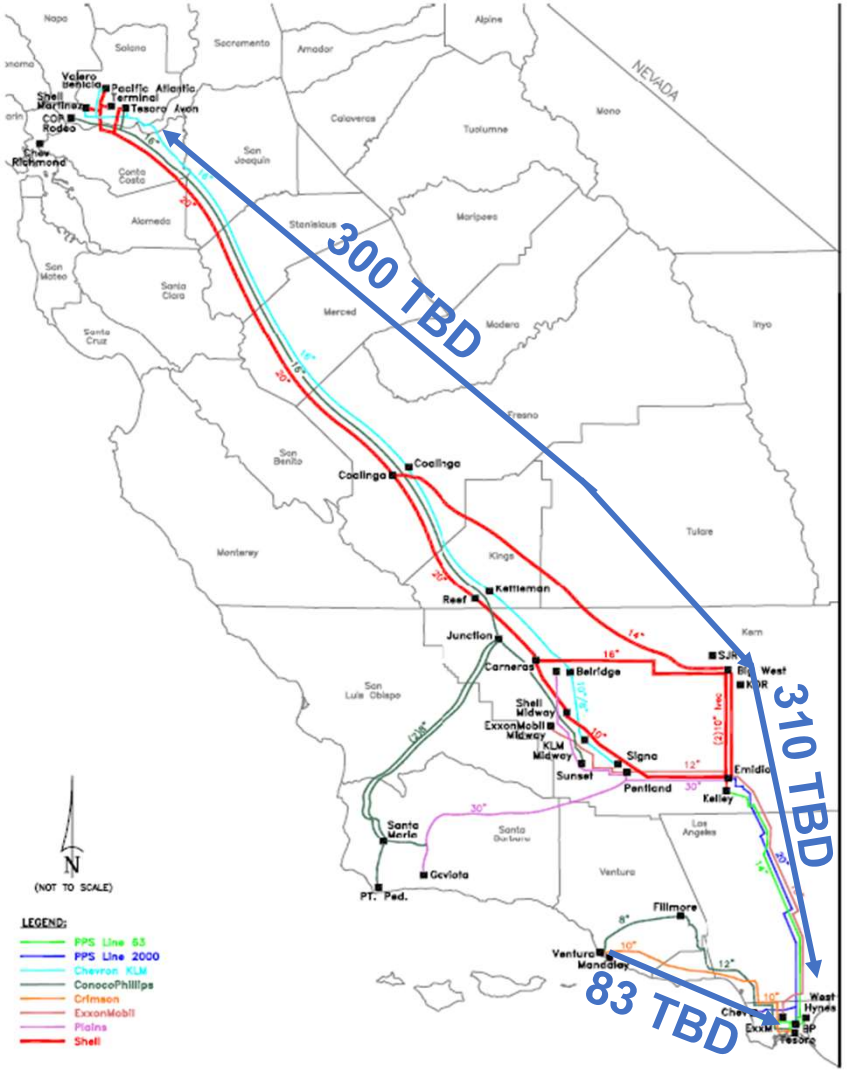
TRANSPORTATION ENERGY SYSTEM: LOGISTICS



LOGISTICS SUMMARY

- CARB's "At-Berth" regulation could critically impair marine logistics in the liquid transportation supply chain
- Multiple pipelines connect crude oil producing areas to refining centers, with throughput appearing to be reaching critical minimum volume for several pipelines
- With the closure of refineries in northern California, the Bay Area appears to be more at risk of pipeline closures
- Crude imports have not increased to fully offset California crude production declines, resulting in refinery capacity slowly declining
- The North is a net exporter of petroleum products, while the South is a net importer
- As refineries shut down, crude oil discharges decrease, but product movements increase to keep demand supplied
- Product cargos tend to be much smaller than crude oil cargos, so as product cargos rise, vessel traffic would greatly increase.
- Very little crude oil is brought in by rail because of high transportation costs. We do not expect rail to play a major role in California's future crude oil supply.

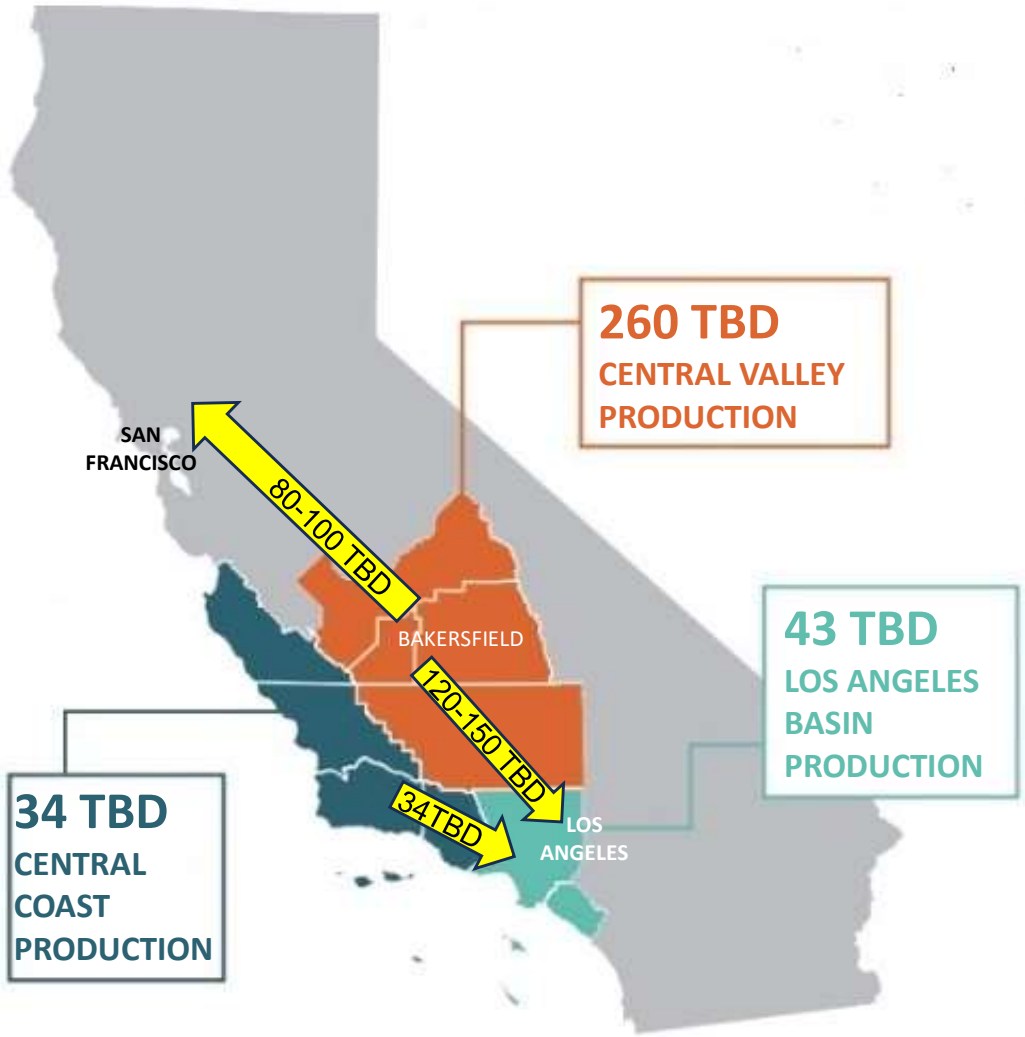
MULTIPLE PIPELINES CONNECT CRUDE OIL PRODUCING AREAS TO REFINING CENTERS



Regional Movement	Pipeline Name	Current Capacity (TBD)	Estimated Minimum Throughput (TBD)
Central Valley to San Francisco	KLM Pipeline	90	30
	San Pablo Bay Pipeline	210	60
Central Valley to Los Angeles	Line 63	60	20
	Line 2000	110	30
	M-70 Pipeline	110	30
	Chevron	30	10
Central Coast to Los Angeles	Texaco	28	10
	Southern California Pipeline System	55	20

Source: California Coastal Commission, CPUC (California Public Utilities Commission), BOEM (Bureau of Ocean Energy Management), *Oil & Gas Journal*, company websites

THROUGHPUT APPEARS TO BE REACHING CRITICAL MINIMUM VOLUME FOR SEVERAL CRUDE OIL PIPELINES



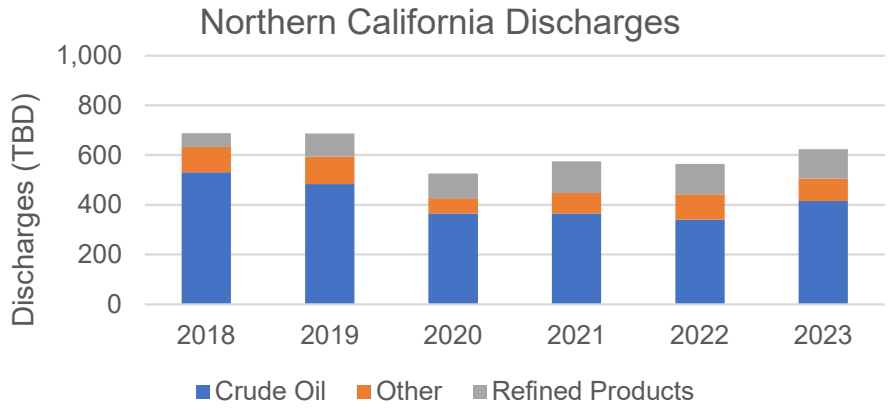
Regional Movement	Pipeline Name	Current Capacity (TBD)	Estimated Minimum Throughput (TBD)	Current Throughput (TBD)
Central Valley to San Francisco	KLM Pipeline	90	30-35	80-100
	San Pablo Bay Pipeline	210	60-65	
Central Valley to Los Angeles	Line 63	60	20-25	120-150
	Line 2000	110	30-35	
	M-70 Pipeline	110	30-35	
	Chevron	30	10-15	
Central Coast to Los Angeles	Texaco	28	10-15	34
	Southern California Pipeline System	55	20-25	

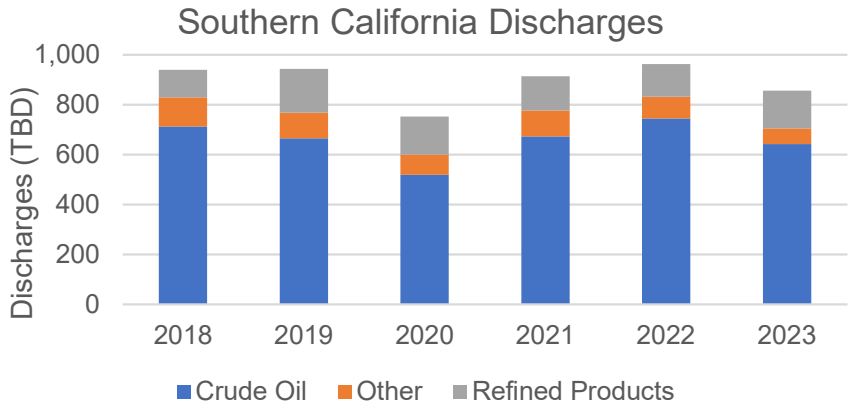
Source: CalGEM, CEC, California State Lands Commission, TM&C analysis

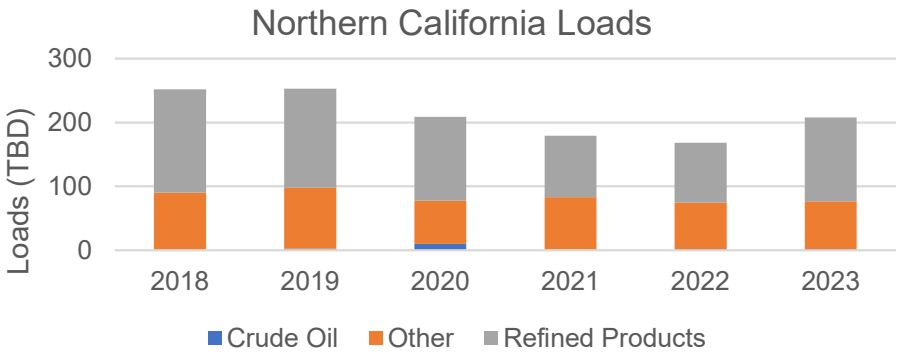
CRUDE LOGISTICS - PIPELINE

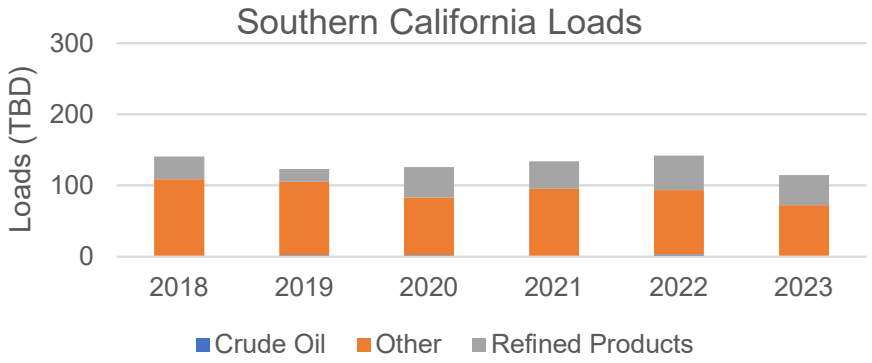
- We estimate pipelines need to operate at ~30% capacity to maintain continuous flow
- This minimum flow constraint can be mitigated with tankage as volume can be built up and shipped in batches
- We assume once a pipeline is shut down it does not return to service, due to the significant hurdle of securing necessary permits and re-start costs
- With closure of refineries in northern California, the two remaining pipelines are more at risk of shutting down if flow reductions continue than the South
- Closure of pipelines and denial of permits to restart them or to allow trucking of crude oil makes it difficult to get central coast crude oil production to market. This could accelerate further production declines.

MARINE LOGISTICS SUMMARY







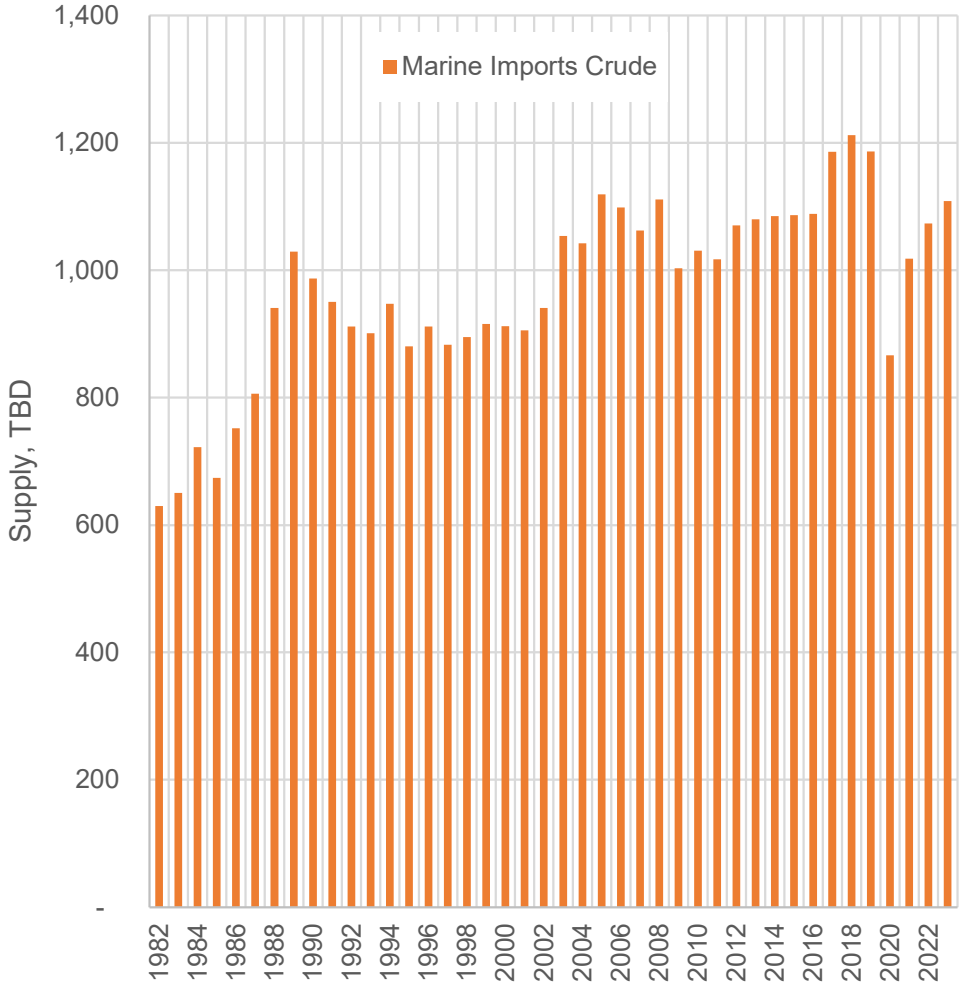


- Discharges and Loads refer to volumes being received from or loaded onto a vessel. These should not be confused with imports and exports as much of the volume originates from or is destined for another location within California.
- Northern crude oil discharges are down from pre-pandemic levels. These volumes are expected to drop even further with recent refinery shutdowns.

Source: California State Lands Commission, TM&C analysis

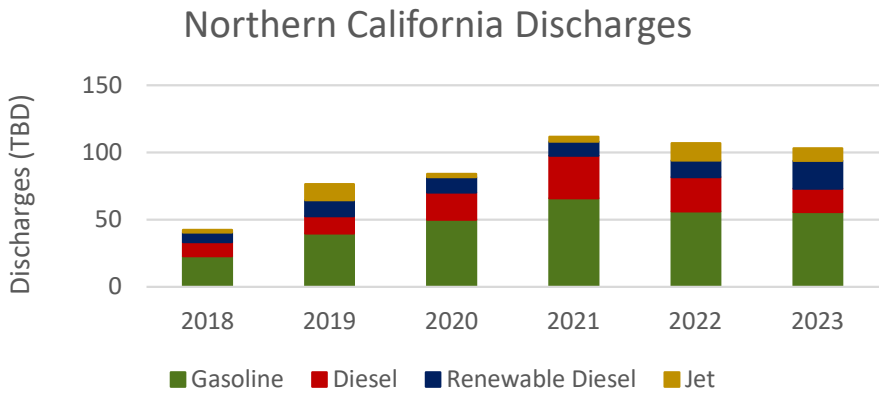
Potential Crude Oil Marine Limits

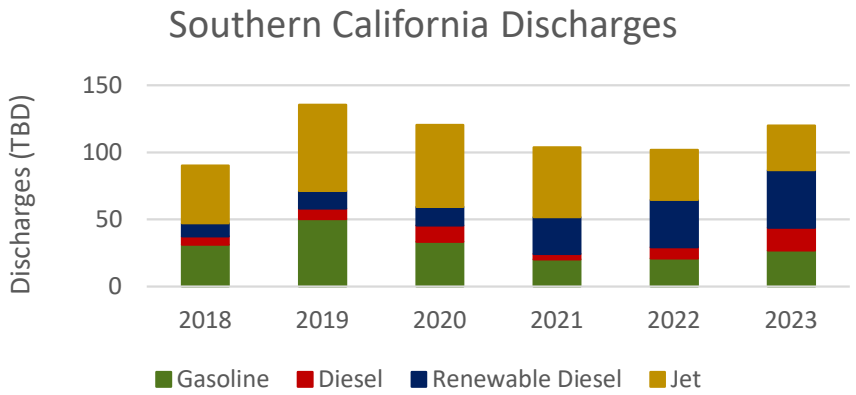
- Crude marine import limit is set at 1,150 TBD based on historical volumes
  - Apart from COVID-19, marine crude imports have exceeded 1,000 TBD since 2003
  - However, only once has marine crude imports exceeded 1,200 TBD (2018)
- Region specific marine import history
  - SF Bay ~ 430 TBD (160 million barrels/yr.)
  - P66 Rodeo and Marathon Martinez already converted to renewable fuels operations; we assume their marine crude oil import capacity is not available to industry
  - LA Basin ~ 715 TBD (260 million barrels/yr.)
  - Marine logistics availability assumptions
    - Marine import capacity dedicated to a refinery shuts when the refinery closes
    - Marine import capacity separate from refinery would remain available to the industry as refineries close
- Crude imports have not increased to fully offset California crude production declines, resulting in refinery capacity slowly declining

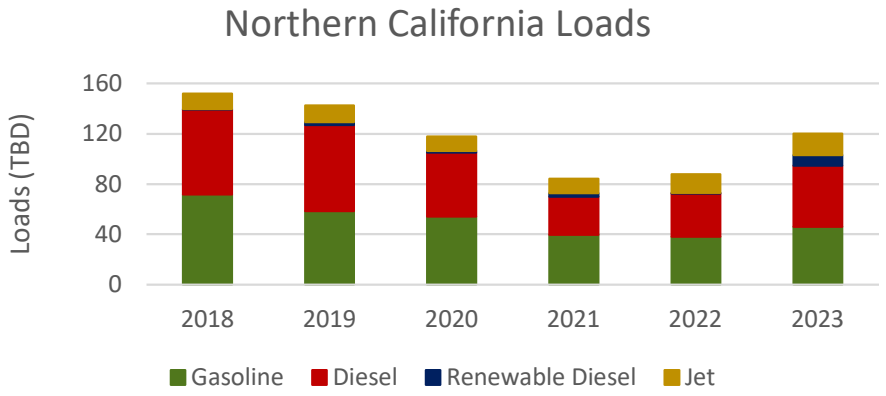


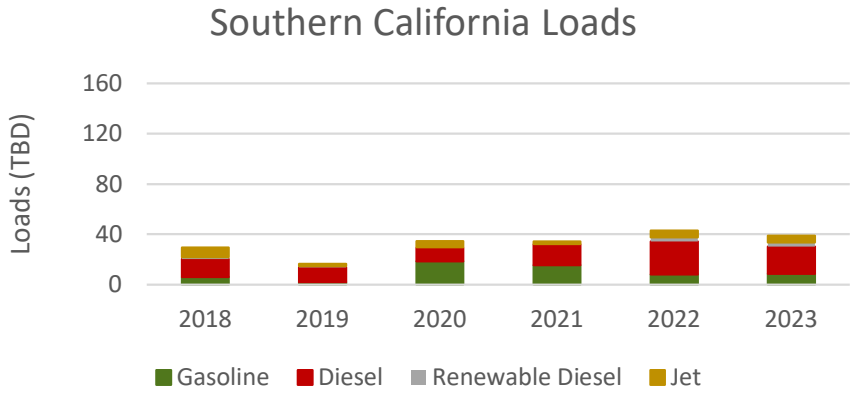
Source: EIA, TM&C Analysis

PRODUCT LOGISTICS - MARINE





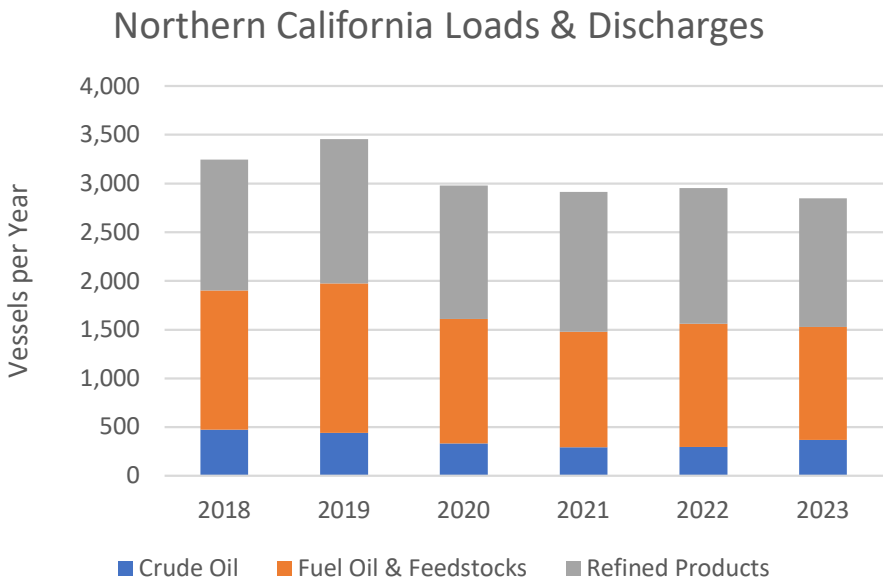


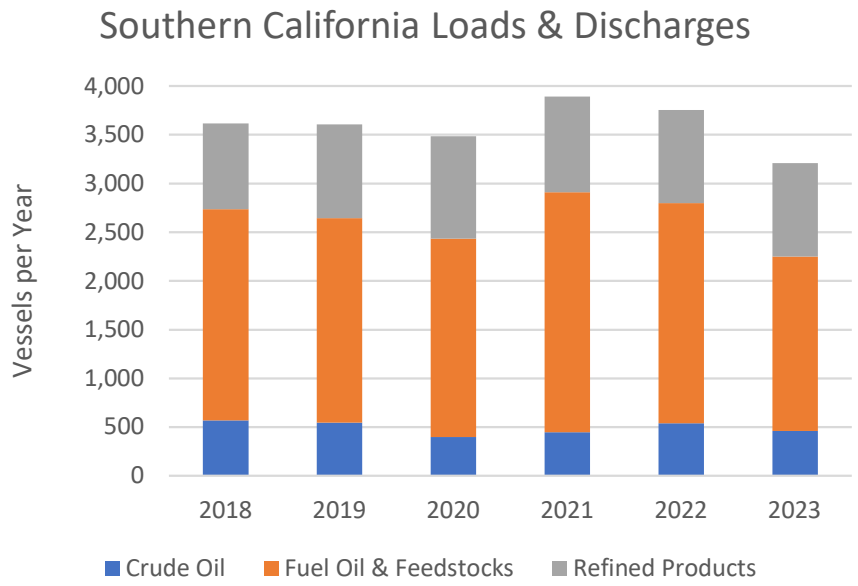


- Discharges and Loads refer to volumes being received from or loaded onto a vessel. These should not be confused with imports and exports as much of the volume originates from or is destined for another location within California.
- **Northern California is a net exporter, while the South is a net Importer of refined products and blend stocks.**

Source: California State Lands Commission, TM&C analysis

MARINE LOGISTICS - VESSELS

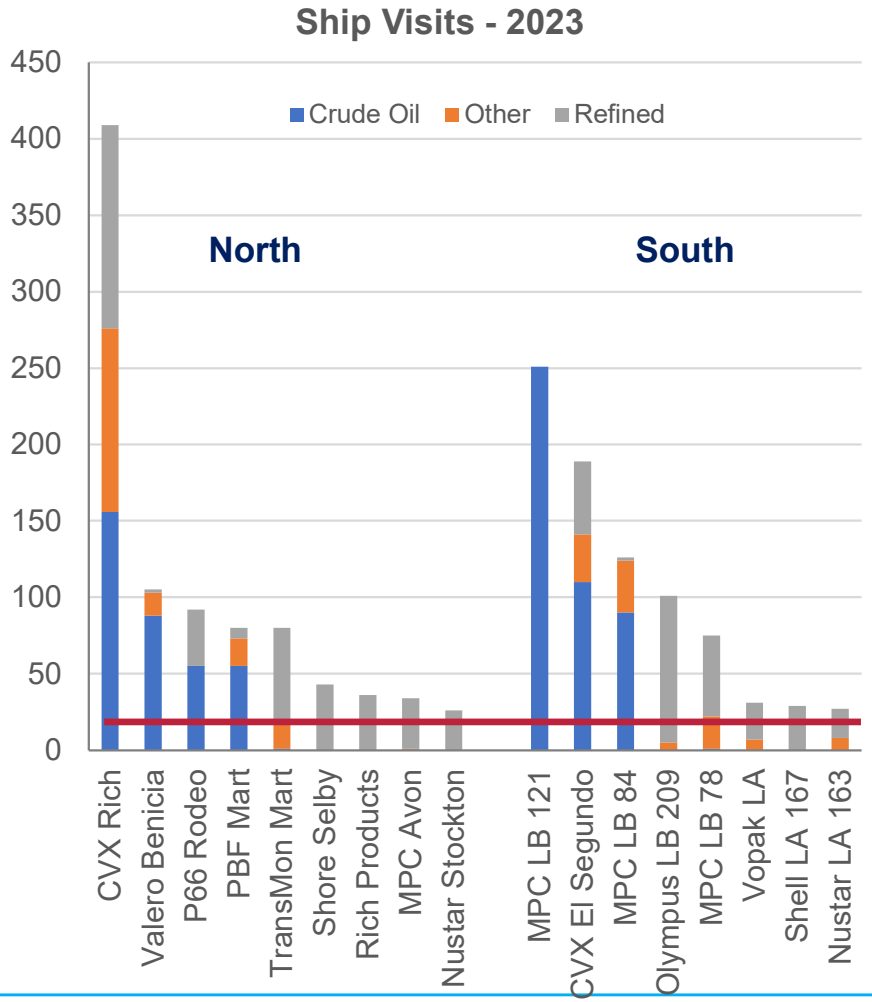




- Discharges and Loads refer to volumes being received from or loaded onto a ship or barge. These should not be confused with imports and exports as much of the volume originates from or is destined for another location within California.
- The total number of ships, both loads and discharges, that are visiting Northern or Southern points is depicted on these graphs.
- Total number of ships in the North has been relatively constant since 2020
- However, in the South there was an increase in ship calls in 2021, which has tapered off

Source: California State Lands Commission, TM&C analysis

CARB's "At-Berth" regulation could critically impair marine logistics in the liquid transportation supply chain



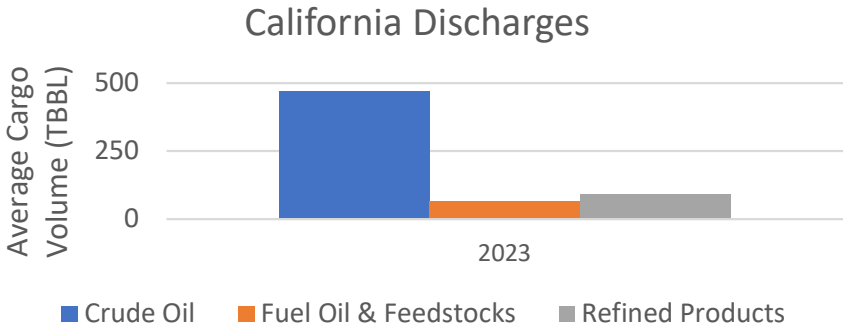
- The purpose of "At-Berth" regulations is reduce hoteling (or at-berth) emissions from idling engines onboard vessels docked at California ports.
- "At-Berth" compliance for tanker vessels begins January 1, 2025
- Because emission control technology is not available for industry tankers, to comply with regulations, companies will be limited to 20 vessels per berth per year.

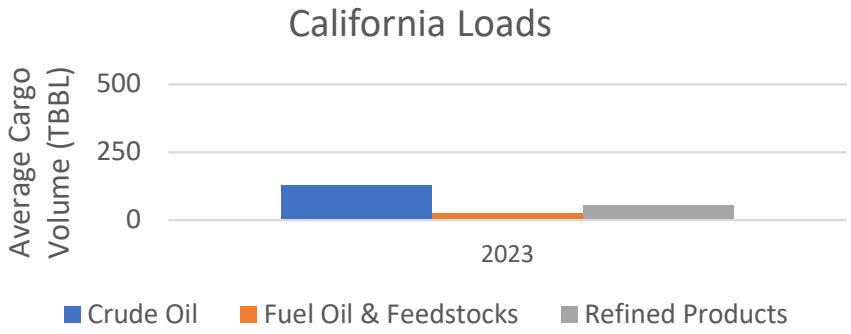
"At-Berth" limit with no technology solution

Source: California State Land Commission, TM&C analysis

PRODUCT LOGISTICS - MARINE

- The volume of products being loaded and discharged were highest in 2023.
- As refineries shut down, product discharges have increased, while loads have decreased
  - Jet is a significant portion of the discharges in the south as airlines are increasingly sourcing their fuel internationally.
  - Product cargos tend to be smaller than crude oil cargos. As product cargos rise, vessel traffic would greatly increase.
- These trends point to higher shipping traffic, especially among products, in the future.
- As renewable diesel grows its share of the California market, refiners increasingly rely on marine capacity to bring in renewable diesel finished fuel, renewable feedstock, and gasoline plus loading ships with fossil diesel to keep the market balanced.
- If refineries reach a marine logistic limit or saturate commercially attractive markets, they could be forced to cut refinery crude oil runs, which could reduce the supply of several products and especially gasoline production.





Source: California State Lands Commission, TM&C analysis

PRODUCT LOGISTICS – PIPELINE (ARIZONA, NEVADA)



Destination	Pipeline Name	Capacity (TBD)	Throughput (TBD)	Minimum Throughput (TBD)
Reno, NV	SFPP Northern Region	40	40	10-15
Las Vegas, NV	CalNev Pipeline	128	60	35-40
Phoenix, AZ	SFPP Southern Region	100	100	25-30

- California's refining centers deliver transportation fuels to the Arizona and Nevada markets via pipelines.
- The northern pipeline system is not connected to the southern system. Any fuel moved between the North and South refining centers must move via ocean going vessel.
- California refineries are major transportation fuels suppliers to markets in Arizona (88%) and Nevada (45%), so disruptions in fuels production in California would impact all three states.

Source: CEC, Kinder Morgan website, https://www.naseo.org/Data/Sites/1/schremp-1.pdf

CRUDE LOGISTICS - RAIL

- Refineries have the capability to bring in small volumes of crude by rail if needed.
- Very little crude oil is brought in by rail. With high transportation costs, crude by rail is not very competitive in California.
  - A decade ago, crude by rail was a growing industry in California, with several facilities expanding their capabilities to offload crude oil from railcars.
  - The crude by rail was driven by discounted crude oil in Canada and North Dakota.
  - Within a few years, many of the incentives that had driven acquiring crude oil from this source had dissipated.
    - Pipeline infrastructure in the Bakken (North Dakota) was built up to take crude oil to market, reducing the financial incentive to deliver crude oil by rail.
    - Reduced fuel demand cause by the pandemic, and the shutdown of refineries in California, reduced the demand for crude oil.
    - By 2021, only 1.7 million barrels of crude oil (5 TBD) entered California by rail (less than 0.5% of all crude oil imports), all of which went to Bakersfield.
    - The completion of the Trans Mountain Pipeline expansion (bringing crude from Alberta, Canada to the Pacific Coast) further reduces the incentive to bring Canadian crude oil to California by rail.
- Crude by rail is not expected to play a major role in California's future crude oil supply.
- Product by rail is also unlikely as it takes 3 to 5 unit trains (100 cars) to equal one typical tanker

Source: CEC, EIA

PRODUCT LOGISTICS – RAIL



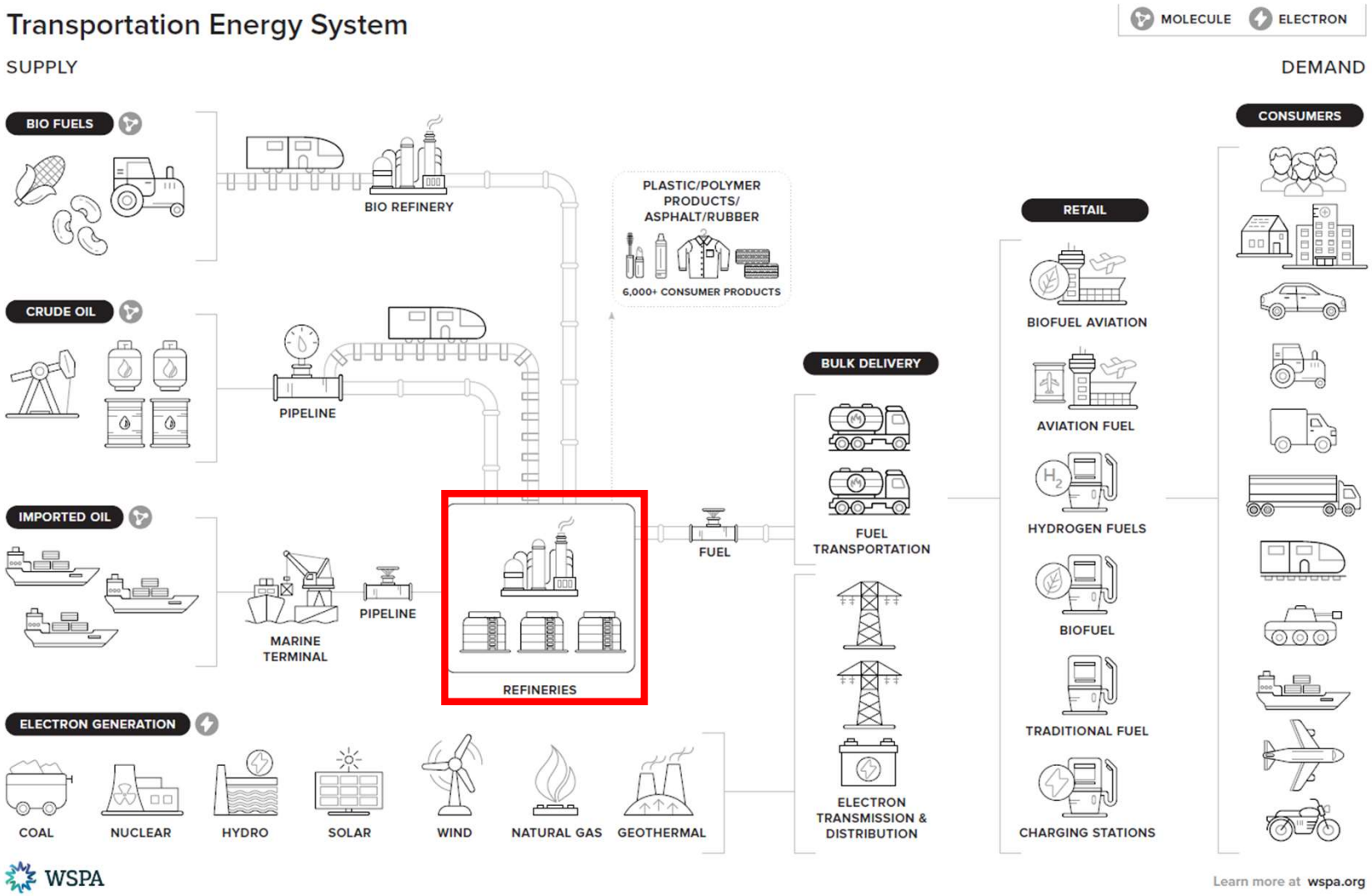
- Largely renewable fuels, like ethanol or biodiesel, or liquid petroleum gases like butane or propane
- Stockton (1) & Colton (2) are main ethanol hubs
- These facilities are unlikely to be an option for any significant quantity of imported gasoline or diesel as renewable fuels continue to be imported

Source: EIA

Potential Product Limits

- As transportation fuel demand in California declines, product pipelines may face the same type of turndown concerns as the crude pipelines. This could lead to difficult business decisions on how to operate pipelines at reduced rates to meet demands of the California consumer.
- Product pipeline exports to AZ and NV may be potentially impacted.
  - From SF Bay – 40 TBD to Reno
  - From LA Basin – 160 TBD to Las Vegas/Phoenix
- Demand decline may lead to increased need of importing or exporting transportation fuel, increasing vessel calls in the north and the south.
- Additional constraints on product pipeline operations or vessel movements may contribute to further price volatility.

TRANSPORTATION ENERGY SYSTEM: REFINING

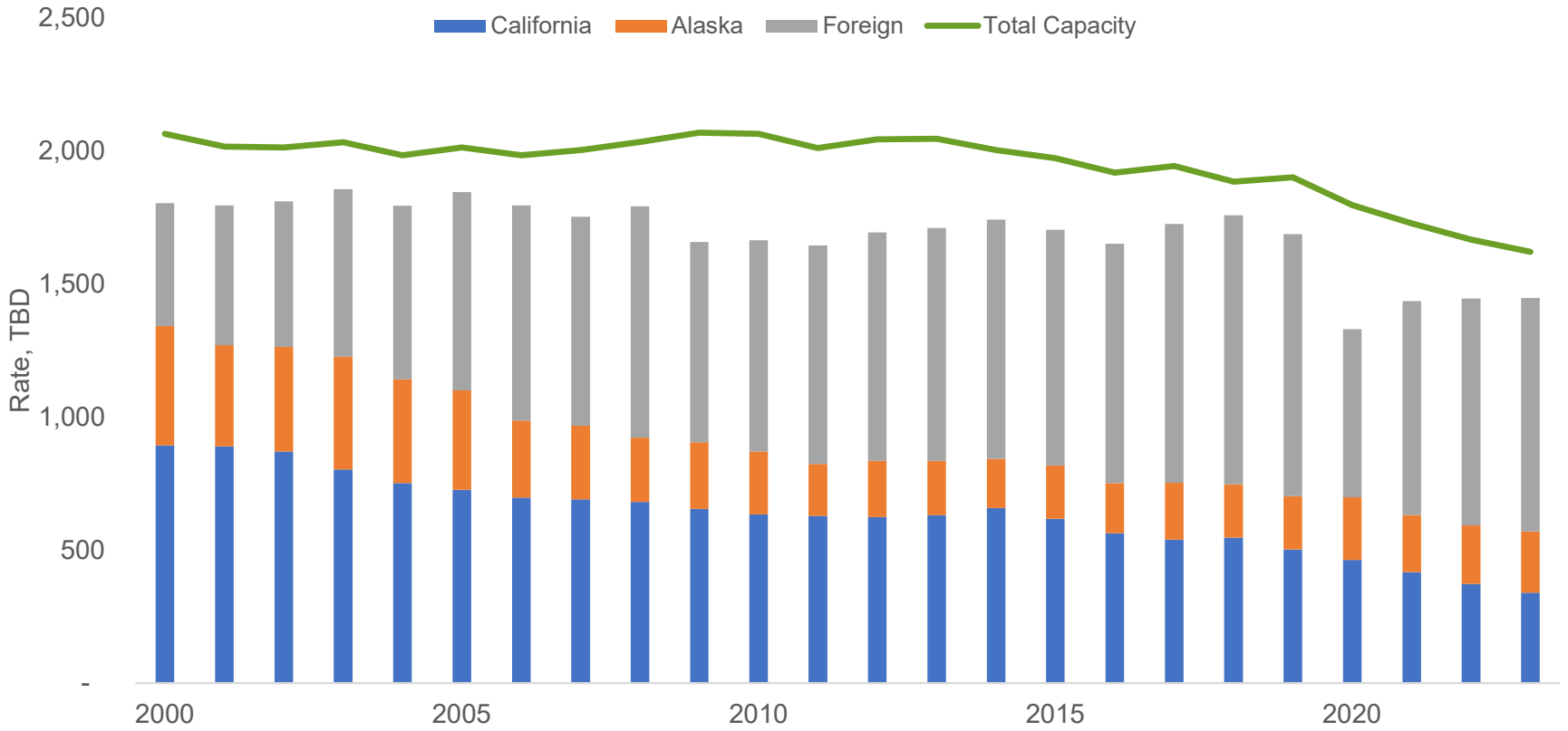


Refining Summary

- As California crude production declines, refineries have become more dependent on marine imports of crude oil to maintain refinery throughput
- Future declines in California crude production coupled with import logistic constraints could limit the ability of refineries to maintain operating rates
- Conversion of crude oil fuels refineries to renewables results in a net loss of total fuels production. These conversions are not a 1:1 change in transportation fuels.
- The amount of each fuel a refiner produces is a function of the installed hardware at a refinery, the crude slate chosen to maximize overall profit, and the operating conditions within the refinery.
- There are a limited number of refineries in California that supply transportation fuels to the state. As demand declines, refiners may face difficult business decisions to export their production, curtail their operations, or shut down.

CALIFORNIA REFINERIES HAVE A HISTORY OF DECLINING CAPACITY AND CRUDE OIL RUNS

- Foreign crude oil imports have grown to meet refinery supply needs as California and Alaska crude production declines
- Overall crude oil runs declined with recent refinery closures or site conversions to renewable fuels



Source: CEC, EIA, TM&C

After the most recent closures there are nine fuels refineries remaining in California

Asphalt vs Fuels Refiners (May 2024)

Area	Asphalt	Fuels
Number of Facilities (#)	4	9
Crude Distillation (TBD)	44	1,664

Regional Distribution of Refiners (May 2024)

Area	LA Basin	Central	SF Bay
Number of Facilities (#)	7	3	3
Crude Distillation (TBD)	1,089	54	564
Fuels Production Capability* (TBD)	845	8	419

* Actual fuels production may exceed fuels production capability due to imports of blend components and finished products

- California has a limited number of refineries supplying transportation fuels to the state.
- As demand declines, refiners may face difficult business decisions, such as exporting production to other markets, curtailing operations, or shutting down facilities (which could be converted to alternative fuels facilities, terminals, or permanently closed).

Source: EIA, TM&C Analysis

CONVERSION TO RENEWABLES CAUSES NET LOSS OF TRANSPORTATION FUEL SUPPLY

Marathon Martinez
- Refinery capacity = 166 TBD crude (2,550 MMGY)
- Renewable diesel capacity = 730 MMGY

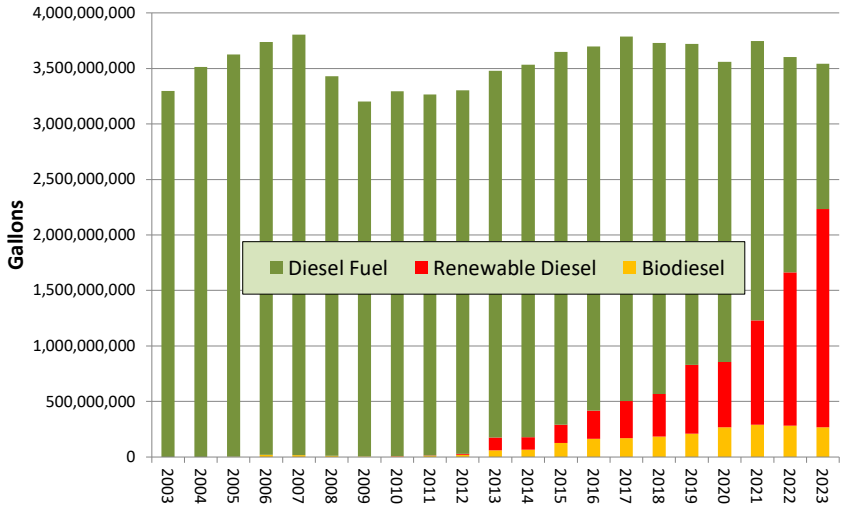
P66 Rodeo
- Refinery capacity = 120 TBD crude (1,840 MMGY)
- Renewable diesel capacity = 800 MMGY

Conversion to renewables results in a net loss of total fuels production – not 1:1 change
- Net increase in diesel production competing for space among other diesel supplies
- Decrease in gasoline production, which cannot be made up by yield shifts in other refineries
- Could require an increase in gasoline and jet imports to satisfy demand

LCFS compliance is displacing fossil ULSD
- ULSD supply is down 103 TBD since 2019 (-54%)
- Pressuring refiners with higher yields of fossil ULSD

	Net Production Change (TBD)	% Change North CA capability
Gasoline	-148	-55%
Jet	-31	-42%
Diesel	27	+25%
Total	**-152**	**-36%**

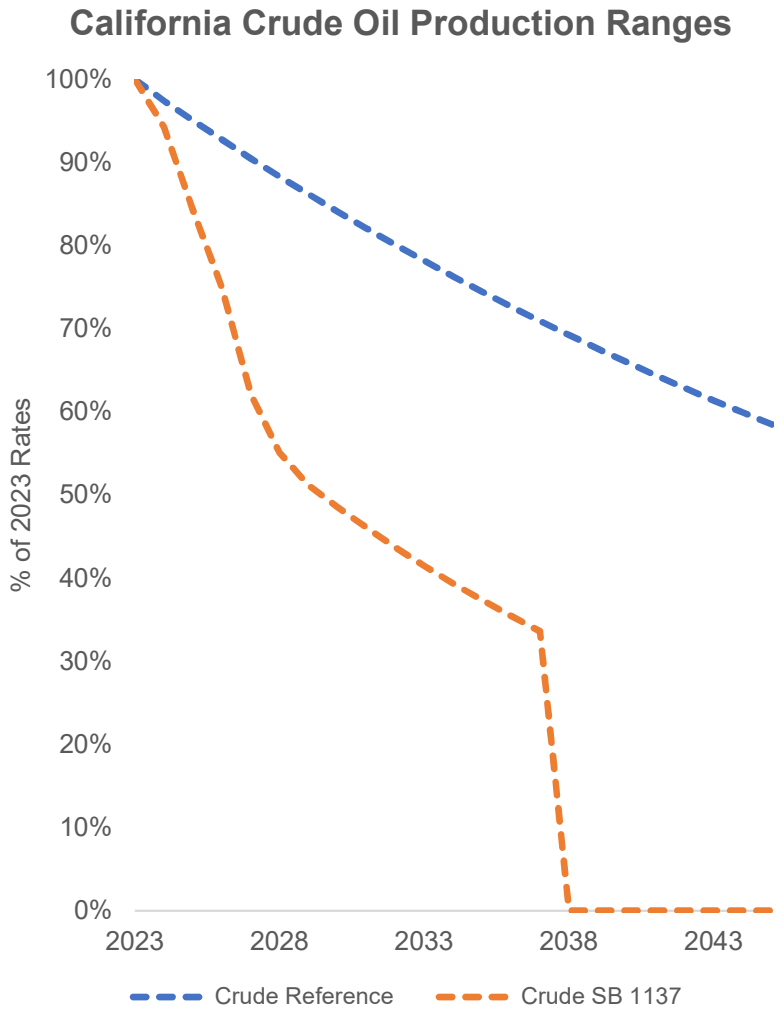
California Diesel, Biodiesel & Renewable Diesel Demand 2003 - 2023



Source: EIA, company websites, CEC, TM&C Analysis

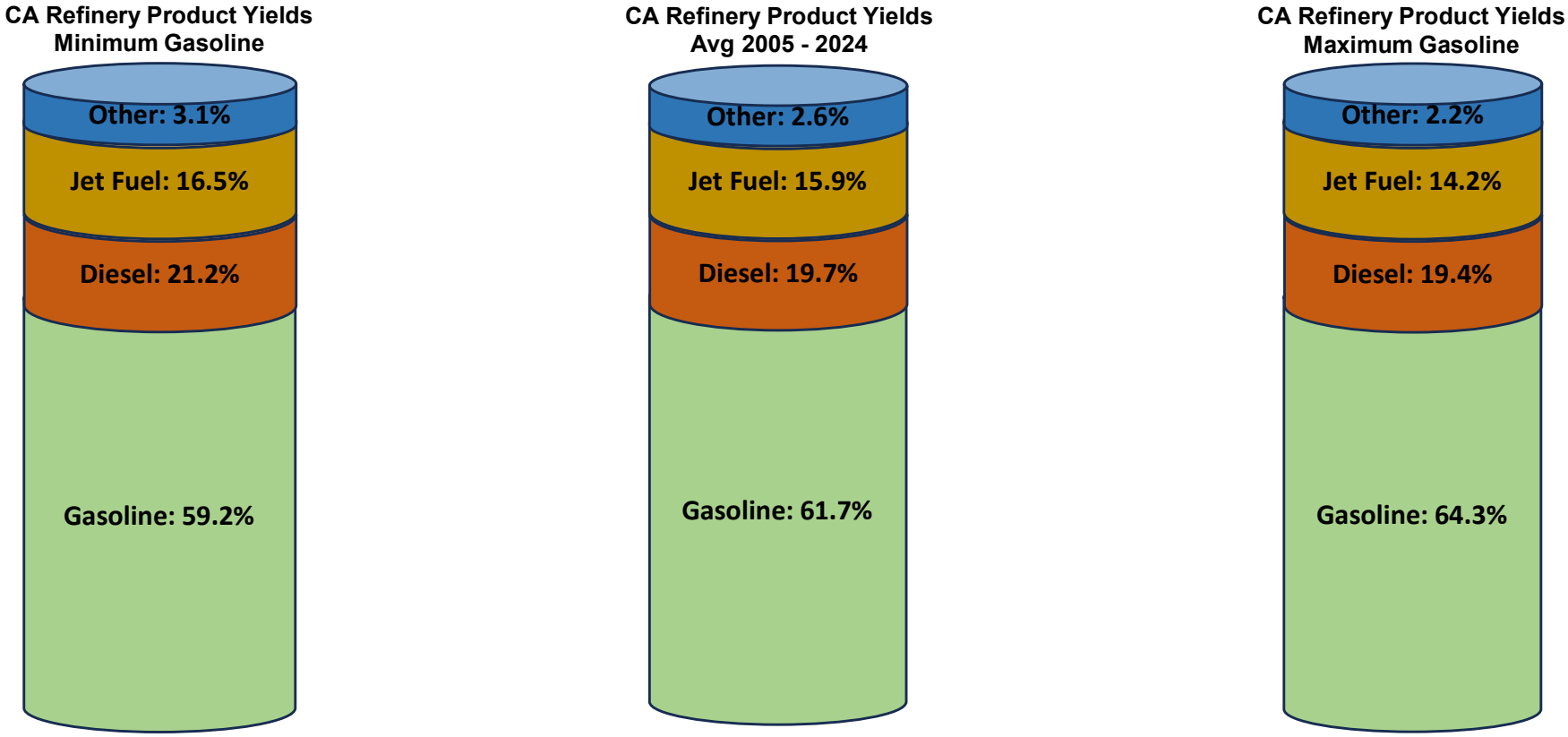
REFINERS ARE BEING FORCED TO ADAPT TO DECLINING CRUDE OIL AVAILABILITY

- Range of decline rates of California crude oil production is highly uncertain and varies across basins.
- The pace of approving permits and regulations, such as SB 1137, can also have material impacts on the production profile of California crude oil basins.
- Regulations, such as “At-Berth”, could impact the ability to import crude oil.
- California policies could impact not only where and how refineries source crude oil, but also the overall operating rate of a refinery.



Source: TM&C Analysis, CalGEM

THE CALIFORNIA REFINING SYSTEM CAN ONLY FLEX ITS GASOLINE YIELD 5%

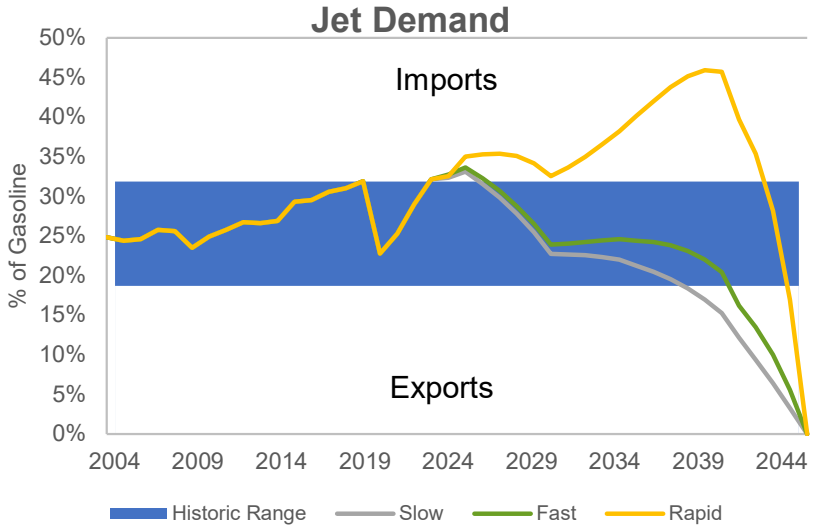


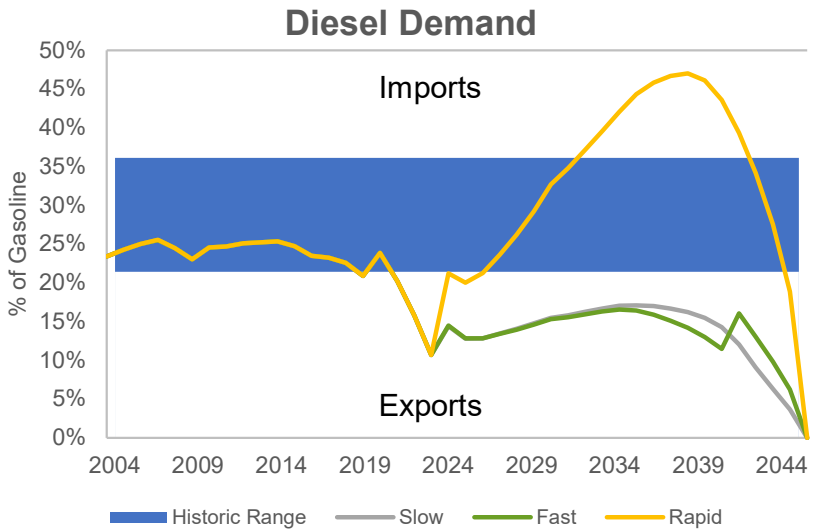
- Recent data shows refiners trying to minimize diesel in favor of jet (jet has increased from 12% in 2020 to 20% in 2024)
- Additional significant increase in jet yield eventually would require a major shift in the crude oils processed and probably capital projects

Source: CEC Weekly Production, CEC, TM&C Analysis

A CHANGE IN DEMAND FOR ONE PRODUCT HAS MULTI-PRODUCT IMPLICATIONS FOR A REFINER

- The amount of each product each refinery can make is a function of the installed hardware and the crude slate chosen to maximize overall profit within the constraints of the facility.
- As demand for jet or petroleum diesel shifts (relative to gasoline) – there is a limited ability to shift refining operations to produce more or less of a particular fuel.
- The petroleum diesel chart on the right shows some refineries are struggling to balance through yield adjustments. However, because the refinery does not know what the future holds (e.g., yellow vs. green lines), it is difficult to plan, permit, invest, and build necessary changes in the configuration.
- A refiner could have to export or import products to maintain balances while meeting demands.
- Uncertainty in future demand shifts limit the ability to make investment decisions, such as committing capital for the installation of new hardware to adapt to *potential* changes in product mix.



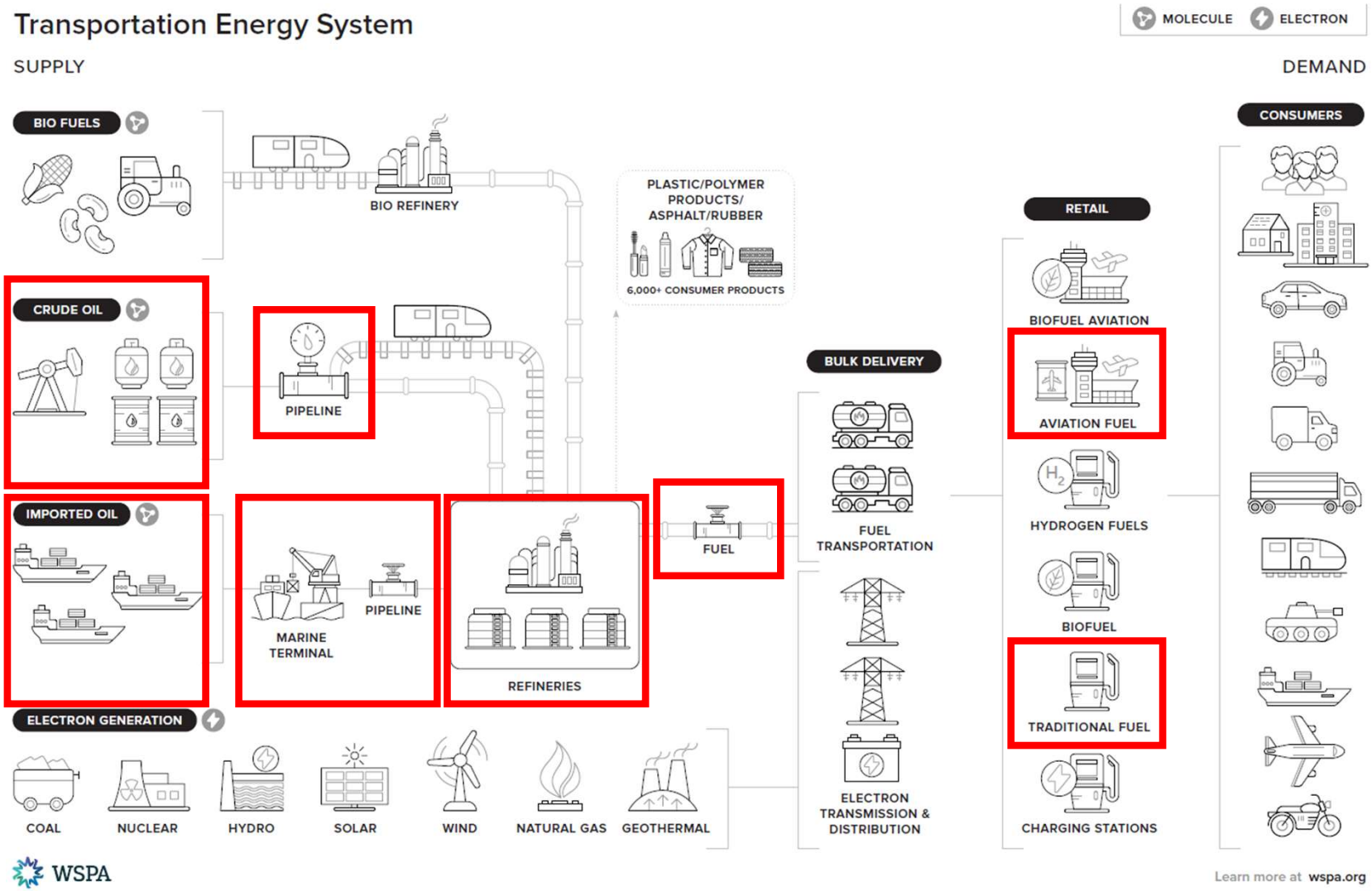


Source: CEC Weekly Production, CEC, CARB, TM&C Analysis

POTENTIAL LOGISTICS IMPACTS OF REFINERY SHUTDOWNS

- Terminal Conversion
  - Logistics still available to industry
  - Site owners would be able to defer site decommissioning and remediation costs as site would still be operating (as a terminal)
- Renewable Fuels Plant (Bio-Refinery) Conversion
  - Logistics fully (or partially) repurposed for renewable operations
    - Renewable plant logistics generally not available to fossil industry as they are used for renewable feedstock imports and product exports
    - Importing of renewable feedstock
  - Potential exporting of products after meeting California demand
  - Limited opportunities for additional sites to convert to renewable fuels production as market nears saturation
    - RD currently is 60% of California diesel supply
    - TM&C market outlook expects RD saturation could be as early as 2026
    - Newer markets in Oregon, Washington and Canada, but may favor locations closer due to logistical constraints
- Complete Site Shutdown
  - Logistics not available to industry
  - Site owners would incur costs associated with site decommissioning and remediation

SCENARIOS


Transportation Energy System
MOLECULE
ELECTRON
SUPPLY
DEMAND
BIO FUELS
BIO REFINERY
PLASTIC/POLYMER PRODUCTS/ ASPHALT/RUBBER
6,000+ CONSUMER PRODUCTS
CRUDE OIL
PIPELINE
IMPORTED OIL
MARINE TERMINAL
PIPELINE
REFINERIES
FUEL
BULK DELIVERY
FUEL TRANSPORTATION
ELECTRON TRANSMISSION & DISTRIBUTION
RETAIL
BIOFUEL AVIATION
AVIATION FUEL
HYDROGEN FUELS
BIOFUEL
TRADITIONAL FUEL
CHARGING STATIONS
CONSUMERS
ELECTRON GENERATION
COAL
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SCENARIO SUMMARY

- The California refining industry faces numerous constraints that could impact their future ability to continue operations and supply transportation fuels to the state
- Major potential physical constraints include minimum refinery utilization, both crude and product pipeline throughputs minimums, crude oil marine imports, product marine exports, upstream crude oil production declines and permitting restrictions
- The industry also faces declining transportation product demand within California, with limited ability to alter operations to significantly shift their product yields
- Economic factors including profitability, capital requirements, and global competition in markets where they potentially would need to increase exports of products could impact whether a specific crude oil production well, refinery, or pipeline continues operations
- TM&C evaluated scenarios primarily focused on the impact of physical constraints (utilizations, marine limits, pipeline limits) faced by the industry under various crude oil supply and product demand cases.
- Refineries in these scenarios close for technical or operational reasons. However, they could close sooner for other reasons, e.g., inability to obtain required permits, structurally negative margins, not competitive in their corporate portfolio.
- Across all scenarios, on average, about half of California's fuels refineries close by 2045. In the most disruptive scenario, only one fuels refinery remains by 2040. Even in the least disruptive scenario refineries could close.

Overview of Potential Constraints

- Physical Utilization Minimum (65%)
  - Difficult to continually run crude units below 65% utilization
  - More exact constraints would require confidential business information from each site
- Economic Utilization Minimum (80%)
  - Estimate of crude unit utilization below which a refinery may financially struggle due to very high unit fixed costs
  - Overall corporate financial health determines how long a specific refinery could operate with negative financials
- Bay Area has a product pipeline to Nevada, while LA Basin has product pipelines supplying Arizona and Nevada
  - 40 TBD limit from Bay Area to NV
  - 160 TBD limit from LA Basin to AZ + NV
- Marine crude oil import limit of 1,200 TBD for entire state, but decreased slightly to 1,150 TBD due to Marathon Martinez and P66 Rodeo conversions to renewable fuels production
- Marine product loading limit of 670 TBD for entire state
- Key marine logistics assumptions
  - Marine import capacity dedicated to a refinery shuts with refinery closure
  - Marine import capacity separate from refinery still available to the industry as refineries close
  - Potential for limit to decline in future due to regulatory / permitting change
- Black swan events (e.g., COVID) do not demonstrate sustainable (physically / economically) operating potential

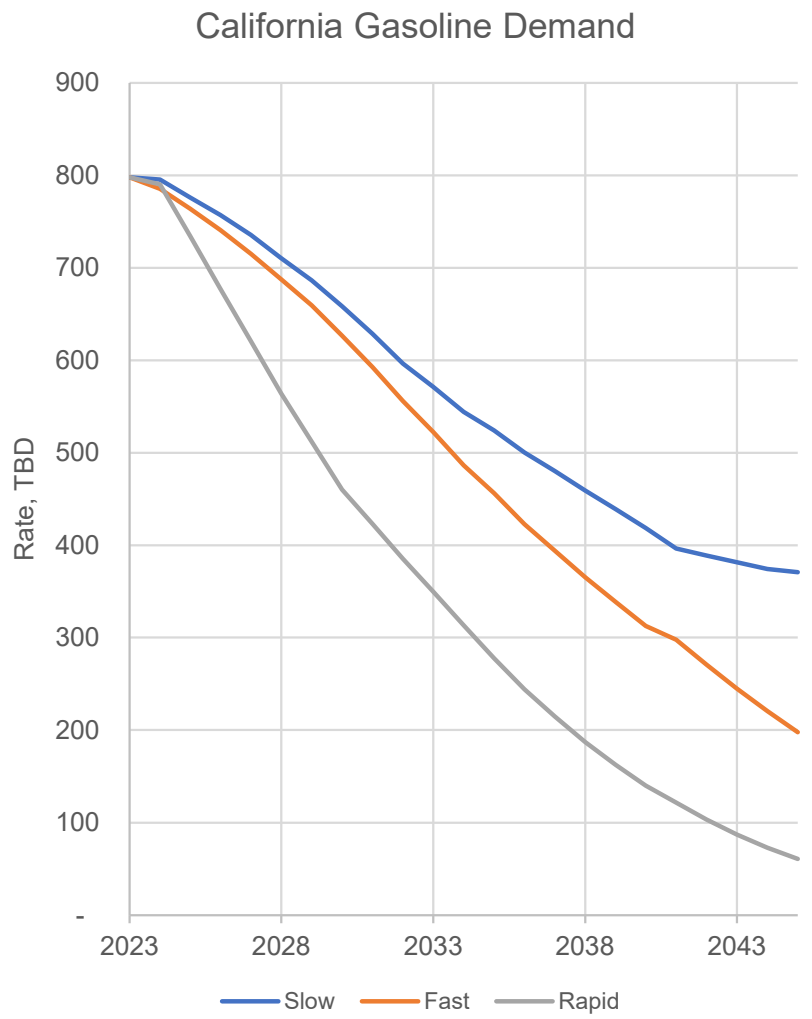
PLAUSIBLE SCENARIOS

We crafted these scenarios to understand how plausible constraints could expose potential dislocations in the entire system. These are not a forecast of decision-making at individual assets (e.g., wellheads, pipelines, berths, refineries). Decisions made by asset owners at specific sites could involve several factors that could vary on a case-by-case basis.

Reference	Scenario Name	Description / Constraints	Potential Impacts
A	Open Constraints	• No discontinuities	• System remains operable with no limits or disruptions
B	Refinery runs to satisfy CA gasoline demand	• Refinery turndown limit • No pipeline gasoline to AZ/NV, fill pipeline with diesel/jet	• Only satisfy local (CA) demand for gasoline, can import CARB components if necessary • Renewable diesel for local demand • Export petroleum diesel • Reach refinery turndown limits sooner, causing some refiners to shut down more quickly
C	Marine constraints	• Crude inbound limit (1,150 TBD) • Product (inbound/outbound) limit (VOC emissions) • Physical Utilization Min (65%)	• Crude marine limit prevents marine volume from full replacement of declining California production • Product outbound limit as declining CA transportation fuel demand forces growing product exports; impacting refinery crude runs • Reaching physical refinery turndown limits results in refinery closures to maintain minimum throughput at remaining refineries.
D	Turn-arounds become Refinery closures	• Decision to close rather than spend capital when a refinery reaches a major turn-around	• System becomes more reliant on product imports
E	Marine constraints with Economic Utilization	• Similar to Marine Constraint Scenario but with more restrictive utilization constraint (80%)	• Economic Utilization constraint results in two additional potential refinery closures under all gasoline demand scenarios
F	Crude production	• Different CA crude production profiles, with marine constraints • Slow CA gasoline demand profile	• As CA production more rapidly decreases in different scenarios, crude marine limit could have a greater impact on operations than in the Marine constraints case
G	Fully Enforced “At-Berth” Emissions Limits	• Limit to 20 vessel/berth (effective Crude import limit 700 TBD) • Physical Utilization Min (65%) • SB1137 Crude production profile • Slow/Rapid product demand profiles	• Rapid initial closure of refineries due to crude production declines and “At-Berth” emissions limit • Increased marine product imports due to refinery closures • Marine product constraint, even if filling AZ/NV pipelines is not limiting

CARB Gasoline Demand Cases

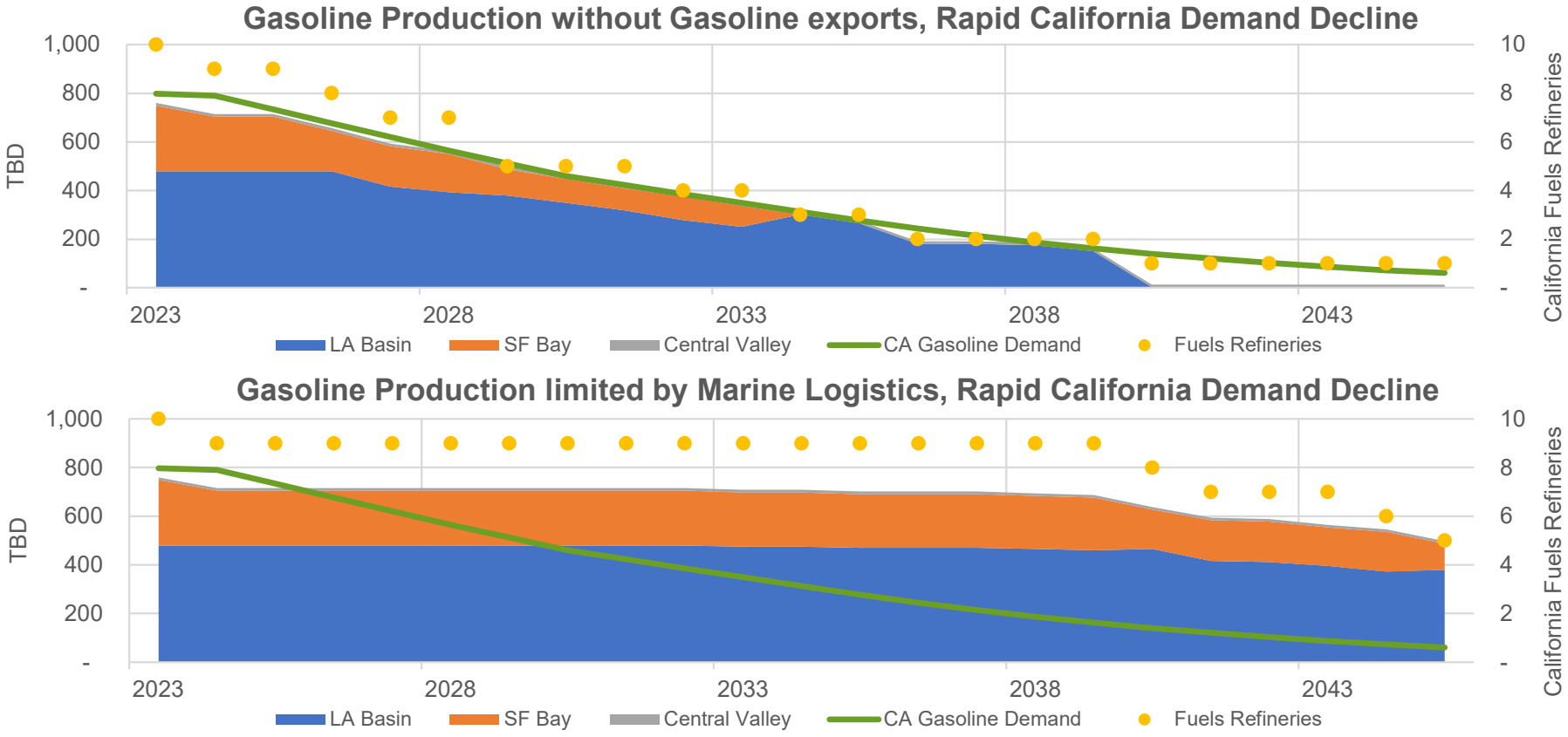
- Studied three CARB gasoline cases from CEC Transportation Fuels Assessment – Slow, Fast, Rapid decline in demand.
- Imposed same three demand curves in each scenario.



Source: CEC Transportation Fuels Assessment, TM&C Modeling

CALIFORNIA GASOLINE PRODUCTION UNDER DIFFERENT CONSTRAINT SCENARIOS

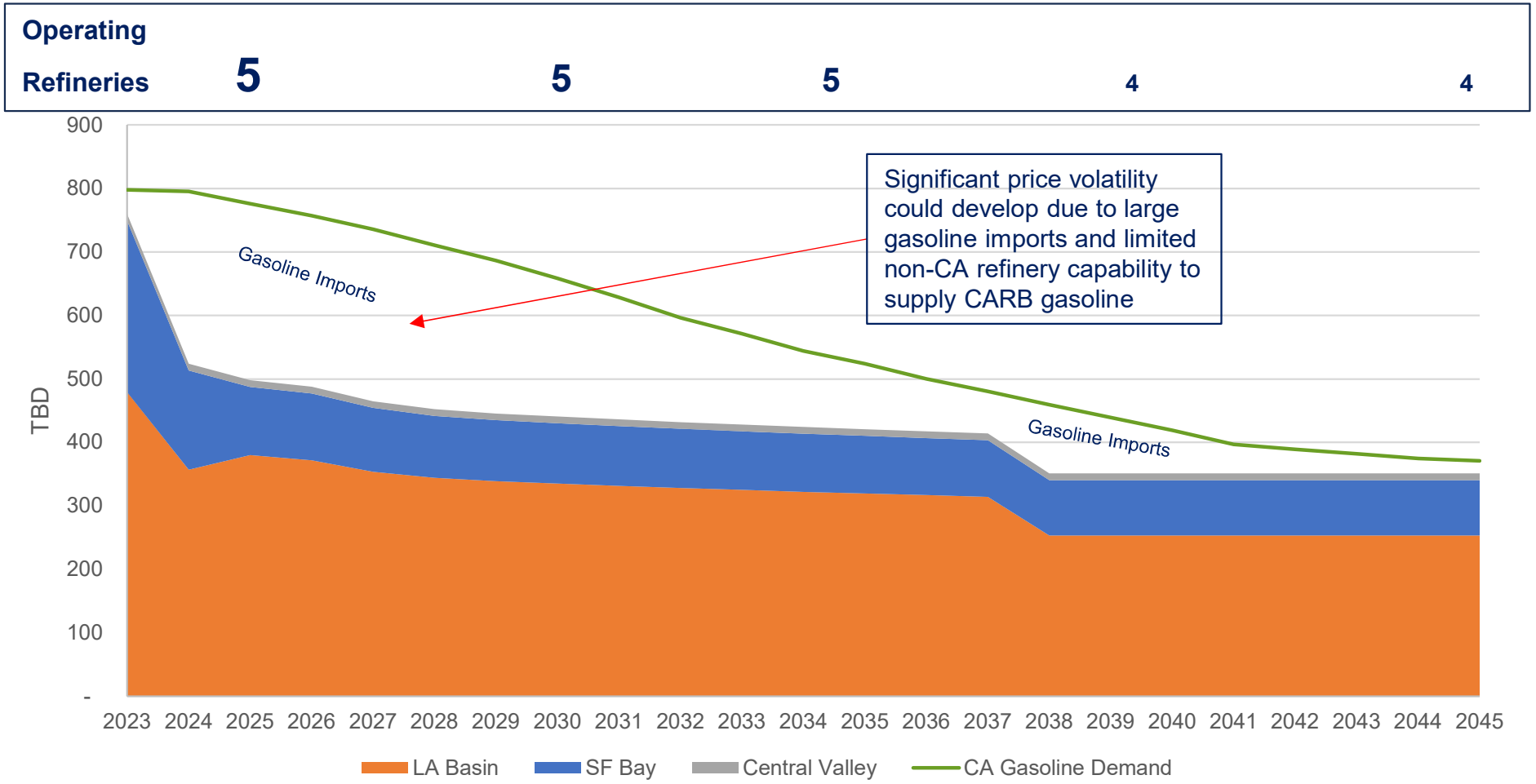
- Limiting exports of gasoline may cause rapid shutdown of refineries as excess production has no disposition, requiring imports to balance demand.
- Potential for price volatility due to transitioning between imports and exports, can impact business decisions.
- Exports must compete in global market; imports must meet strict California product specifications.



Source: TM&C Modeling

Risk of significant immediate refinery shutdowns if refiners face CARB "at-berth" crude restrictions

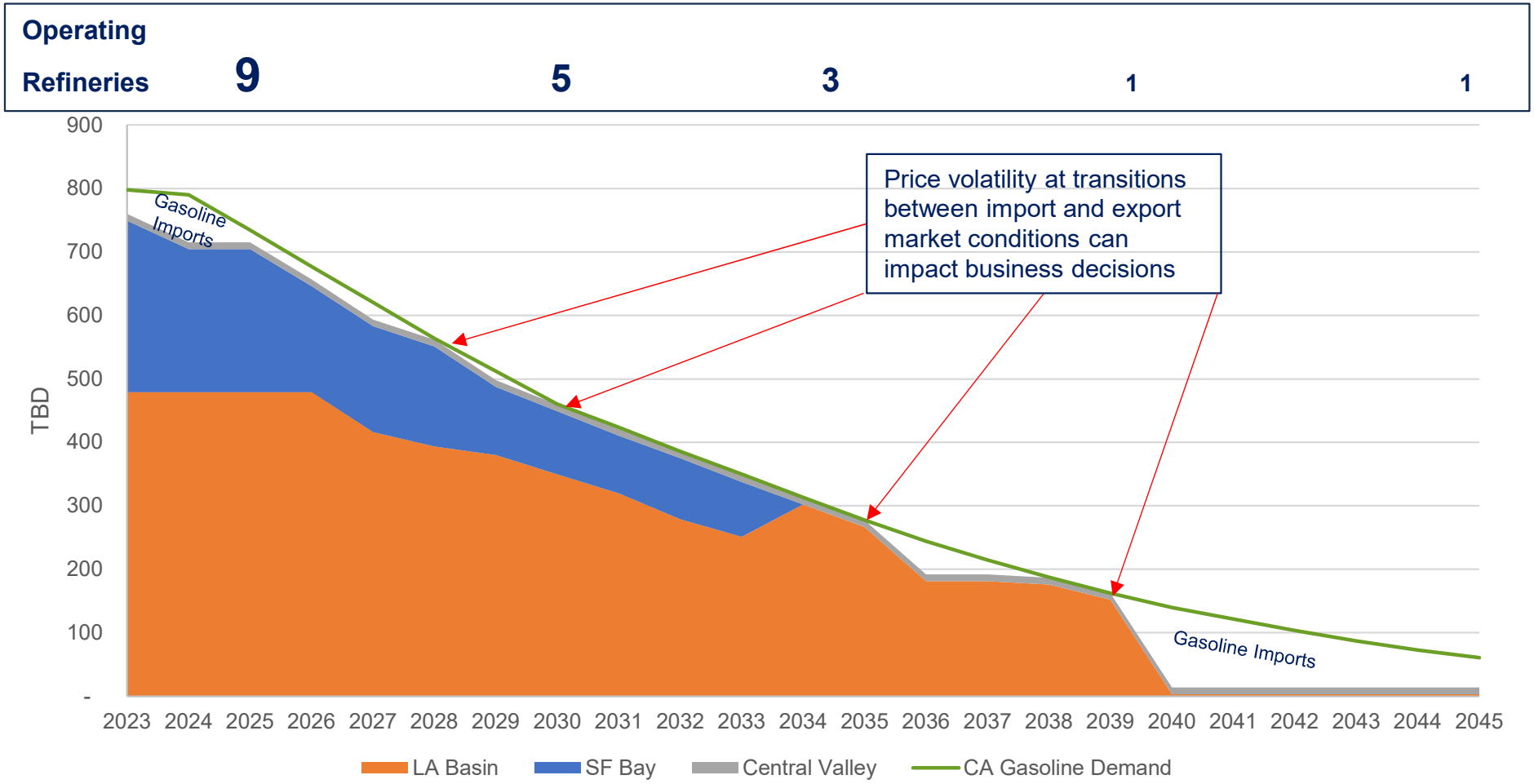
- CEC "Slow" fuels demand case
- CARB "At-Berth" limiting crude imports
- California crude oil production at SB1137 case
- Refinery utilization falls to 65% before shut-down



Source: TM&C analysis

If California refineries could not export products, the risk of refinery shutdowns could accelerate

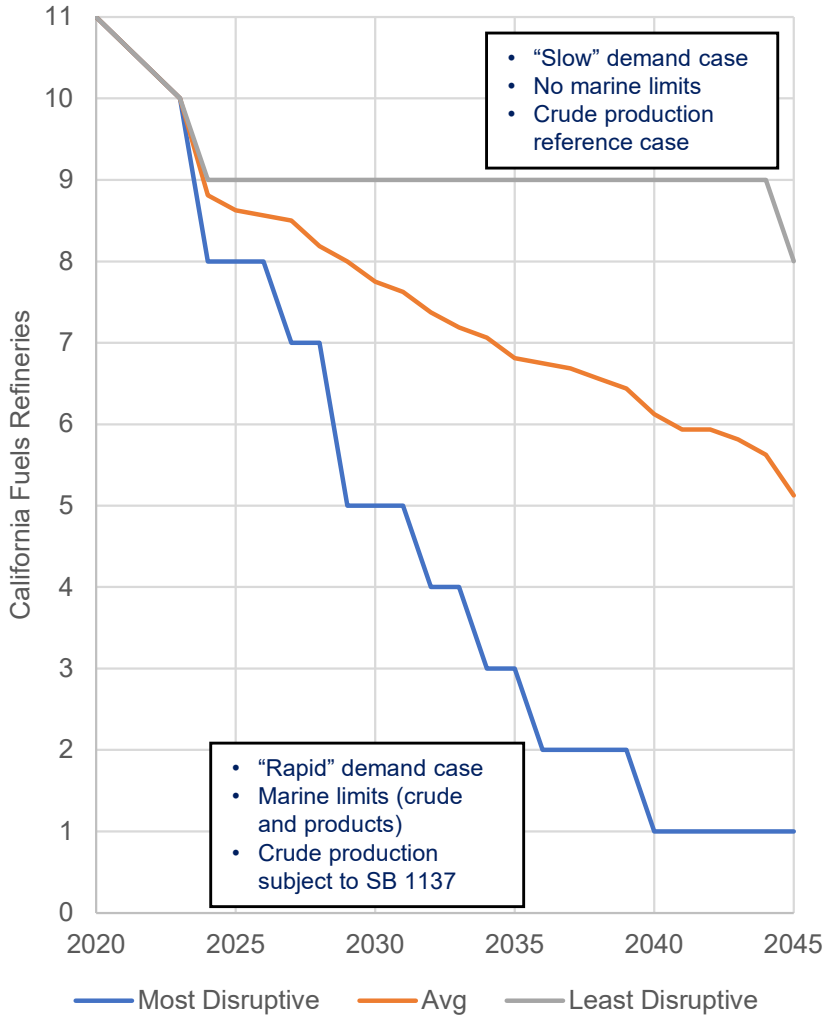
- CEC "Rapid" fuels demand case
- Limited non-CARB product exports (e.g., CARB "At-Berth")
- California crude oil production at reference case
- Refinery utilization falls to 65% before shut-down



Source: TM&C analysis

REFINERY CLOSURE RISK IS HIGHLY DEPENDENT ON SCENARIOS

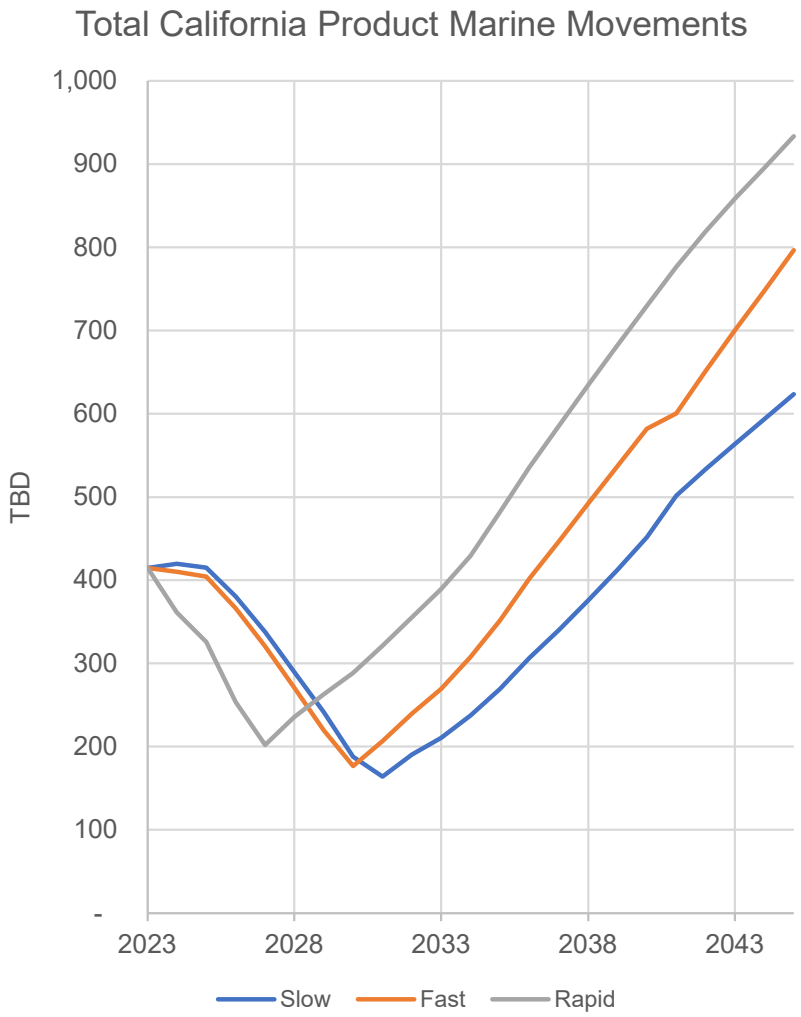
- TM&C evaluated potential refinery closures across 16 scenarios covering combinations of:
  - Transportation fuel demand cases
  - Crude oil production profiles
  - Logistics constraints
  - Refining operating environments
- Across all scenarios, on average, about half of California's fuels refineries could close by 2045
- In the most disruptive scenario, only one fuels refinery remains by 2040
- Even in least disruptive scenario refineries could close
  - Major shifts in business (increases in exports) and operations required
  - Assumes no new limitations to importing crude and exporting products
  - Requires exports to be globally competitive
- If onshore power is unavailable or on-ship capture is infeasible, full enforcement of "At-Berth" restrictions could close 3-4 refineries almost immediately
- Refineries may close faster than demand declines, which could put pressure on marine logistics and vessel traffic limits



Source: TM&C Analysis
Note: Refinery utilization falls to 65% before shut-down

A. Open Constraints

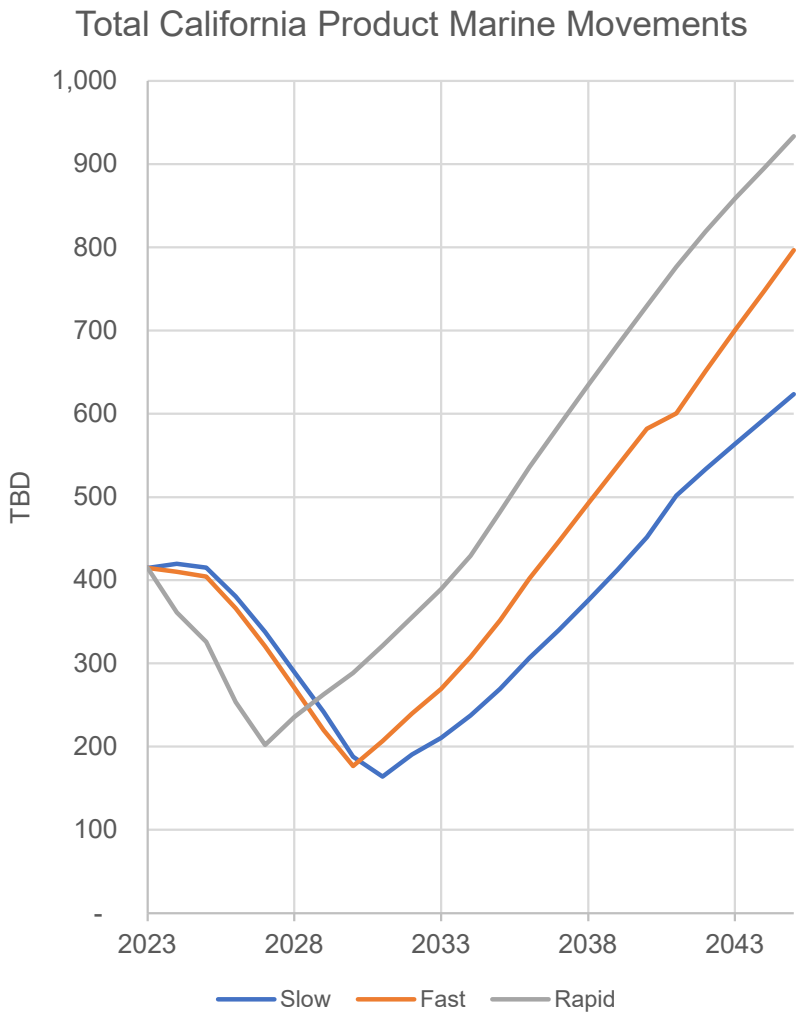
- Current system remains operating in nearly identical state as today (P66 Rodeo refinery fully converted to renewable diesel in 2024)
- Declining California crude oil production requires increase in import crude volumes to maintain refinery throughput
- Declining California transportation fuel demand requires increase in product export volumes to maintain refinery throughput
- No constraints on marine movements (crude or product) imposed
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand



Source: TM&C Modeling

A. Open Constraints

- Current system remains operating in nearly identical state as today (P66 Rodeo refinery fully converted to renewable diesel in 2024)
- Declining California crude production requires increase in import crude volumes to maintain refinery throughput
- Declining California transportation fuel demand requires increase in product export volumes to maintain refinery throughput
- No constraints on marine movements (crude or product) imposed
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand



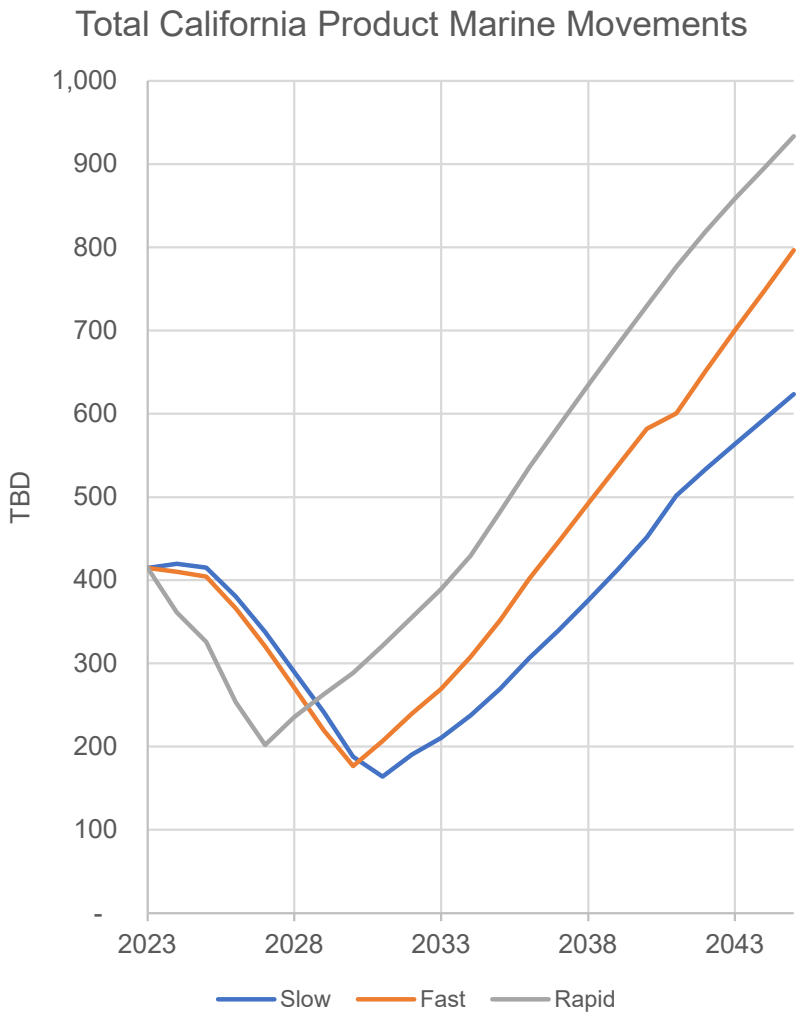
Source: TM&C Modeling

A. Open Constraints (cont.)

- Current system remains operating in nearly identical state as today (P66 Rodeo refinery fully converted to renewable diesel in 2024)
- Shows impact of declining California crude production and necessary increase in import crude volumes to maintain refinery throughput
- Shows impact of declining California transportation fuel demand, and necessary increase in product export volumes to maintain refinery throughput
- No constraints on marine movements (crude or product) imposed
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand

A. Open Constraints Results (cont.)

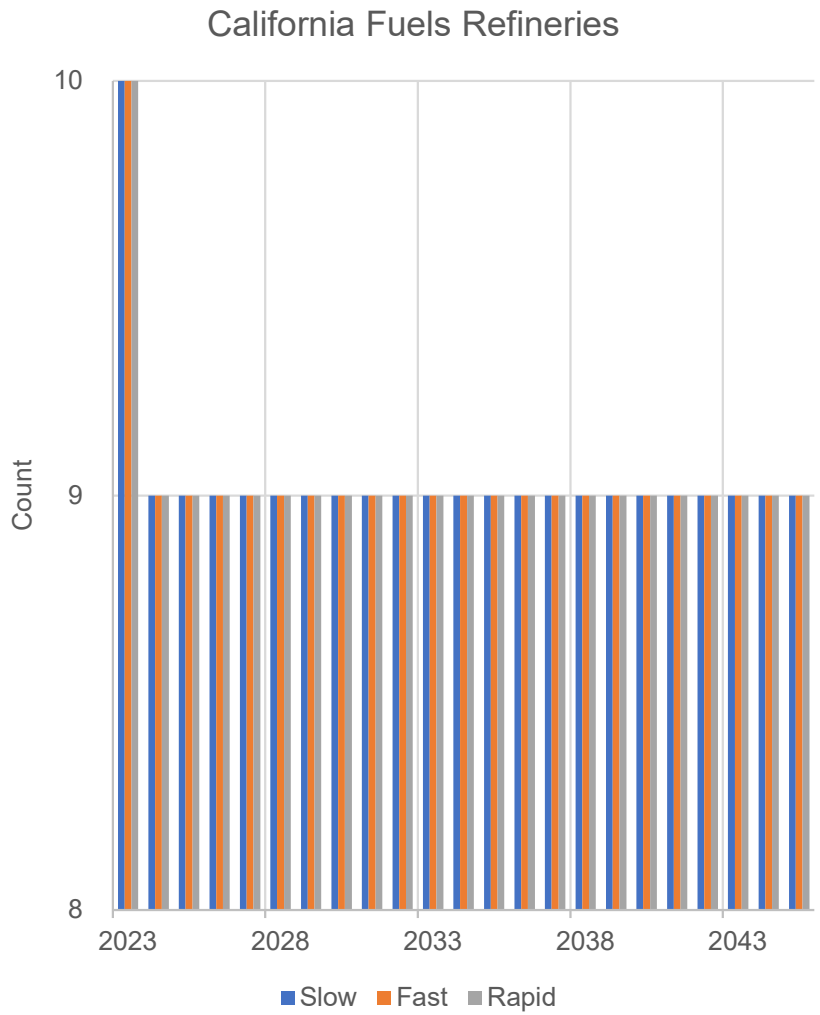
- Total product marine movements (gasoline, jet, diesel).
- Changes due to changes in California CARB gasoline demand curves (Slow, Fast, Rapid).
- No constraints imposed on total product marine movements.
- Switch from importing gasoline and jet in early years to eventual exporting both products
- Total product marine movements would continue to grow due to decline in California demand for transportation products.



Source: TM&C Modeling

A. Open Constraints Results (cont.)

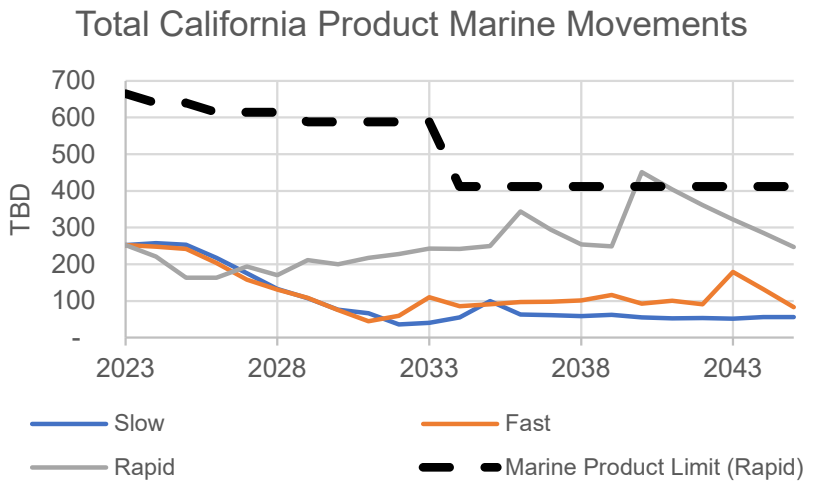
- Total number of fuels refineries remains unchanged since there are no constraints on system, particularly exporting of product.
- P66 Rodeo refinery converted to renewable fuels production in 2024.
- Number of fuels refineries the same regardless of California CARB demand forecast (Slow, Fast, Rapid) because the system is unconstrained.

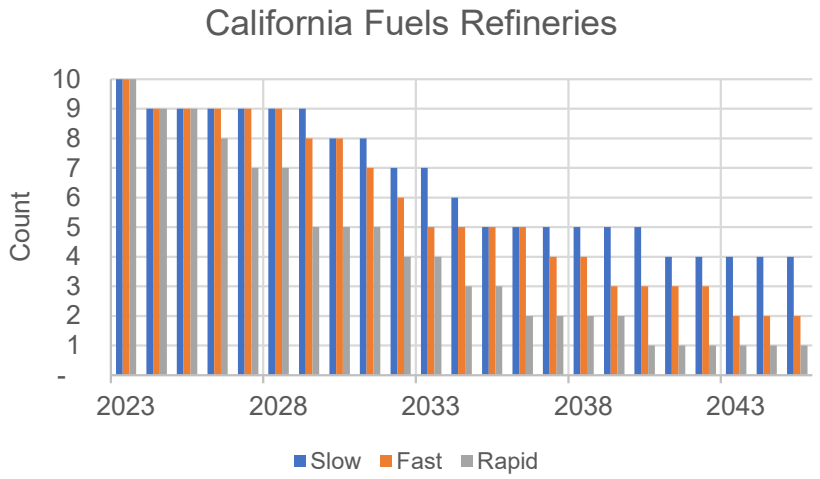


Source: TM&C Modeling

B. Satisfy California Gasoline Demand only

- Imposing CEC product demand curves on system, while not allowing export of gasoline (pipeline or marine)
- Under more aggressive declining California product demand curves, significant refinery closures are needed to maintain minimum refinery utilization
- Crude imports decline rapidly due to refinery closures
- Refinery closures under more restrictive demand scenarios can require significant jet and diesel exports
- Potential for infeasibility in Rapid scenario due to hitting marine product export limit

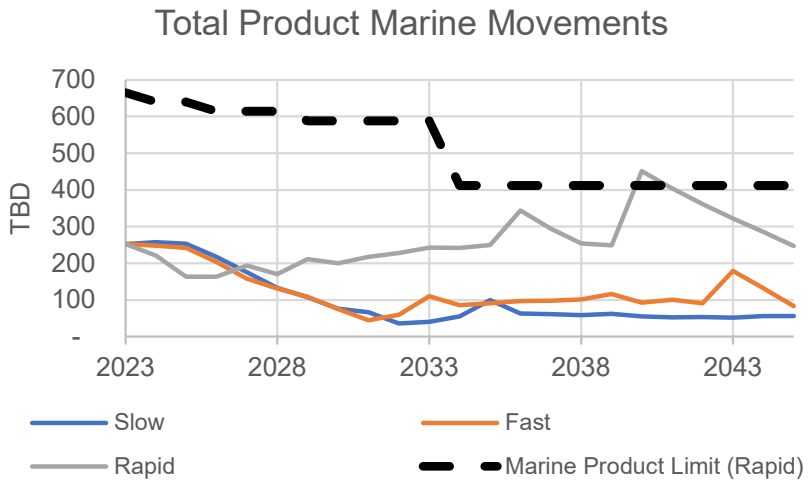


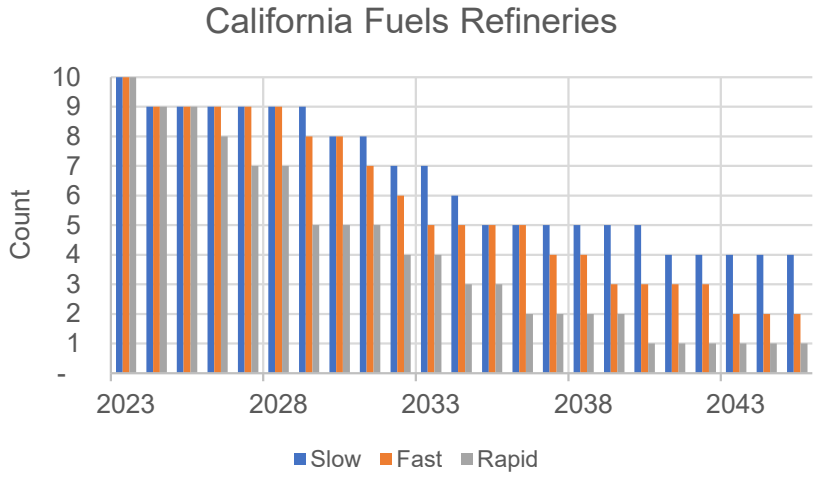


Source: TM&C Modeling

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- Under more aggressive declining California product demand curves, significant refinery closures are needed to maintain minimum refinery utilization
- Crude imports decline rapidly due to refinery closures
- Refinery closures under more restrictive demand scenarios can require significant Jet and Diesel exports
- Slight potential for infeasibility in Rapid scenario due to hitting marine product limit





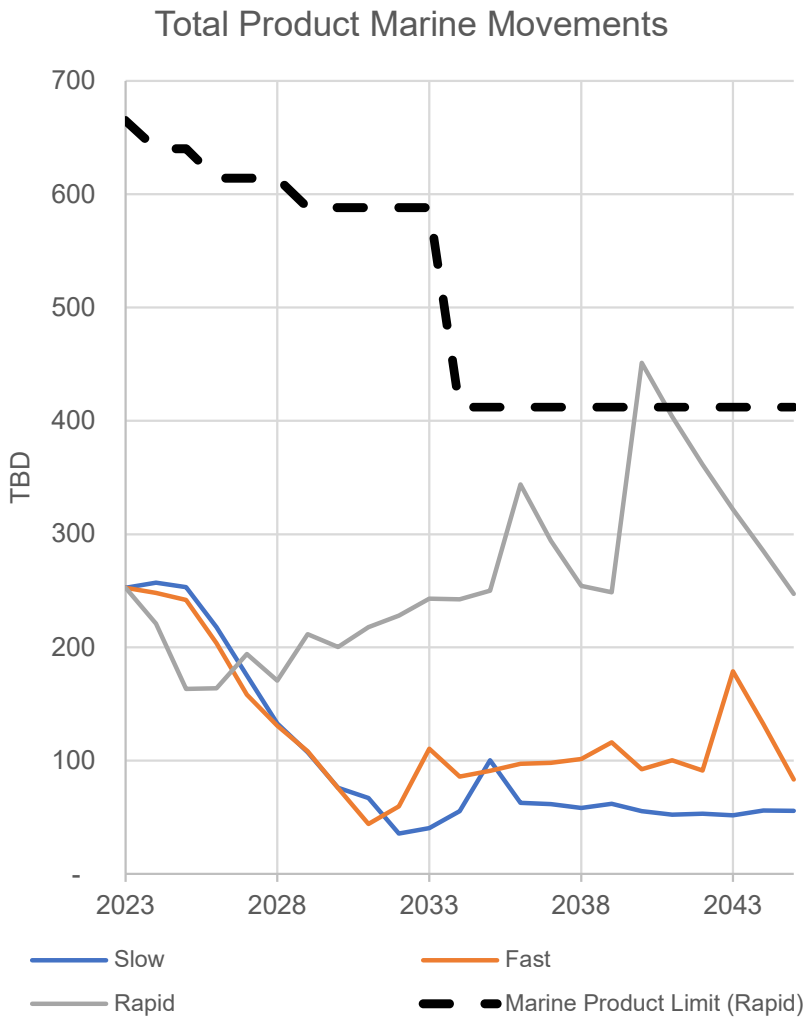
Source: TM&C Modeling

B. Satisfy California Gasoline Demand only

- Imposing CEC product demand curves on system, while not allowing export of gasoline (pipeline or marine)
- Imports of gasoline allowed to meet California demand only
- No pipeline exports of gasoline to AZ / NV allowed
- Allow import / export of diesel and jet fuel as necessary
- Represents bookend case of California system under most stress
- Under more aggressive California product demand curves, refinery closures are significant to maintain minimum refinery utilization

B. Satisfy California Gasoline Demand Only(cont.)

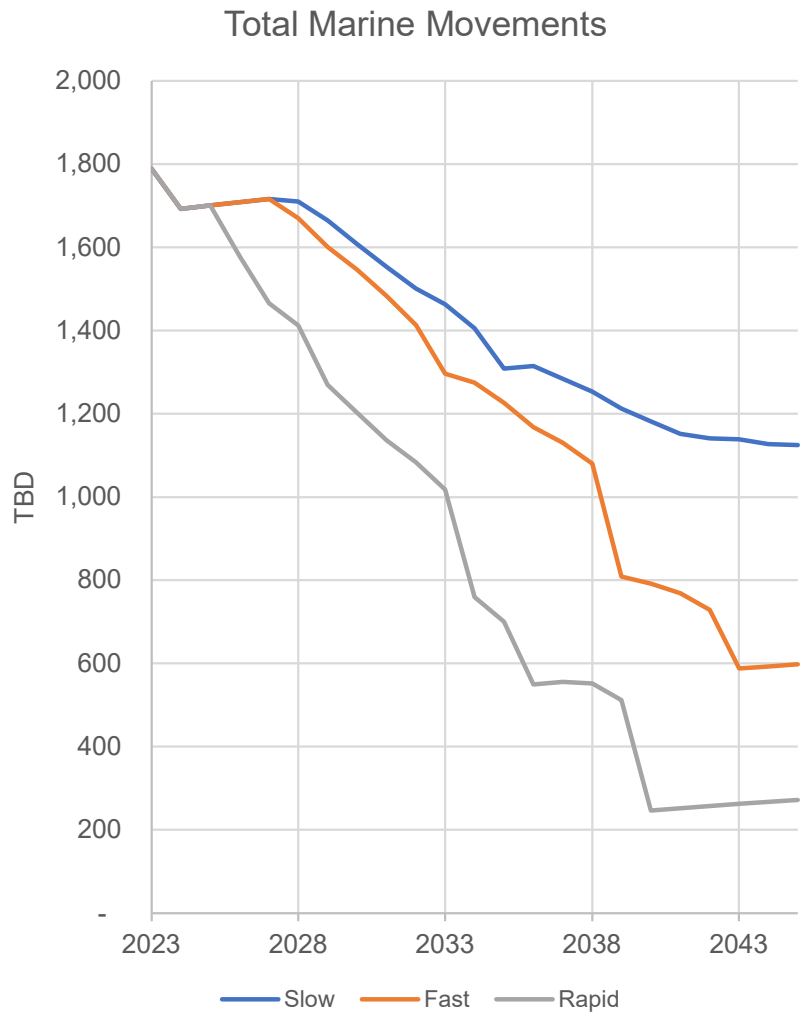
- Total product marine movements (gasoline, jet, diesel).
- Changes in California CEC gasoline demand curves (Slow, Fast, Rapid).
- Under Slow scenario, jet goes from import to export, while diesel remains steady export.
- Under Fast scenario, jet goes from import to steady export, while diesel exports steadily decline and become imports due to refinery closures.
- Under Rapid scenario, refinery closures cause diesel to go from export to large import.
- Slight potential for infeasibility in Rapid scenario due to hitting marine product movements limits



Source: TM&C Modeling

B. Satisfy California Gasoline Demand Only(cont.)

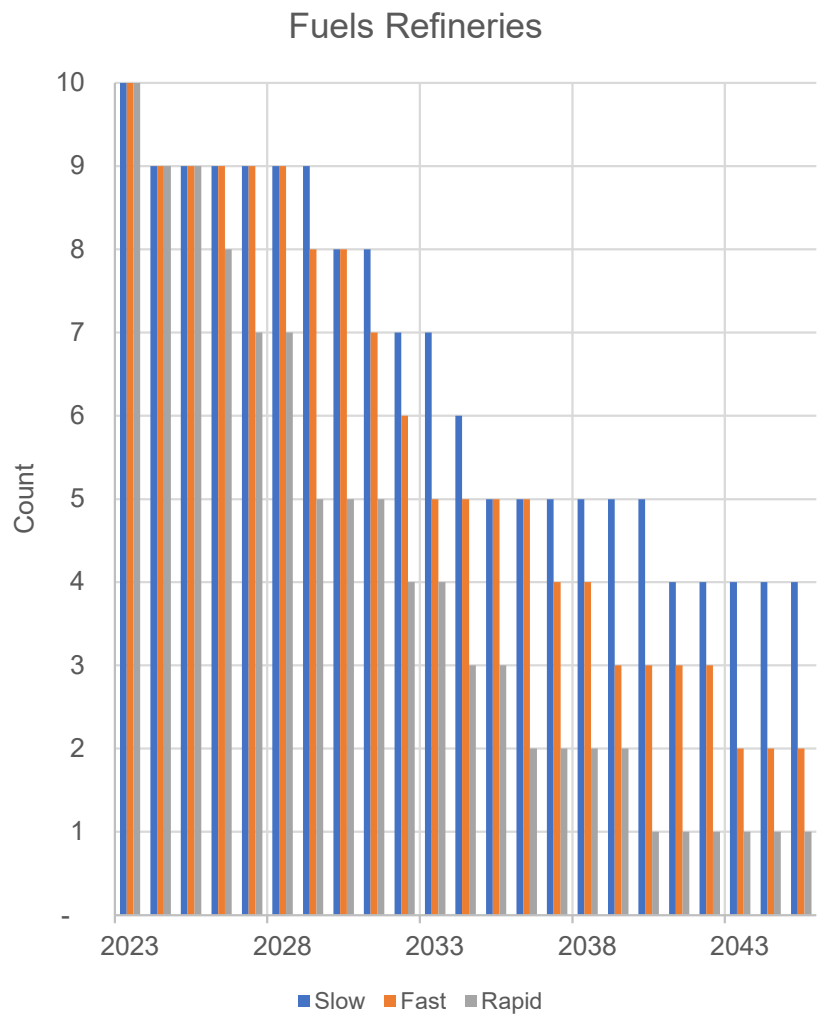
- Total marine movements (crude, gasoline, jet, diesel).
- Changes in California CEC gasoline demand curves (Slow, Fast, Rapid).
- Crude imports constrained in Slow scenario, while crude imports rapidly decline due to refinery closures in Fast and Rapid scenarios.



Source: TM&C Modeling

B. Satisfy California Gasoline Demand Only (cont.)

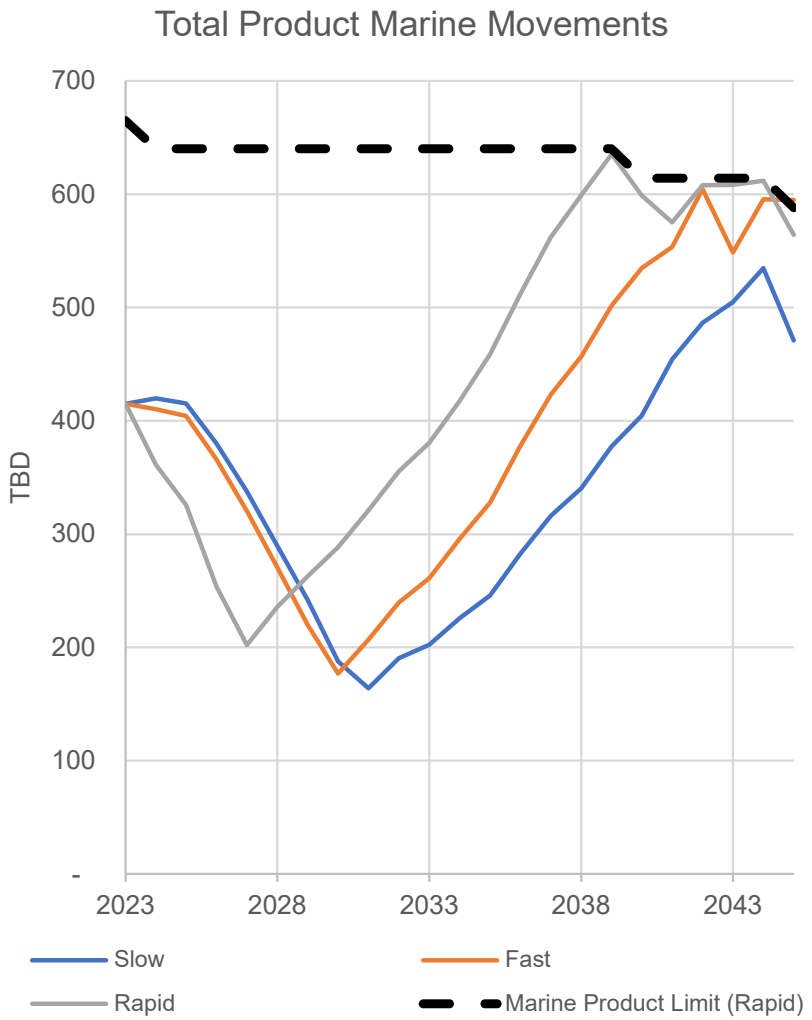
- P66 Rodeo refinery fully converted to renewable fuels production in 2024.
- Slow scenario sees refinery closures begin in 2030.
- Fast scenario sees one large fuels refinery operating by 2045, and one structurally advantaged small fuels refinery.
- Rapid scenario sees one fuels refinery operating by 2045.



Source: TM&C Modeling

C. Crude and Product Marine Limited

- Imposing crude marine import limits and product marine movement limits on system, in additional to the minimum refinery utilization limits.
- Marine Logistics
  - Marine import capacity dedicated to a refinery shuts with refinery closure
  - Marine import capacity separate from refinery still available to the industry as refineries close
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand
- Enough room in system, via California product demand and AZ/NV pipeline to keep system running through 2040 in all California gasoline demand scenarios, but one refinery closure could be required in 2045 under the Rapid demand decline scenario
- Under all scenarios, jet goes from import to export, while diesel remains steady export
- Gasoline goes from import to export in more aggressive California CARB gasoline demand scenarios but remains an import in the Slow scenario
- Crude oil imports constrained in all scenarios, except in later years for the Fast and Rapid scenarios where the product marine export limit dominates.



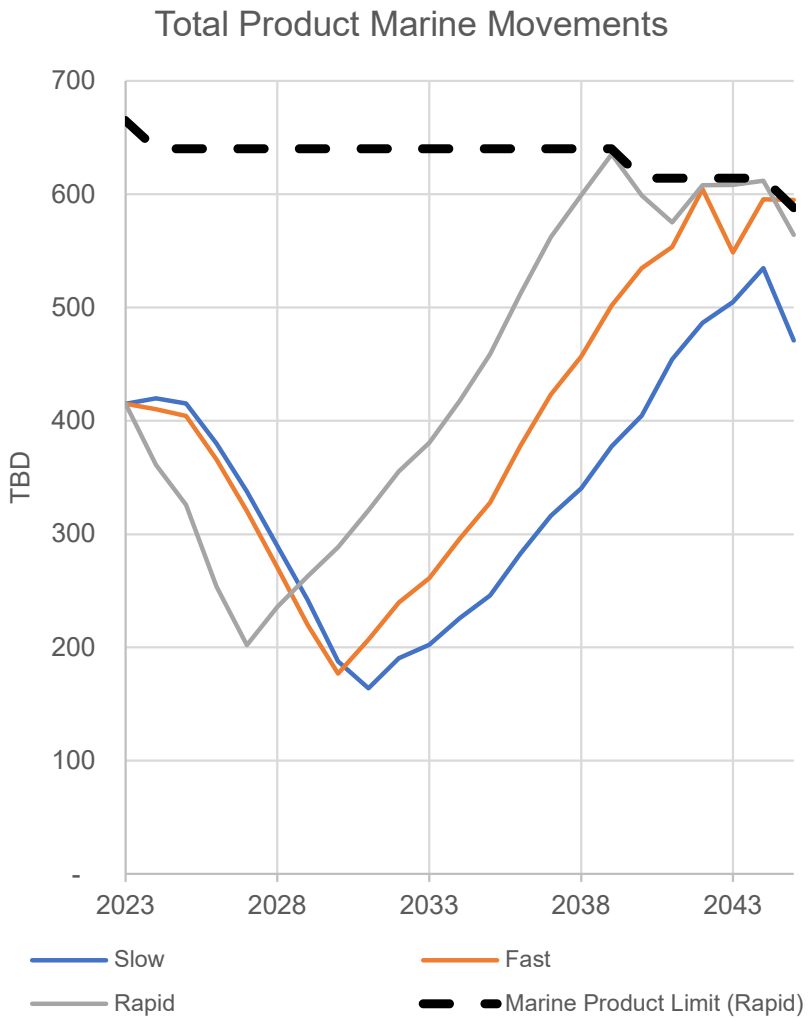
Source: TM&C Modeling

C. Crude and Product Marine Limited (cont.)

- Imposing crude marine import limit (1,150 TBD) and product marine movement limit (670 TBD) on system, in additional to the normal minimum refinery utilization limit
- Marine Logistics
  - Marine import capacity dedicated to a refinery shuts with refinery closure
  - Marine import capacity separate from refinery still available to the industry as refineries close
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand
- Enough room in system, via California product demand and AZ/NV pipeline to keep system running through 2040 in all California gasoline demand scenarios, but one refinery closure could be required in 2045 under the Rapid demand decline scenario

C. Marine Limited (cont.)

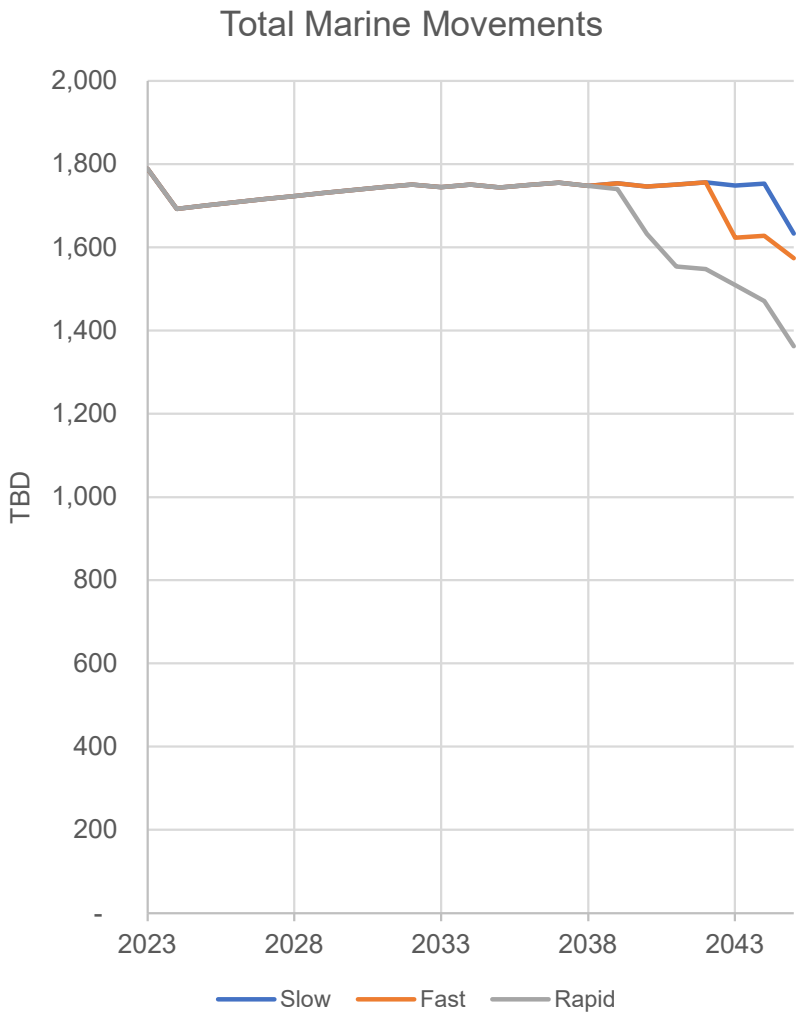
- Total product marine movements (gasoline, jet, diesel).
- Changes in California CCEC gasoline demand curves (Slow, Fast, Rapid).
- 670 TBD limit on total product marine movements imposed and reduced as refineries shutdown.
- Under all scenarios, jet goes from import to export, while diesel remains steady export.
- Gasoline goes from import to export in more aggressive California CARB gasoline demand scenarios but remains an import in the Slow scenario.



Source: TM&C Modeling

C. Marine Limited (cont.)

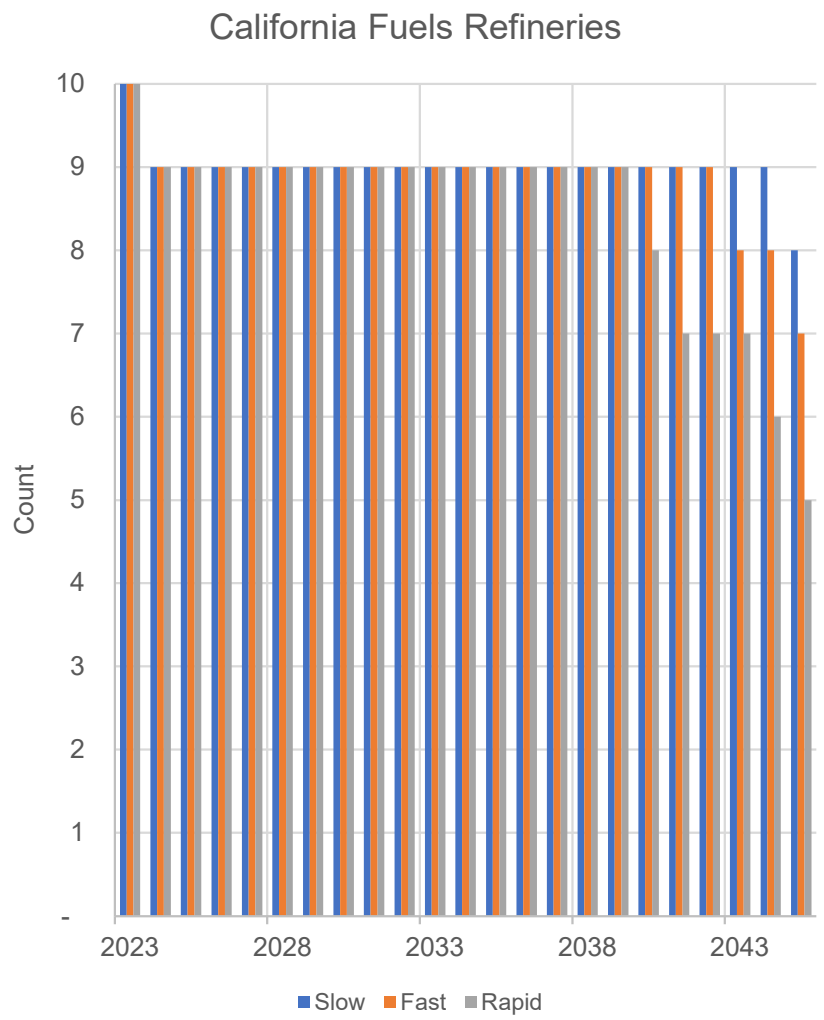
- Total marine movements (crude, gasoline, jet, diesel).
- Changes in California CEC gasoline demand curves (Slow, Fast, Rapid).
- Crude imports constrained in all scenarios, except in later years for the Fast and Rapid scenarios where the Product Marine Export Limit dominates.
- One refinery could close in 2045 under Rapid scenario causing total marine movements to decline.



Source: TM&C Modeling

C. Marine Limited (cont.)

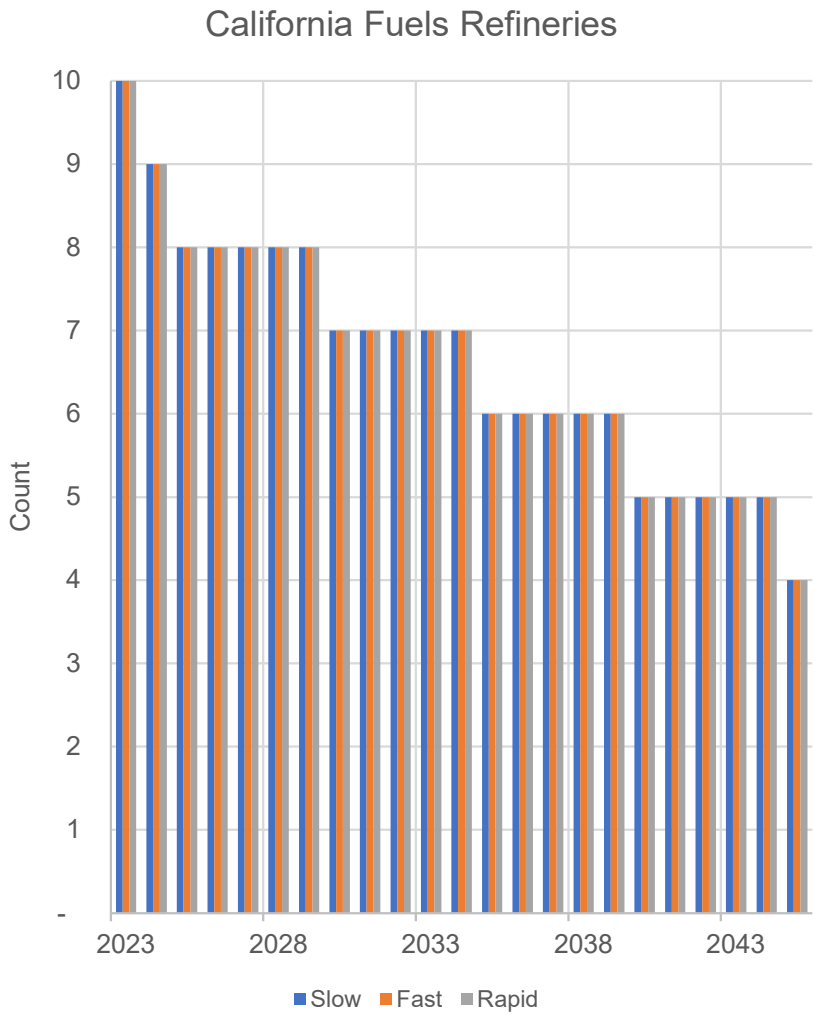
- P66 Rodeo refinery fully converted to renewable fuels production in 2024.
- Slow scenario could see first refinery closure after 2040, while Fast scenario could see first refinery closure before 2040.
- Rapid scenario could see five refinery closures by 2045.



Source: TM&C Modeling

D. Refinery turnarounds become shutdowns

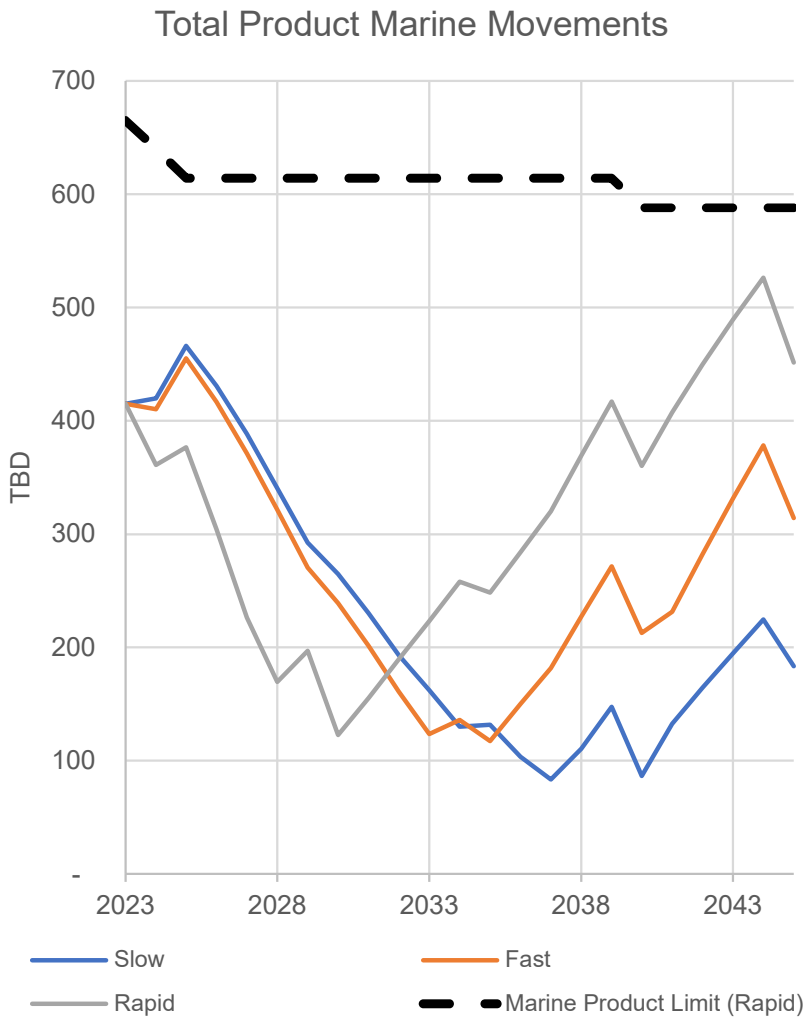
- Imposing crude marine import limit (1,150 TBD) and product marine movement limit (670 TBD) on system, in addition to the minimum refinery utilization limit
- At each turnaround (2025, 2030, 2035, 2040, 2045) one refinery is modeled to shutdown rather than incur large turnaround costs. Refinery shutdown according to seriatim
- Due to one refinery shutdown every five years, system is not constrained by crude or product marine export limits
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand
- Under all scenarios, jet goes from import to export, while diesel remains steady export
- Gasoline goes from import to export in more aggressive declining California CARB gasoline demand scenarios, but still requires imports in the Slow scenario



Source: TM&C Modeling

D. Refinery Turnaround becomes a Shutdown (cont.)

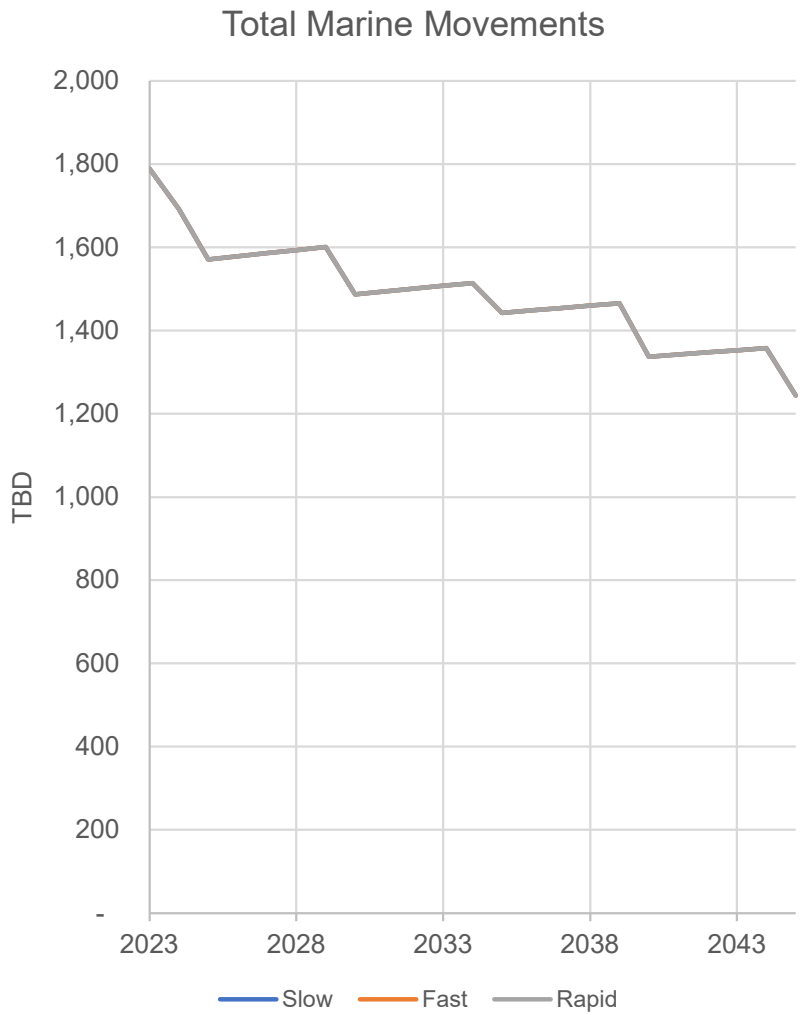
- Total product marine movements (gasoline, jet, diesel).
- Changes in California CEC gasoline demand curves (Slow, Fast, Rapid).
- 670 TBD limit on total product marine movements imposed and reduced as refineries close.
- Under all scenarios, Jet goes from import to export, while diesel remains steady export.
- Gasoline goes from import to export in more aggressive California CARB gasoline demand scenarios, but remains an import in the Slow scenario.



Source: TM&C Modeling

D. Refinery Turnaround becomes a Shutdown (cont.)

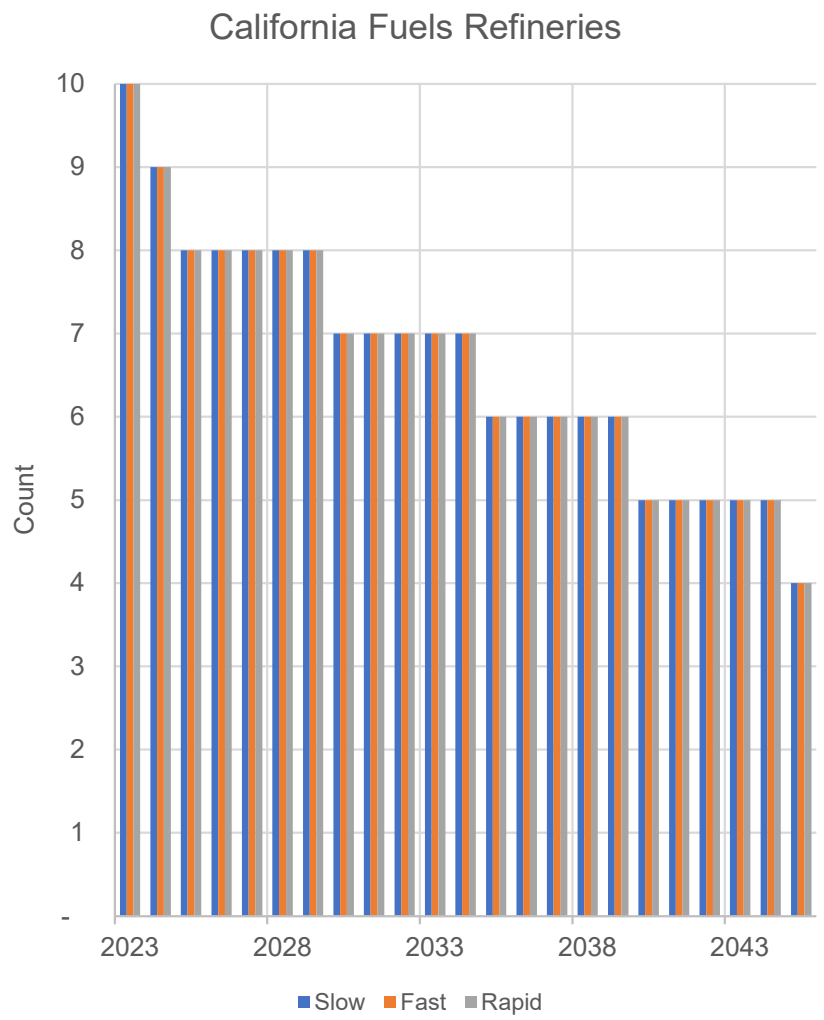
- Total marine movements (crude, gasoline, jet, diesel).
- Changes in California CEC gasoline demand curves (Slow, Fast, Rapid).
- Crude unconstrained in all scenarios due to refinery shutdowns.
- Product marine export limit also not a factor.
- Follow same curve due to same operations in all demand curves



Source: TM&C Modeling

D. Refinery Turnaround becomes a Shutdown (cont.)

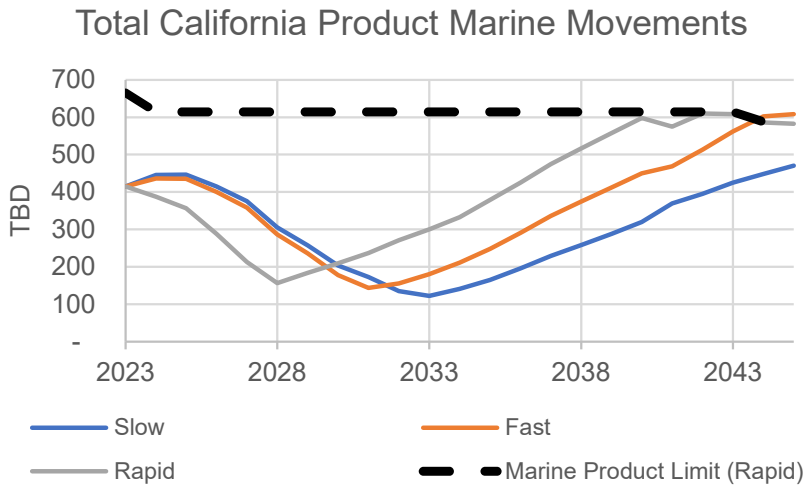
- P66 Rodeo refinery fully converted to renewable fuels production in 2024.
- One refinery shutdown every five years. No other refinery shutdowns look to be required to keep system in balance.

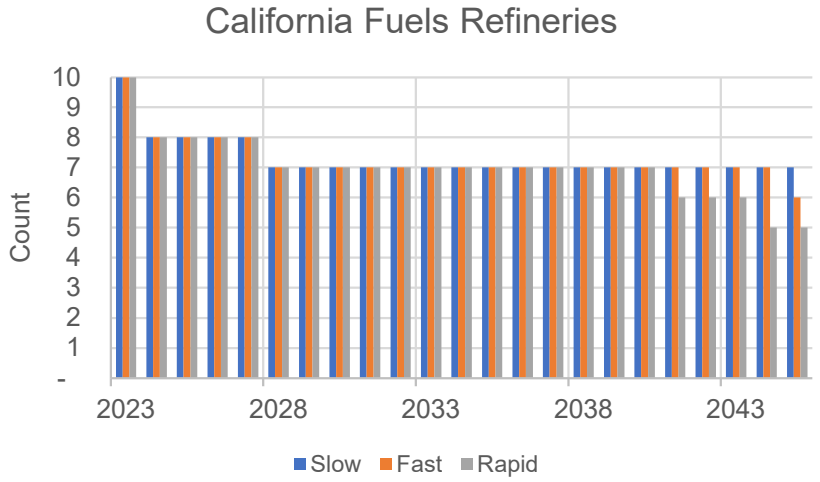


Source: TM&C Modeling

E. Crude and Product Marine Limited (Economic Utilization)

- Imposing crude marine import limit and product marine movement limit on system, but with an economic utilization (80%) instead of the physical refinery utilization limit
- Economic utilization limit increases the number of refinery closures to two under all gasoline demand scenarios. One by 2035, another by 2040. In the prior physical utilization limit (65%) scenario, only one refinery closes by 2045, and only under the rapid gasoline demand scenario
- Early refinery closures (before 2030) due to low utilization in base operations
- Under all scenarios, Jet goes from import to export, while diesel remains steady export
- Gasoline goes from import to export in more aggressive California CARB gasoline demand scenarios but remains an import in the Slow scenario
- Crude imports constrained in all scenarios, except in later years for the Fast and Rapid scenarios where the product marine export limit dominates
- Total marine movements expected to remain steady under California demand destruction until 2040 when refinery closures begin to limit total crude runs

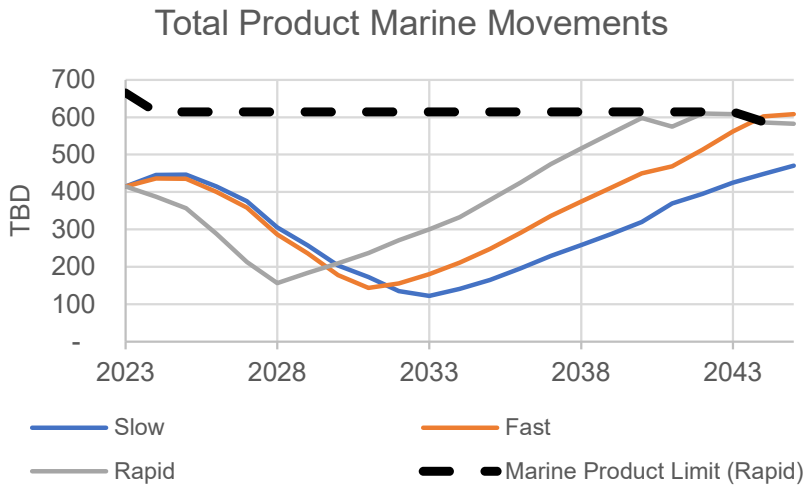


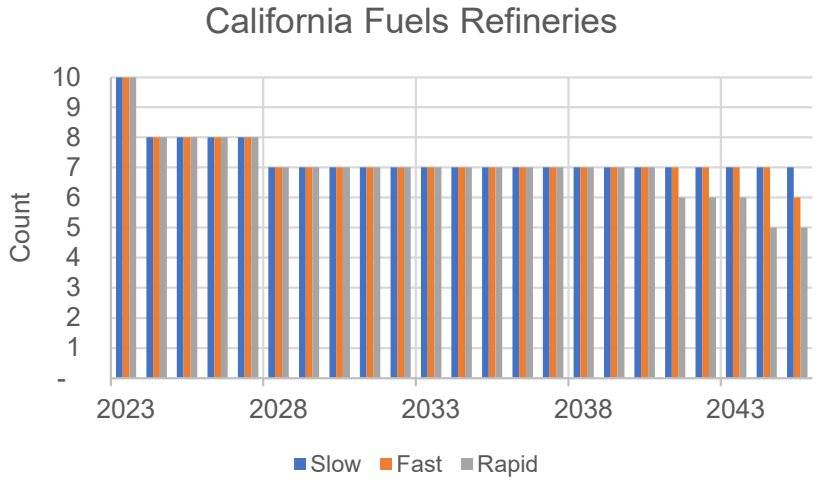


Source: TM&C Modeling

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- Imposing crude marine import limit and product marine movement limit on system, but with an economic utilization (80%) instead of the physical refinery utilization limit
- Economic utilization limit increases the number of refinery closures to two under all gasoline demand scenarios. One by 2035, another by 2040. In the prior physical utilization limit (65%) scenario, only one refinery closes by 2045, and only under the rapid gasoline demand scenario
- Early refinery closures (before 2030) due to low utilization in base operations
- Under all scenarios, Jet goes from import to export, while diesel remains steady export
- Gasoline goes from import to export in more aggressive California CARB gasoline demand scenarios but remains an import in the Slow scenario
- Crude imports constrained in all scenarios, except in later years for the Fast and Rapid scenarios where the product marine export limit dominates
- Total marine movements expected to remain steady under California demand declines until 2040 when refinery closures begin to limit total crude runs





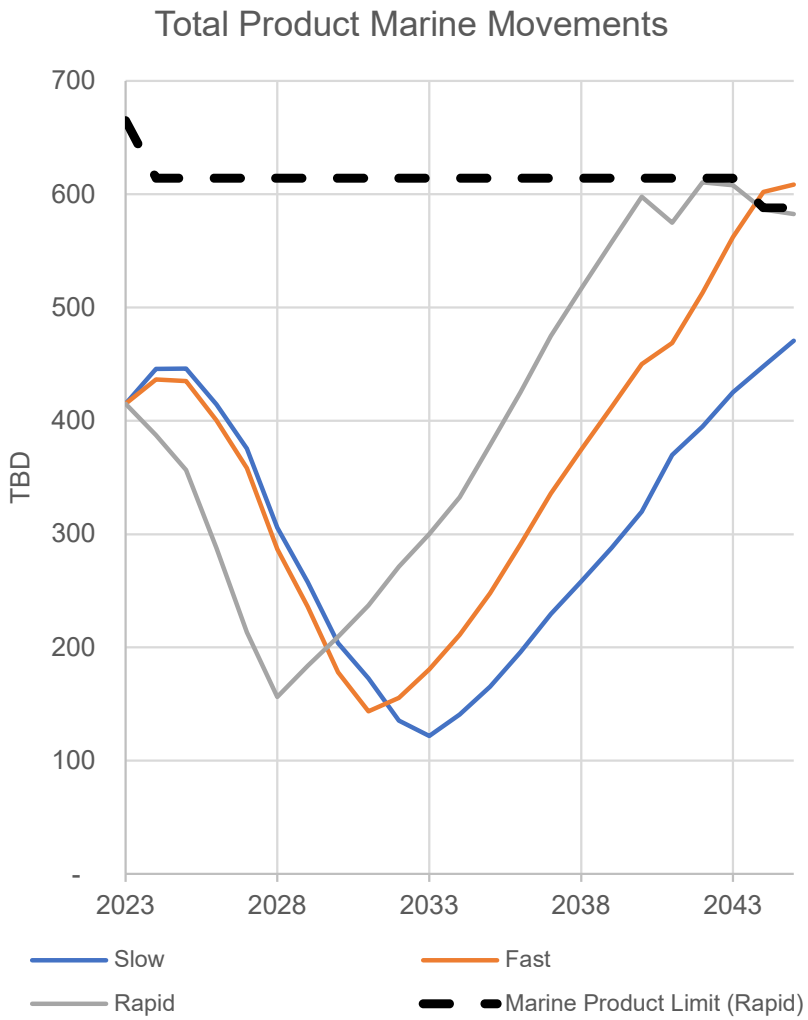
Source: TM&C Modeling

E. Crude and Product Marine Limited (Economic Utilization)

- Similar to early utilization limiting scenario, we impose a crude marine import limit (1,150 TBD) and product marine movement limit (670 TBD) on system. However, in this scenario, the crude distillation unit utilization is assumed to have a minimum economic utilization of 80% instead of the previous technical minimum refinery utilization limit of 65%.
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand
- Economic utilization limit increases to the number of refinery closures under all gasoline demand scenarios to two: one by 2035 and another by 2040. In the prior physical utilization limit (65%) scenario, only one refinery closes by 2045, and only under the rapid gasoline demand scenario.

E. Economic Utilization Limited (cont.)

- Total product marine movements (gasoline, jet, diesel).
- Changes in California CEC gasoline demand curves (Slow, Fast, Rapid).
- 670 TBD limit on total product marine movements imposed and reduced as refineries close.
- Under all scenarios, jet goes from import to export, while diesel remains steady export.
- Gasoline goes from import to export in more aggressive California CARB gasoline demand scenarios but remains an import in the Slow scenario.



Source: TM&C Modeling

E. Economic Utilization Limited (cont.)

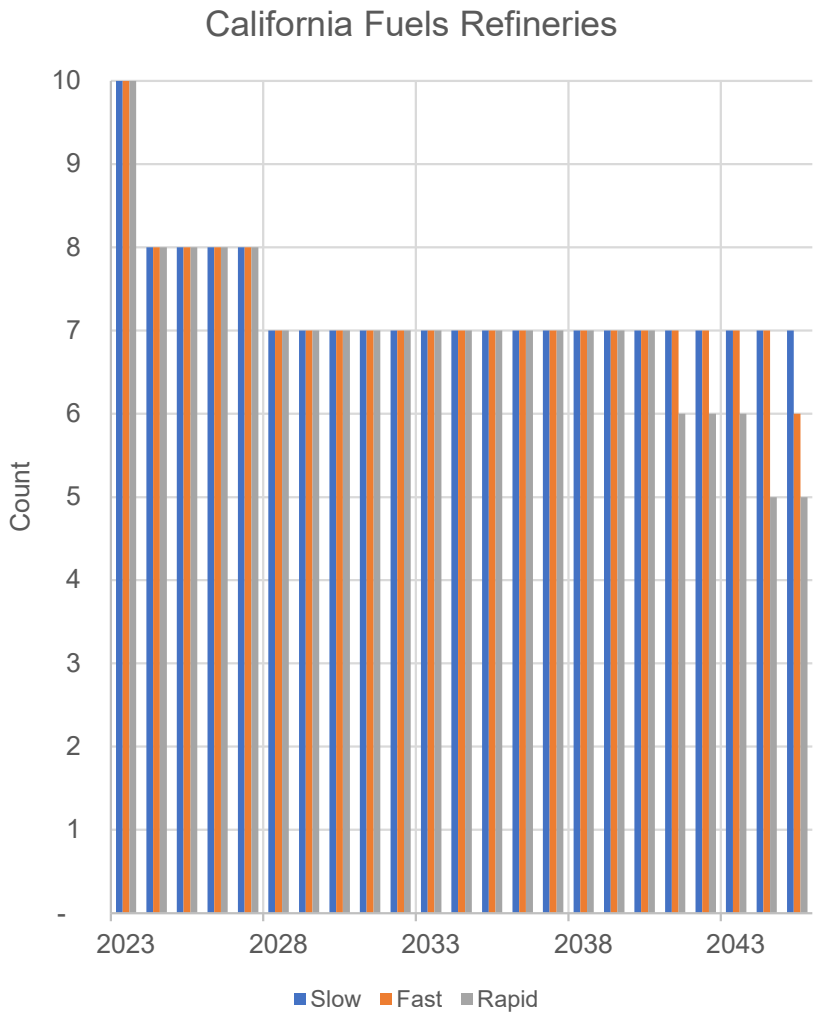
- Total marine movements (crude, gasoline, jet, diesel).
- Changes in California CEC gasoline demand curves (Slow, Fast, Rapid).
- Crude imports constrained in all scenarios, except in later years for the Fast and Rapid scenarios where the product marine export limit dominates.
- Total marine movements expected to remain steady under California demand destruction until 2040 when potential refinery closures could begin to limit total crude runs.



Source: TM&C Modeling

E. Economic Utilization Limited (cont.)

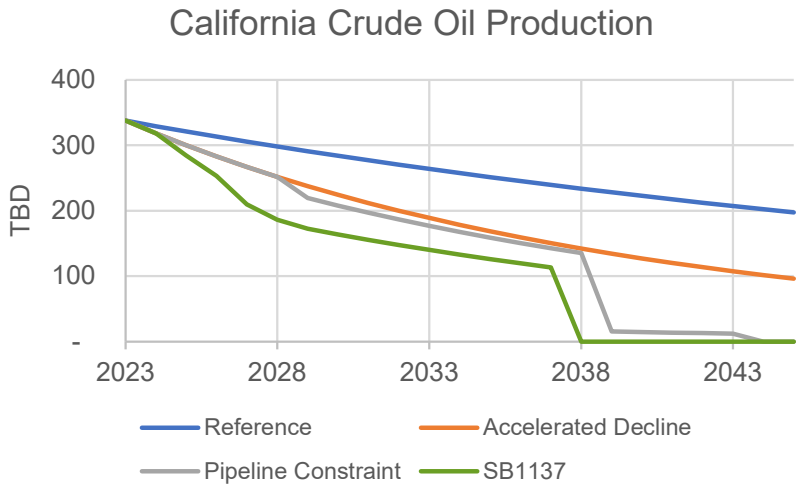
- P66 Rodeo refinery fully converted to renewable fuels production in 2024.
- Early refinery closures (before 2030) due to low utilization in base operations.
- More refineries could close than under the Physical Utilization Limited scenario.

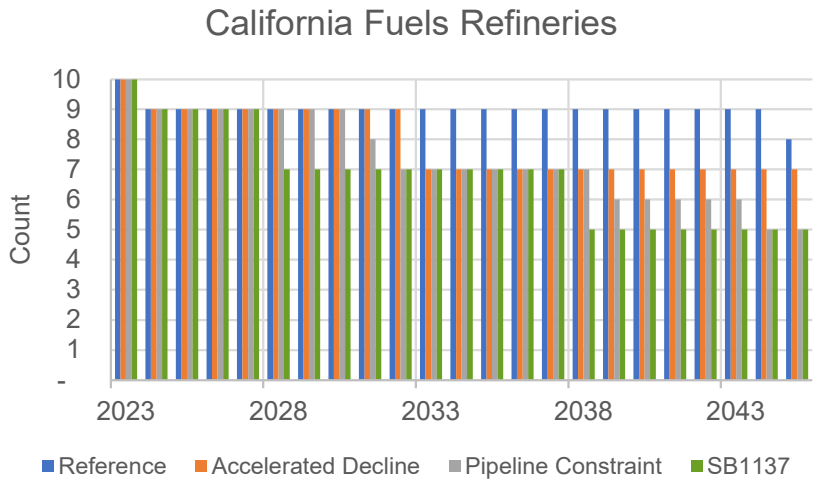


Source: TM&C Modeling

F. Crude Production Alternatives

- Apply different California crude oil production scenarios on system, under the "Slow" product demand scenario. Crude marine import limits become a more prominent driver as California crude oil production declines.
- In all California gasoline demand scenarios (and including AZ/NV pipeline demand), there is enough capacity in system through 2040.
- However, in the "Rapid" scenario demand declines enough to result in the closure of a California refinery by 2045.





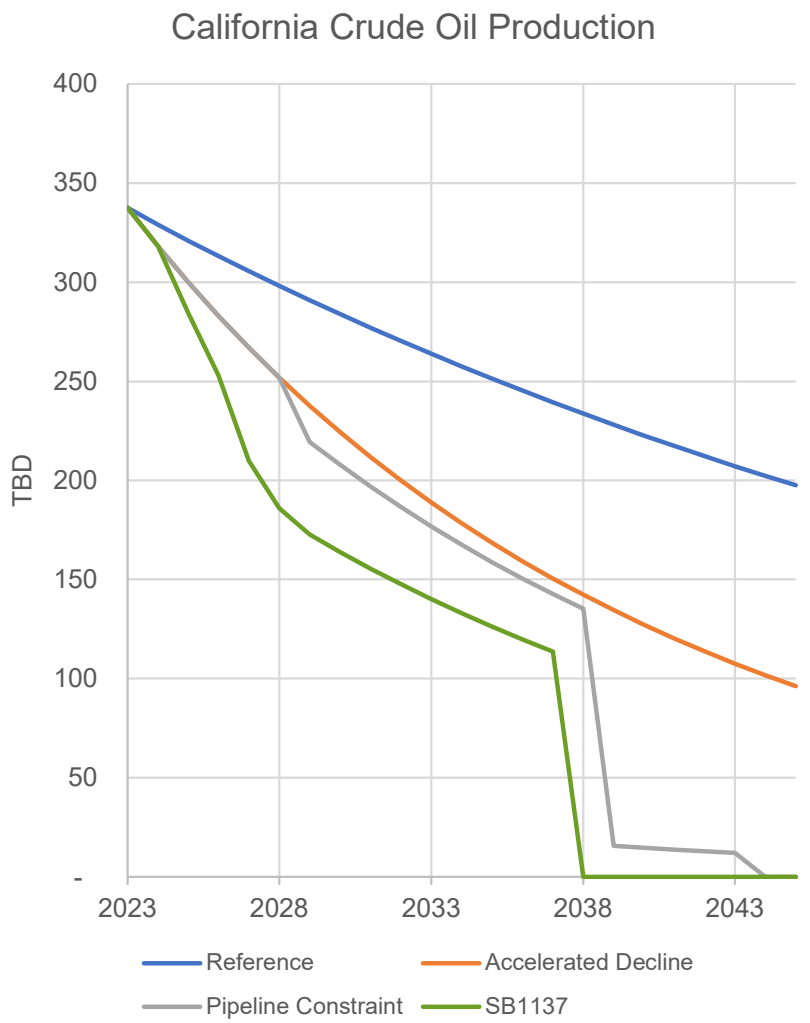
Source: TM&C Modeling

F. Crude Production Alternatives

- Apply different California Crude Production scenarios on system, under Slow Product Demand scenario. Crude marine import limit becomes a more prominent driver as California production declines.
- Imposing crude marine import limit (1,150 TBD) and product marine movement limit (670 TBD) on system, in addition to the normal minimum refinery utilization limit
- Product pipelines supplying AZ and NV are filled, potentially requiring additional imports of products to meet demand
- Enough room in system, via California product demand and AZ/NV pipeline to keep system running through 2040 in all California gasoline demand scenarios, but one refinery could close in 2045 under the Rapid demand decline scenario

F. Crude Production Limited (cont..)

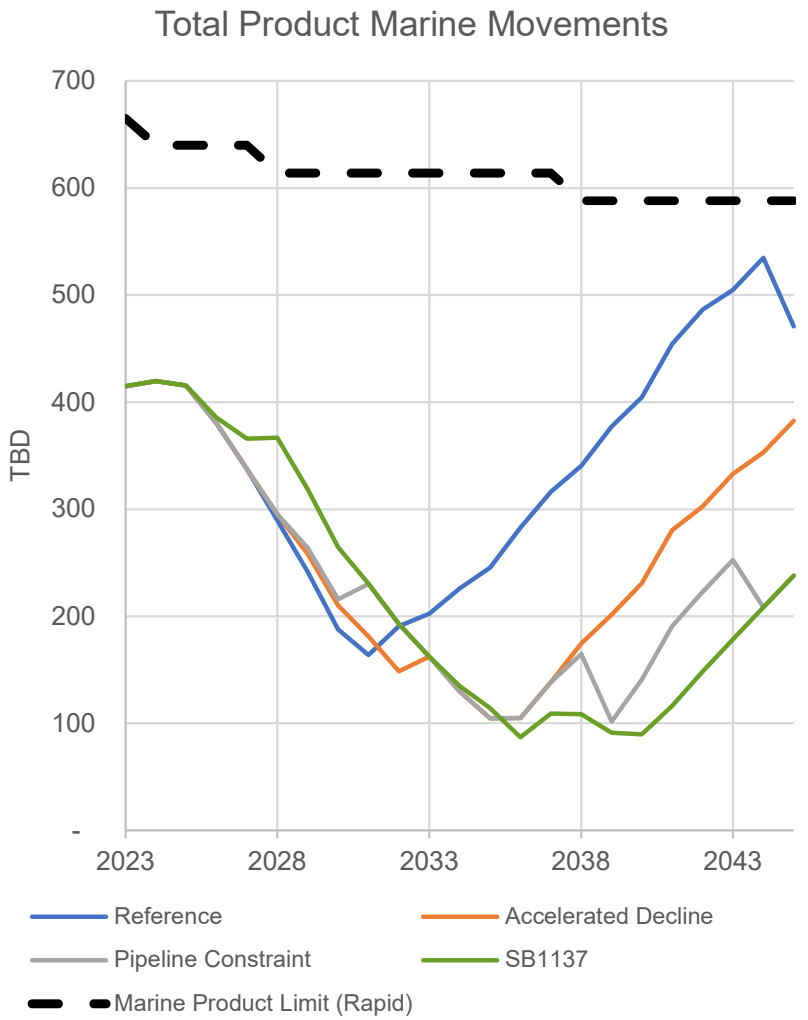
- Reference: Production declines continue based on recent decline rates
- Accelerated Decline: Production declines driven by a slowing pace of drilling permit approvals
- Pipeline Constraint: Once a pipeline reaches minimum throughput, the pipeline and production that filled it are both shutdown; trucking the production out of the field is assumed to not be an option.
- SB1137: Setback limits shut-in production in urban areas first, eventually across state.



Source: CalGEM, Catalyst Environmental, EIA, Turner Mason analysis

F. Crude Production Limited (cont.)

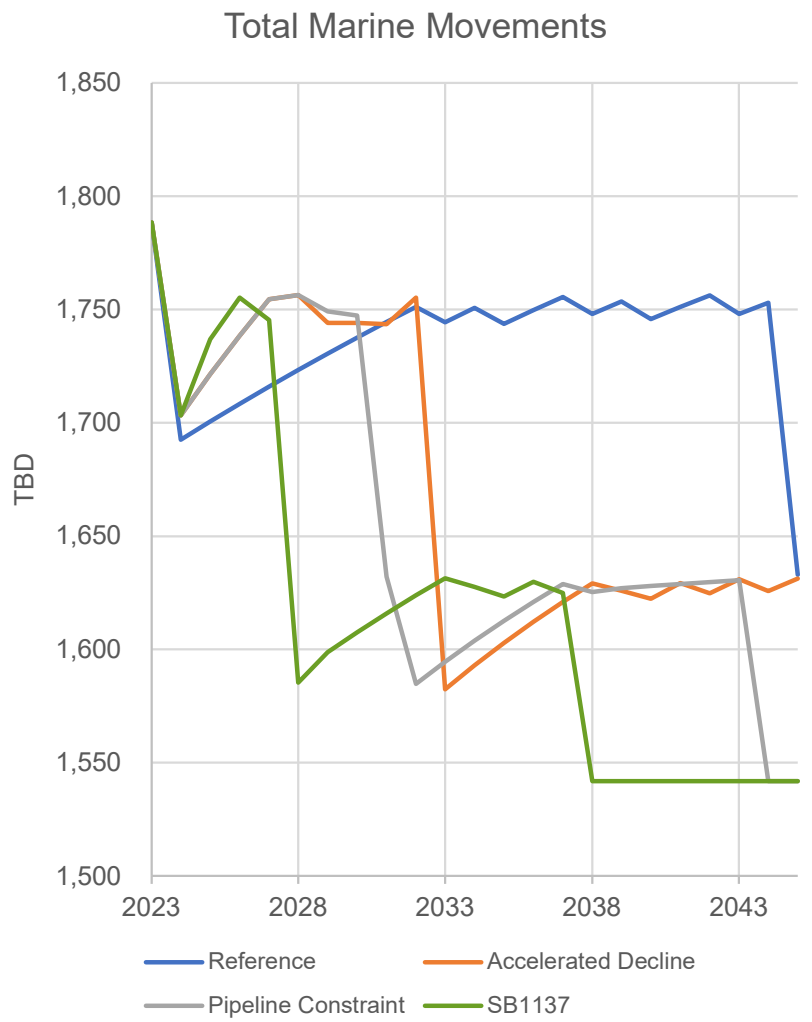
- Total product marine movements (gasoline, jet, diesel).
- Changes in California Crude Production profiles.
- 670 TBD limit on total product marine movements imposed and reduced as refineries shutdown.
- Marine import limit is not constraining.
- Under all scenarios, gasoline and jet goes from import to export, while diesel remains steady export.



Source: TM&C Modeling

F. Crude Production Limited (cont..)

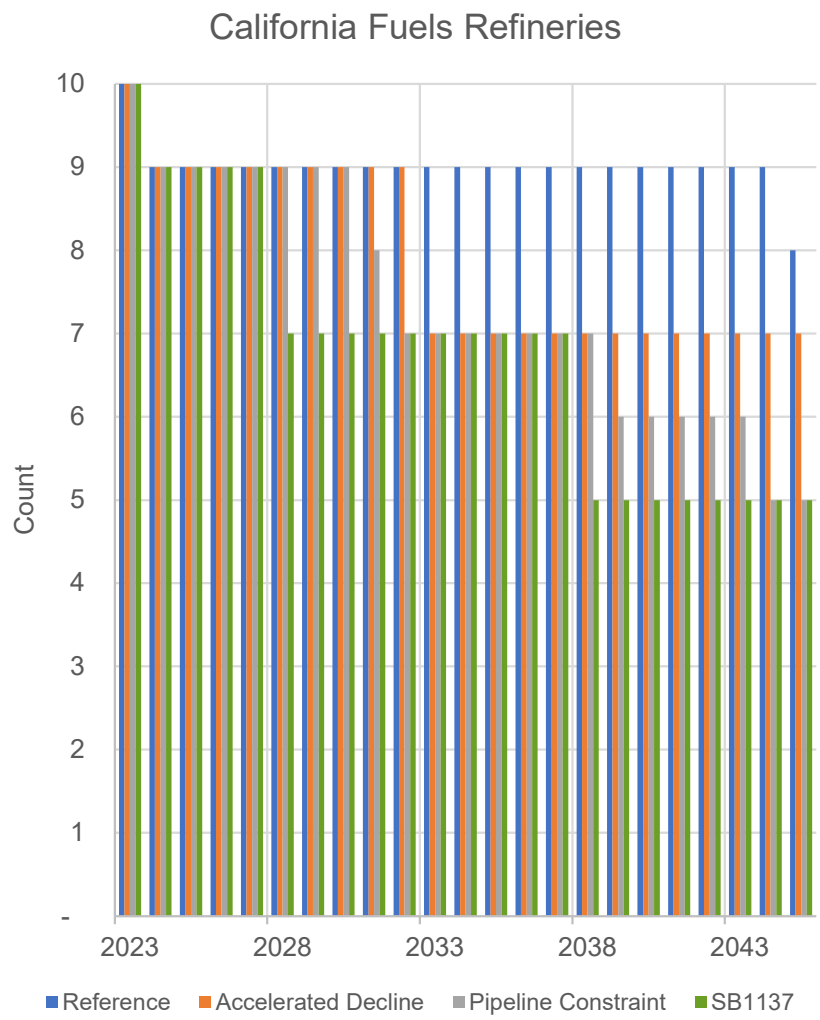
- Total marine movements (crude, gasoline, jet, diesel).
- Changes in California Crude Production profiles.
- Crude imports constrained in all scenarios due to rapid decline in crude production.



Source: TM&C Modeling

F. Crude Production Limited (cont..)

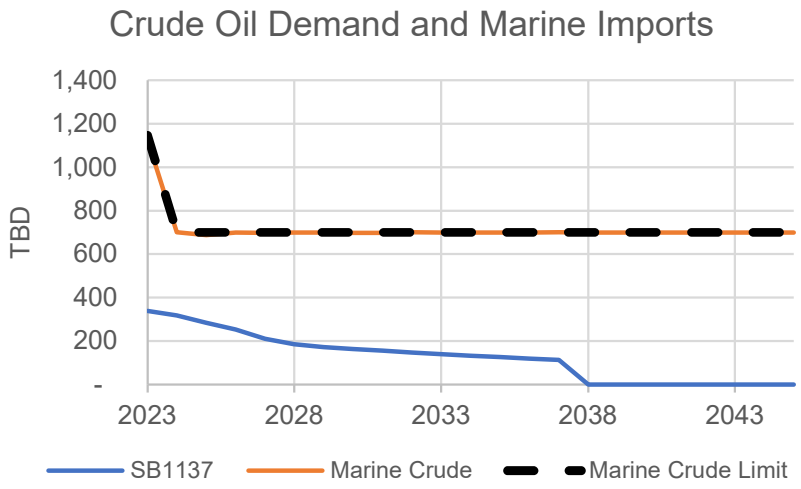
- P66 Rodeo refinery fully converted to renewable fuels production in 2024.
- All crude production scenarios expected to see refinery closures.
- Pipeline Constraint and SB1137 may force half of California refineries to close by 2045.

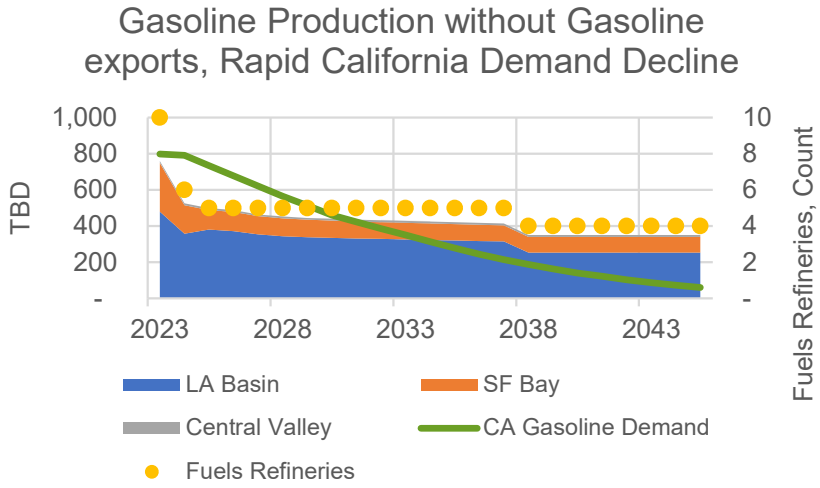


Source: TM&C Modeling

G. Fully Enforced "At-Berth" Emissions Limits

- Marine system is rendered infeasible if 20 vessel/berth per year limit is applied to total ship visits
- To make the system feasible, we assume there is a waiver in some way:
  - If 20 vessel/berth per year limit is applied to crude oil, it creates an effective crude marine import limit of 700 TBD, vs 1,150 TBD in other scenarios
  - Product marine import limit nearly unchanged with 20 vessel/berth per year limit (670 TBD)
- Under SB1137 California crude oil production decline and "At-Berth" constraints, see rapid initial closure of refineries
- Timing of implementation of "At-Berth" constraints uncertain, which would change impacts on system
- Increased marine product imports due to refinery closures
- If importers use largest available product vessels, California **demand must decline rapidly** for marine product berths to not be constrained.
- Imports of gasoline required in early years due to rapid shutdown of refineries that are "At-Berth" constrained on crude oil
- As California demand rapidly declines, eventually move to exports of gasoline required (Rapid demand) but continued imports required (Slow demand)

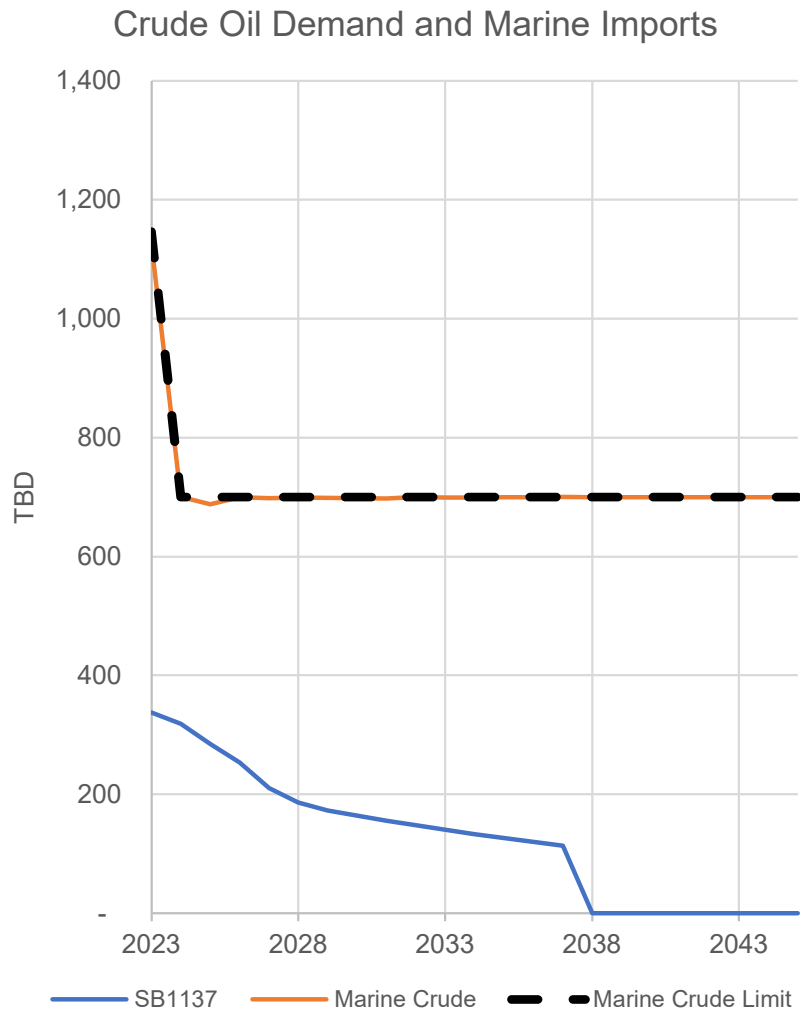




Source: TM&C Modeling

G. Fully Enforced "At-Berth" Emissions Limits (cont..)

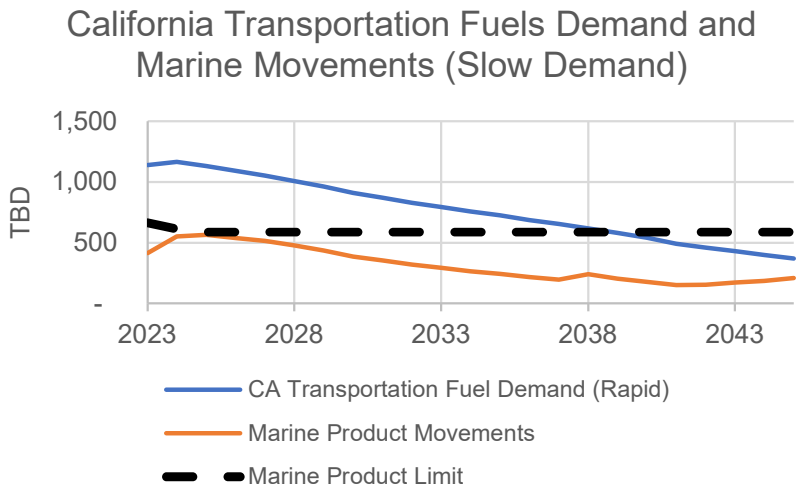
- SB1137 Demand: Setback limits shut-in production in urban areas first, eventually across state.
- 20 vessel/berth per year limit creates effectively 700 TBD crude marine import limit.

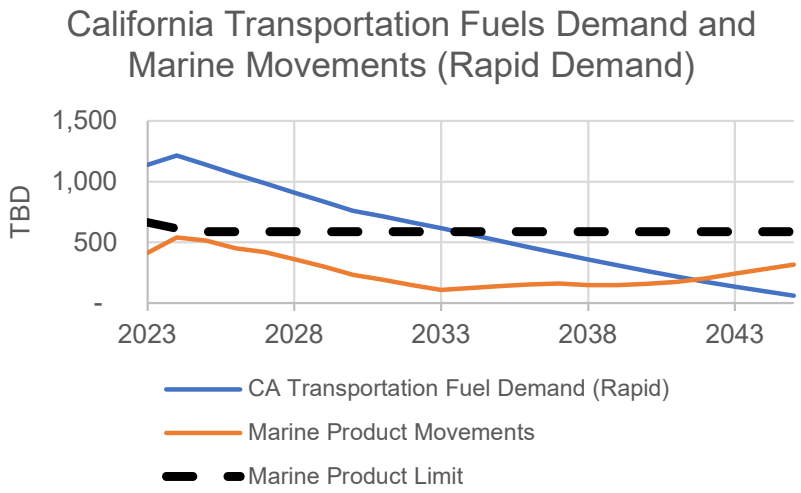


Source: TM&C Modeling

G. Fully Enforced "At-Berth" Emissions Limits (cont)

- Total product marine movements (gasoline, jet, diesel).
- Slow and Rapid California Transportation Fuel Demand Scenario
- 670 TBD limit on total product marine movements imposed and reduced as refineries shutdown.
- Total product marine limit is not limiting in either scenario.

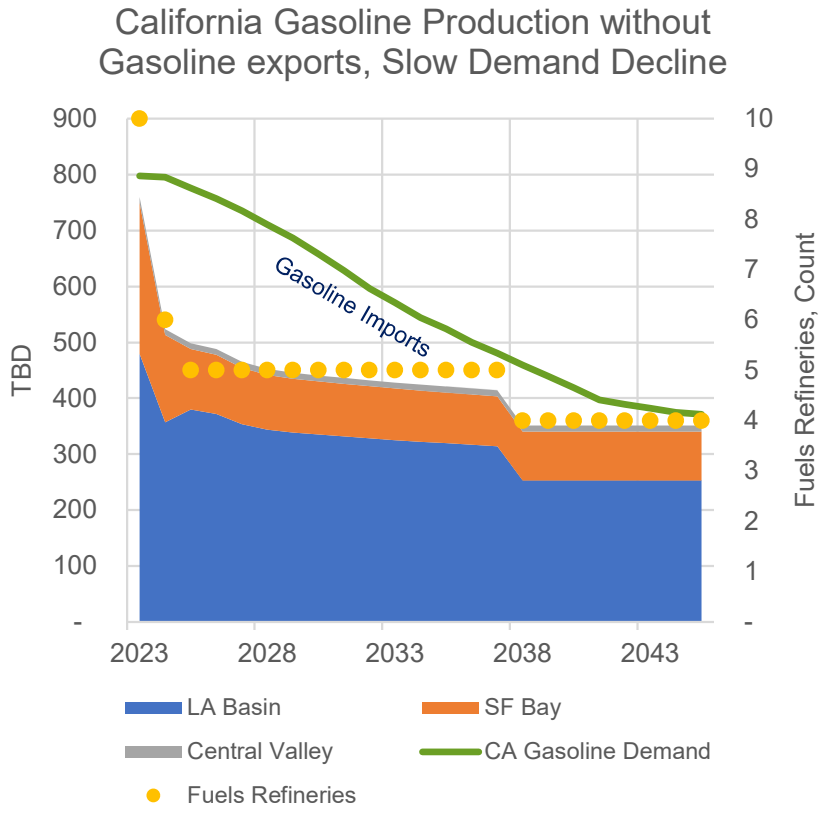




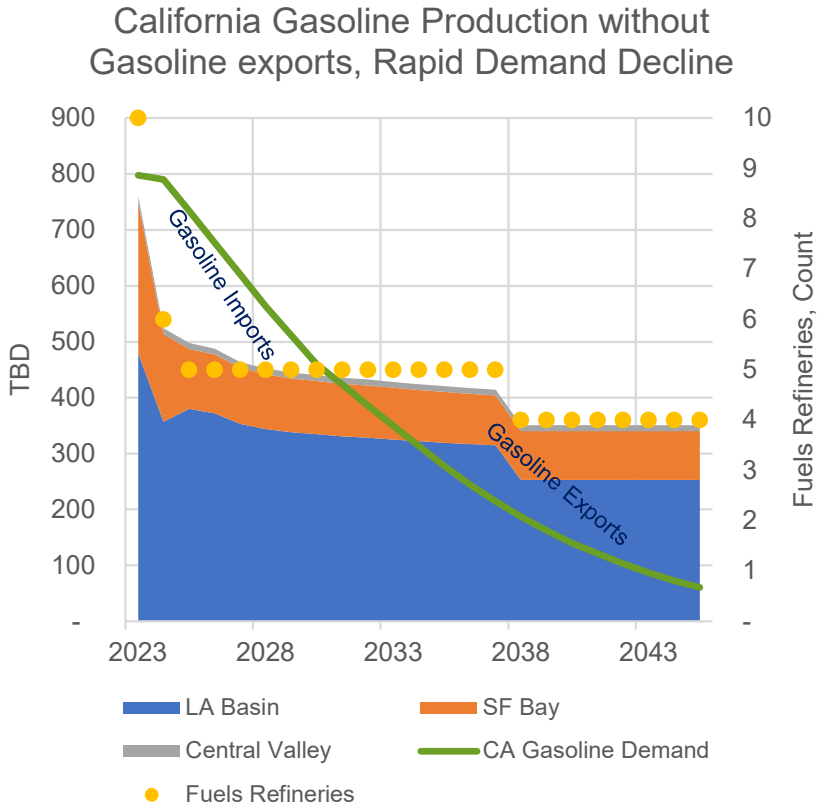
Source: TM&C Modeling

G. Fully Enforced "At-Berth" Emissions Limits (cont)

- California refineries could rapidly shut-down if crude oil availability is limited locally by SB 1137 and by water by the "At-Berth" regulation.
- With slow demand decline, California could perpetually require imports



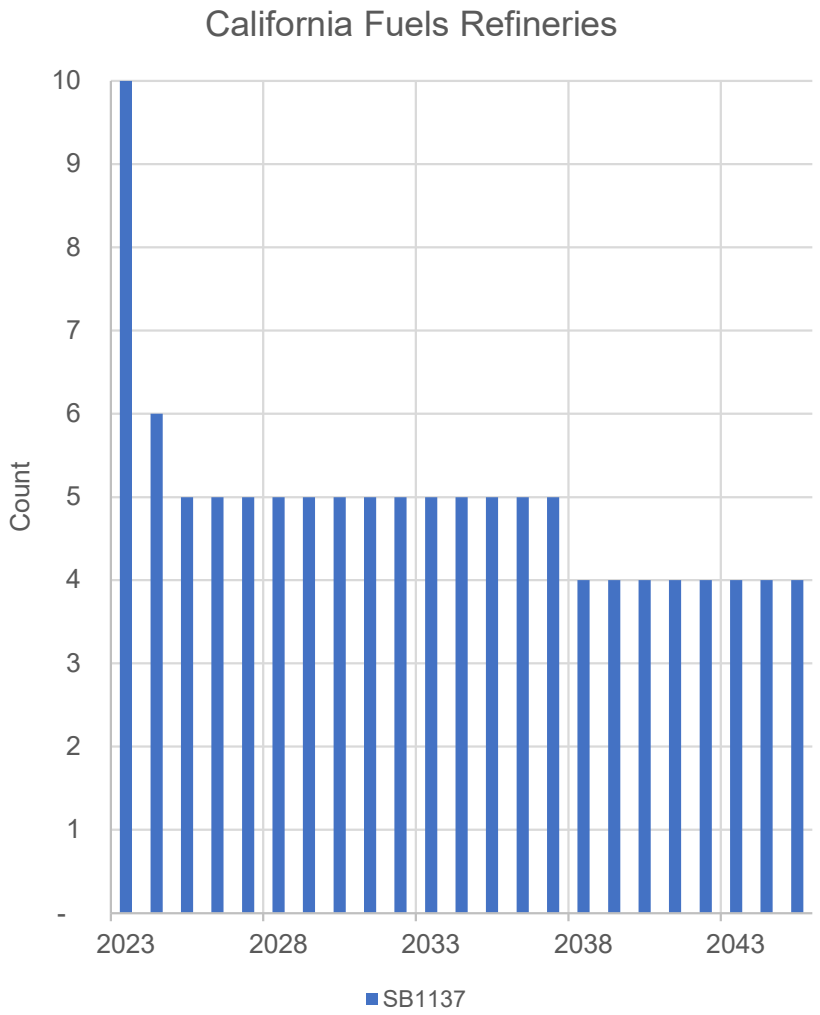
- Imports of gasoline required in early years due to rapid shutdown of refineries ("At-Berth" constrained).
- As California demand rapidly declines, eventually exports of gasoline could be required.
- Moving from imports to exports could induce price volatility



Source: TM&C Modeling

G. Fully Enforced "At-Berth" Emissions Limits (cont.)

- P66 Rodeo refinery fully converted to renewable fuels production in 2024.
- Under SB1137 California Crude Production decline and "At-Berth" constraints, see rapid initial closure of refineries to meet "At-Berth" constraint, and two additional closures in later years as California production continues to decline.
- Pace of refinery closures the same under either CA product demand scenario (Slow or Rapid).



Source: TM&C Modeling

APPENDIX

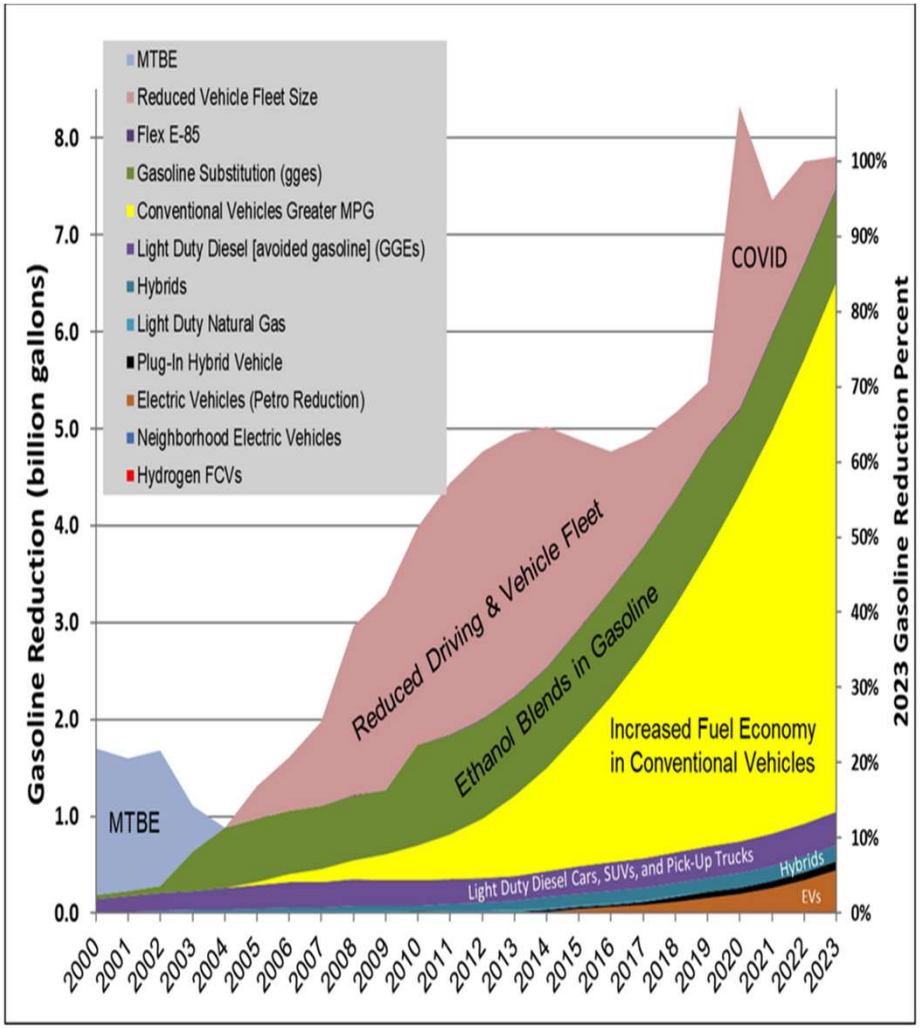
GLOSSARY

AATE3	Additional Achievable Transportation Electrification
AZ	State of Arizona
BBD	Biomass-based Diesel
BOEM	Bureau of Ocean Energy Management (US Department of Interior)
CBI	Confidential Business Information
CalGEM	California Geologic Energy Management Division
CARB	California Air Resources Board
CEC	California Energy Commission
CPUC	California Public Utilities Commission
EIA	Energy Information Agency (US Department of Energy)
EVs	Electric Vehicles
IEPR	Integrated Energy Policy Report
KRV	Kern River Valley
LCFS	Low Carbon Fuel Standard
MM Gals	Million Gallons
MMGY	Million Gallons per Year
NV	Nevada
RD	Renewable Diesel
SJV	San Joaquin Valley
TAN	Total Acid Number
TBD	Thousand Barrels per Day
TESCII	Transportation Energy Supply Chain Infrastructure and Investment
TMX	Trans Mountain Pipeline Expansion
ULSD	Ultra Low Sulfur Diesel
WCS	Western Canadian Select

THE SCOPE OF OUR APPROACH TO THE TESCII STUDY

- This study is based entirely on public information and TM&C analysis. We leveraged this public information on crude oil and refined products to calculate state-level supply/demand balances using State of California projections for future demand.
- Our primary analytical efforts included:
  - Studied recent domestic crude oil production trends and estimated future production declines for major onshore and offshore California production.
  - Mapped crude supply logistics from production fields to refineries along major trunkline networks, including identifying major injection and destination points. Additionally, studied import crude logistics, including major docks/berths capacity and pathways to refineries.
  - Developed representative models of each individual refinery in California using our proprietary Turner Mason Modeling System (TMMS). These configurations were used in an assessment of the viability and risk to the California refinery network at a state level under expected crude supply, product demands, and logistic constraints.
  - Studied existing logistic systems (pipelines, marine, rail) and identified potential developments that could impact these systems in the future.
  - Reviewed expected changes in the regulatory outlook, including proposed rules, permitting bans, executive orders, and new standards. Assessed potential impact of these initiatives on the viability of the transportation fuel delivery system.
- Summarized assessments and results.

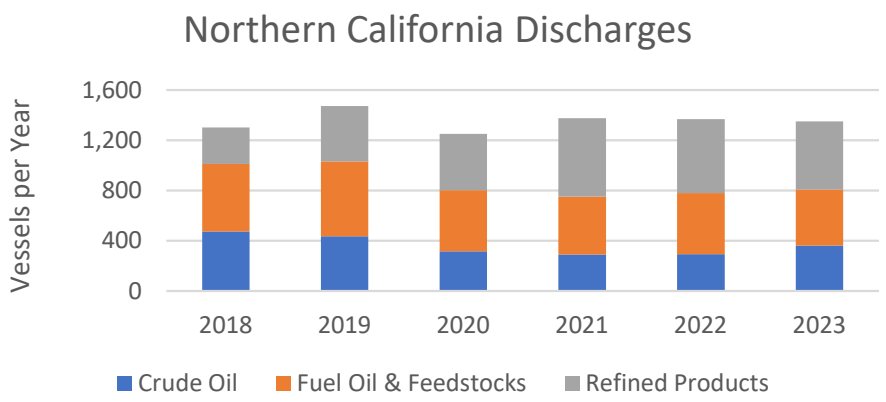
EVs ARE NOT THE ONLY WAY TO REDUCE GASOLINE DEMAND

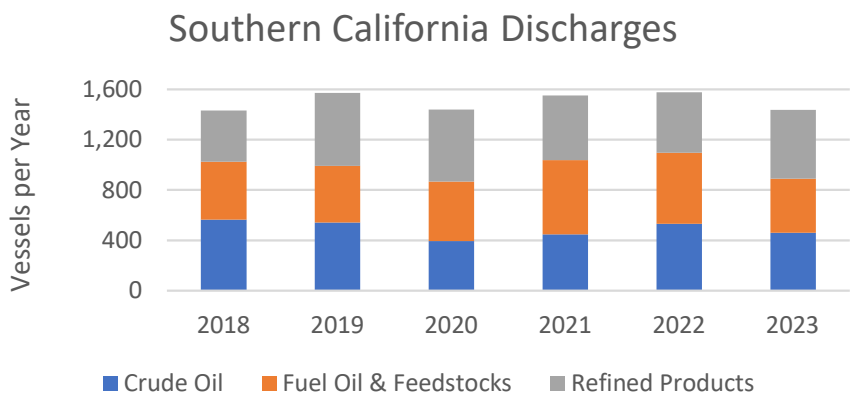


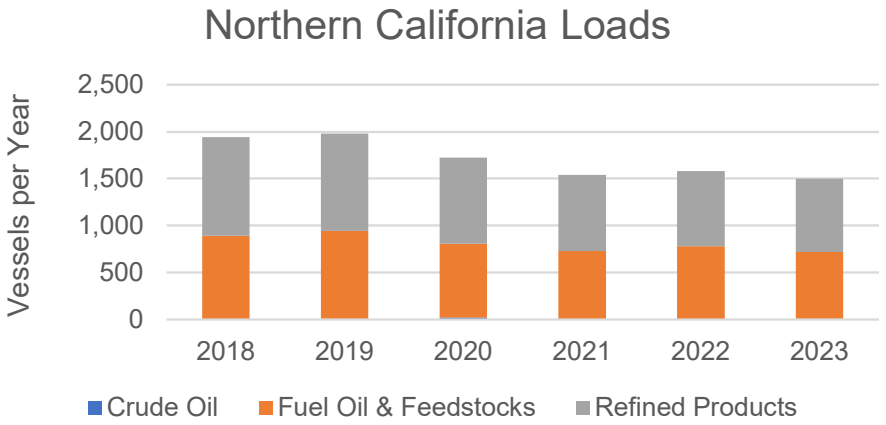
- Over the last 20 years, California has reduced fossil fuel consumption in the state by 7.8 billion gallons compared to the projected trend (extrapolated from the historic trendline)
- California's population growth (1940-2003) was the dominant factor in gasoline demand growth, but population growth has slowed significantly since 2003
- The chart on the left shows the purchase of conventional vehicles (with improving fuel economy since 2003) are responsible for ~75% of gasoline consumption in 2023
- CARB's zero emission vehicle (ZEV) mandate program is estimated to reduce ~7% of 2023 gasoline consumption

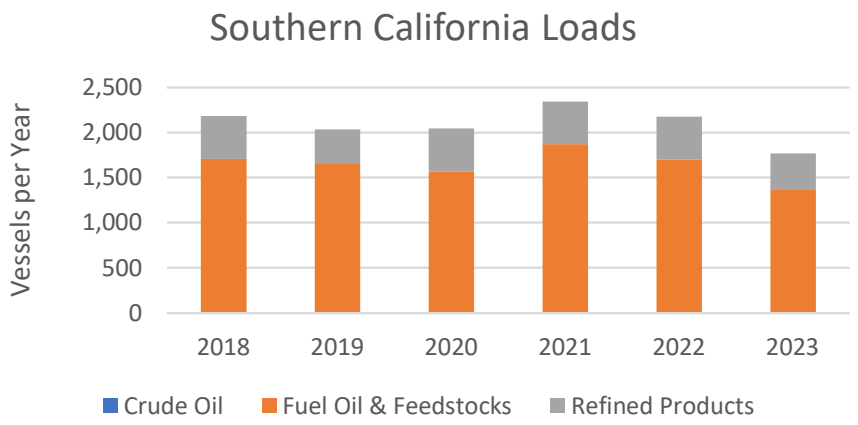
Source: Stillwater & Associates

MARINE LOGISTICS









Discharges and Loads refer to volumes being received from or loaded onto a ship or barge. These should not be confused with imports and exports as much of the volume originates from or is destined to another location within California.

SCENARIO MODELING BASIS / ASSUMPTIONS

- Modeled each refinery in TMMS
  - Additional feedstock purchases held constant to represent typical operation
  - No change in configuration over time
- Held operation of four (small) asphalt refineries constant
  - Easiest access to California crude
  - Demand for product not declining
  - Even with shift to EV's and RD, asphalt demand not expected to decline
- Operations of one small fuels refinery held constant
  - Structural advantage of access to crude oil and captive product market
  - Assume niche position keeps refinery economic
- Distribution of California crude production
  - Asphalt refiners running KRV crude (heavier than SJV) at constant rates
  - Distribution of remaining California crude production to SF Bay vs LA Basin
- Distribution of other crudes
  - Alaska crude oil
  - Other grades available within defined min / max limits
  - Marginal grade (Arab Medium) to fill crude units to desired rate as needed
- Years modeled
  - 2023 through 2045
  - CEC transportation fuel demand curves end in 2045
- Refinery shutdown impacts
  - Conversion of P66 Rodeo to renewable fuels production (along with Marathon Martinez) modeled as scenario where crude marine import capability removed from system
  - SF Bay refinery marine logistics associated with individual refineries and not available to rest of circuit after shutdown
  - LA Basin marine logistics separate from individual refineries so still available to rest of circuit as refineries shutdown

METHOD FOR APPLYING SCENARIO CONSTRAINTS

- Crude marine limit / product marine limit
  - Causes utilization to drop
- Physical/Economic utilization minimum
  - Triggers refinery shutdown
- California only demand case
  - Triggers refinery shutdown to reduce gasoline production
- Apply refinery shutdown seriatim
  - Based on size / complexity / resiliency
  - Once shutdown, don't reopen site in later (more constrained) years
- Scaling operating refinery runs to meet marine limits as necessary
  - Can cause utilization to drop
- Iterative process
  - Applying marine limits, utilization limits, California demand limits with adjustments to scaling / shutdowns
- After iterative process, including refinery shutdowns, recast crude slates to remaining refineries based on scaled operations / utilization and re-run refinery models
  - Ensures utilization of full California crude that would have been lost in iterative process due to shutdowns / scaling
  - Minimum impact to product yields

Who We Are

Founded in 1971, Turner, Mason & Company provides technical, commercial and strategic consulting services to worldwide clients in the crude oil, midstream, refining, refined products, biofuels and renewable fuels industries.

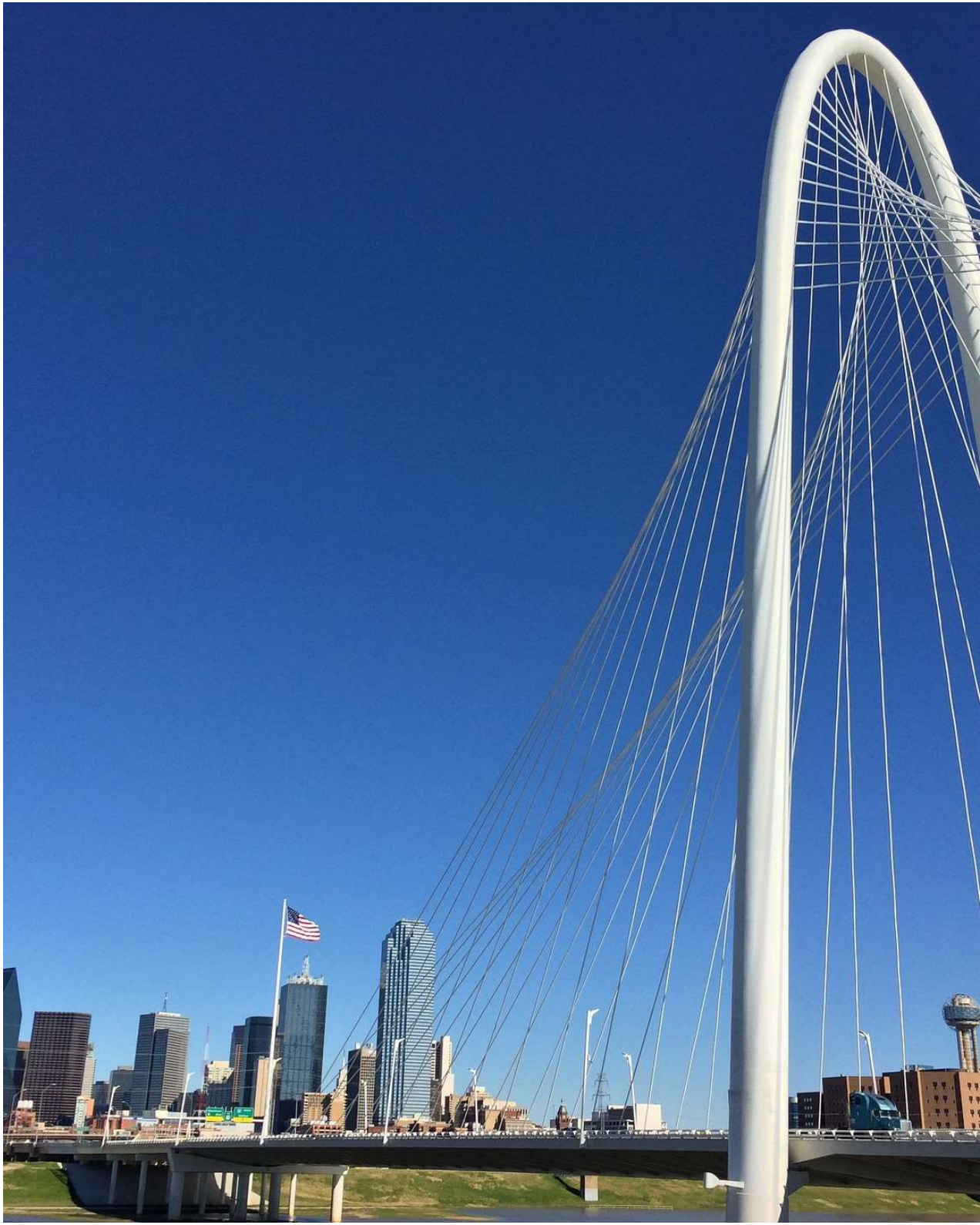
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Founded: 1971

Offices: Dallas - Houston

Phone: (214) 754-0898
Email: contact@turnermason.com

Turner, Mason & Company
energy consulting & advisory



OFFICE OF THE GOVERNOR

April 21, 2025

Mr. Siva Gunda
Vice Chair
California Energy Commission
715 P Street
Sacramento, CA 95814

Dear Vice Chair Gunda,

Thank you for your leadership in protecting consumers and ensuring that California has a safe, affordable and reliable supply of transportation fuels during our energy transition over the next two decades, including through implementation of Senate Bill X1-2 (Skinner, 2023) and Assembly Bill X2-1 (Hart, 2024).

I write to direct you to redouble the State's efforts to work closely with refiners on short- and long-term planning, including through high-level, immediate engagement, to help ensure that Californians continue to have access to a safe, affordable, and reliable supply of transportation fuels, and that refiners continue to see the value in serving the California market, even as demand for fossil fuels continues its gradual decline over the coming decades.

Further, I am directing you, as my Administration's lead representative on this issue, to reinforce the State's openness to a collaborative relationship and our firm belief that Californians can be protected from price spikes and refiners can profitably operate in California – a market where demand for gasoline will still exist for years to come.

Additionally, I am directing you to engage with the Petroleum Strategy Task Force, a cross-agency effort convened by California Natural Resources Agency Secretary Wade Crowfoot and California Environmental Protection Agency Secretary Yana Garcia. That task force is evaluating the State's progress and risks in managing an energy transition in which supply and in-state demand for

petroleum products are both decreasing over the next 20 years. Building on that engagement and the California Energy Commission's (CEC) Transportation Fuels Assessment, I direct you to recommend, by July 1, any changes in the State's approach that are needed to ensure adequate supply during this transition.

As you know, increasingly in recent years, Californians have experienced rapid fluctuations in retail gasoline prices that too often mean abrupt increases followed by a slow and gradual decline, causing families to incur higher costs unexpectedly for everyday needs. The Legislature responded to this growing problem with SBX1-2, which provided the CEC with critical data transparency tools that facilitate real-time market monitoring.

Using this critical new data provided by SBX1-2, the Division of Petroleum Market Oversight (DPMO), in collaboration with the CEC, was able to identify the root causes of the fall 2022 and fall 2023 retail gasoline price spikes: inadequate supply when refineries went offline for maintenance, low inventories that led to supply shortages during unplanned outages, and a volatile spot market that has an outsized influence on the wholesale price of gasoline. These findings led the Legislature to respond by enacting ABX2-1, which provided the CEC with new tools to mitigate price spikes. The data provided by SBX1-2 has also allowed DPMO to inform the public, in real time, when volatile spot market conditions threaten to raise prices at the pump.

While we've made great progress in addressing spikes and irregularities in the gasoline market, refineries across the country and around the world are facing unprecedented uncertainty. The new federal administration has added more uncertainty and instability to the global economy than ever before – with the oil industry on the front lines of this market turmoil. Refineries have been restructuring, transitioning, consolidating, and closing across the country for years. In January, the 700-hundred-acre LyondellBasell refinery in Houston announced its closure as the company transitions to "broader decarbonization and sustainability objectives." California is not immune to this national trend.

California will continue to lead the way in this transition, but it is imperative that we continue to ensure a safe, affordable and reliable supply of transportation fuels over the next two decades. Thank you for your attention to this critical matter on behalf of the State.

Sincerely,

Gavin Newsom
Governor of California

AB-32 Air pollution: greenhouse gases: California Global Warming Solutions Act of 2006. (2005-2006)

SHARE THIS:

Assembly Bill No. 32

CHAPTER 488

An act to add Division 25.5 (commencing with Section 38500) to the Health and Safety Code, relating to air pollution.

[Approved by Governor September 27, 2006. Filed with Secretary of State September 27, 2006.]

LEGISLATIVE COUNSEL'S DIGEST

AB 32, Nunez. Air pollution: greenhouse gases: California Global Warming Solutions Act of 2006.

Under existing law, the State Air Resources Board (state board), the State Energy Resources Conservation and Development Commission (Energy Commission), and the California Climate Action Registry all have responsibilities with respect to the control of emissions of greenhouse gases, as defined, and the Secretary for Environmental Protection is required to coordinate emission reductions of greenhouse gases and climate change activity in state government.

This bill would require the state board to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program, as specified. The bill would require the state board to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020, as specified. The bill would require the state board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions, as specified. The bill would authorize the state board to adopt market-based compliance mechanisms, as defined, meeting specified requirements. The bill would require the state board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by the state board, pursuant to specified provisions of existing law. The bill would authorize the state board to adopt a schedule of fees to be paid by regulated sources of greenhouse gas emissions, as specified.

Because the bill would require the state board to establish emissions limits and other requirements, the violation of which would be a crime, this bill would create a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: yes

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Division 25.5 (commencing with Section 38500) is added to the Health and Safety Code, to read:

DIVISION 25.5. CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006
PART 1. GENERAL PROVISIONS
CHAPTER 1. Title of Division

38500. This division shall be known, and may be cited, as the California Global Warming Solutions Act of 2006.

CHAPTER 2. Findings and Declarations

38501. The Legislature finds and declares all of the following:

(a) Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

(b) Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.

(c) California has long been a national and international leader on energy conservation and environmental stewardship efforts, including the areas of air quality protections, energy efficiency requirements, renewable energy standards, natural resource conservation, and greenhouse gas emission standards for passenger vehicles. The program established by this division will continue this tradition of environmental leadership by placing California at the forefront of national and international efforts to reduce emissions of greenhouse gases.

(d) National and international actions are necessary to fully address the issue of global warming. However, action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act.

(e) By exercising a global leadership role, California will also position its economy, technology centers, financial institutions, and businesses to benefit from national and international efforts to reduce emissions of greenhouse gases. More importantly, investing in the development of innovative and pioneering technologies will assist California in achieving the 2020 statewide limit on emissions of greenhouse gases established by this division and will provide an opportunity for the state to take a global economic and technological leadership role in reducing emissions of greenhouse gases.

(f) It is the intent of the Legislature that the State Air Resources Board coordinate with state agencies, as well as consult with the environmental justice community, industry sectors, business groups, academic institutions, environmental organizations, and other stakeholders in implementing this division.

(g) It is the intent of the Legislature that the State Air Resources Board consult with the Public Utilities Commission in the development of emissions reduction measures, including limits on emissions of greenhouse gases applied to electricity and natural gas providers regulated by the Public Utilities Commission in order to ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

(h) It is the intent of the Legislature that the State Air Resources Board design emissions reduction measures to meet the statewide emissions limits for greenhouse gases established pursuant to this division in a manner that minimizes costs and maximizes benefits for California's economy, improves and modernizes California's energy infrastructure and maintains electric system reliability, maximizes additional environmental and economic co-benefits for California, and complements the state's efforts to improve air quality.

(i) It is the intent of the Legislature that the Climate Action Team established by the Governor to coordinate the efforts set forth under Executive Order S-3-05 continue its role in coordinating overall climate policy.

CHAPTER 3. Definitions

38505. For the purposes of this division, the following terms have the following meanings:

(a) "Allowance" means an authorization to emit, during a specified year, up to one ton of carbon dioxide equivalent.

(b) "Alternative compliance mechanism" means an action undertaken by a greenhouse gas emission source that achieves the equivalent reduction of greenhouse gas emissions over the same time period as a direct emission reduction, and that is approved by the state board. "Alternative compliance mechanism" includes, but is not limited to, a flexible compliance schedule, alternative control technology, a process change, or a product substitution.

(c) "Carbon dioxide equivalent" means the amount of carbon dioxide by weight that would produce the same global warming impact as a given weight of another greenhouse gas, based on the best available science, including from the Intergovernmental Panel on Climate Change.

(d) "Cost-effective" or "cost-effectiveness" means the cost per unit of reduced emissions of greenhouse gases adjusted for its global warming potential.

(e) "Direct emission reduction" means a greenhouse gas emission reduction action made by a greenhouse gas emission source at that source.

(f) "Emissions reduction measure" means programs, measures, standards, and alternative compliance mechanisms authorized pursuant to this division, applicable to sources or categories of sources, that are designed to reduce emissions of greenhouse gases.

(g) "Greenhouse gas" or "greenhouse gases" includes all of the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexaflouride.

(h) "Greenhouse gas emissions limit" means an authorization, during a specified year, to emit up to a level of greenhouse gases specified by the state board, expressed in tons of carbon dioxide equivalents.

(i) "Greenhouse gas emission source" or "source" means any source, or category of sources, of greenhouse gas emissions whose emissions are at a level of significance, as determined by the state board, that its participation in the program established under this division will enable the state board to effectively reduce greenhouse gas emissions and monitor compliance with the statewide greenhouse gas emissions limit.

(j) "Leakage" means a reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state.

(k) "Market-based compliance mechanism" means either of the following:

(1) A system of market-based declining annual aggregate emissions limitations for sources or categories of sources that emit greenhouse gases.

(2) Greenhouse gas emissions exchanges, banking, credits, and other transactions, governed by rules and protocols established by the state board, that result in the same greenhouse gas emission reduction, over the same time period, as direct compliance with a greenhouse gas emission limit or emission reduction measure adopted by the state board pursuant to this division.

(l) "State board" means the State Air Resources Board.

(m) "Statewide greenhouse gas emissions" means the total annual emissions of greenhouse gases in the state, including all emissions of greenhouse gases from the generation of electricity delivered to and consumed in California, accounting for transmission and distribution line losses, whether the electricity is generated in state or imported. Statewide emissions shall be expressed in tons of carbon dioxide equivalents.

(n) "Statewide greenhouse gas emissions limit" or "statewide emissions limit" means the maximum allowable level of statewide greenhouse gas emissions in 2020, as determined by the state board pursuant to Part 3 (commencing with Section 38850).

CHAPTER 4. Role of State Board

38510. The State Air Resources Board is the state agency charged with monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases.

PART 2. MANDATORY GREENHOUSE GAS EMISSIONS REPORTING

38530. (a) On or before January 1, 2008, the state board shall adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program.

(b) The regulations shall do all of the following:

(1) Require the monitoring and annual reporting of greenhouse gas emissions from greenhouse gas emission sources beginning with the sources or categories of sources that contribute the most to statewide emissions.

(2) Account for greenhouse gas emissions from all electricity consumed in the state, including transmission and distribution line losses from electricity generated within the state or imported from outside the state. This requirement applies to all retail sellers of electricity, including load-serving entities as defined in subdivision (j) of Section 380 of the Public Utilities Code and local publicly owned electric utilities as defined in Section 9604 of the Public Utilities Code.

(3) Where appropriate and to the maximum extent feasible, incorporate the standards and protocols developed by the California Climate Action Registry, established pursuant to Chapter 6 (commencing with Section 42800) of Part 4 of Division 26. Entities that voluntarily participated in the California Climate Action Registry prior to December 31, 2006, and have developed a greenhouse gas emission reporting program, shall not be required to significantly alter their reporting or verification program except as necessary to ensure that reporting is complete and verifiable for the purposes of compliance with this division as determined by the state board.

(4) Ensure rigorous and consistent accounting of emissions, and provide reporting tools and formats to ensure collection of necessary data.

(5) Ensure that greenhouse gas emission sources maintain comprehensive records of all reported greenhouse gas emissions.

(c) The state board shall do both of the following:

(1) Periodically review and update its emission reporting requirements, as necessary.

(2) Review existing and proposed international, federal, and state greenhouse gas emission reporting programs and make reasonable efforts to promote consistency among the programs established pursuant to this part and other programs, and to streamline reporting requirements on greenhouse gas emission sources.

PART 3. STATEWIDE GREENHOUSE GAS EMISSIONS LIMIT

38550. By January 1, 2008, the state board shall, after one or more public workshops, with public notice, and an opportunity for all interested parties to comment, determine what the statewide greenhouse gas emissions level was in 1990, and approve in a public hearing, a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020. In order to ensure the most accurate determination feasible, the state board shall evaluate the best available scientific, technological, and economic information on greenhouse gas emissions to determine the 1990 level of greenhouse gas emissions.

38551. (a) The statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed.

(b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020.

(c) The state board shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020.

PART 4. GREENHOUSE GAS EMISSIONS REDUCTIONS

38560. The state board shall adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions from sources or categories of sources, subject to the criteria and schedules set forth in this part.

38560.5. (a) On or before June 30, 2007, the state board shall publish and make available to the public a list of discrete early action greenhouse gas emission reduction measures that can be implemented prior to the

measures and limits adopted pursuant to Section 38562.

(b) On or before January 1, 2010, the state board shall adopt regulations to implement the measures identified on the list published pursuant to subdivision (a).

(c) The regulations adopted by the state board pursuant to this section shall achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions from those sources or categories of sources, in furtherance of achieving the statewide greenhouse gas emissions limit.

(d) The regulations adopted pursuant to this section shall be enforceable no later than January 1, 2010.

38561. (a) On or before January 1, 2009, the state board shall prepare and approve a scoping plan, as that term is understood by the state board, for achieving the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions from sources or categories of sources of greenhouse gases by 2020 under this division. The state board shall consult with all state agencies with jurisdiction over sources of greenhouse gases, including the Public Utilities Commission and the State Energy Resources Conservation and Development Commission, on all elements of its plan that pertain to energy related matters including, but not limited to, electrical generation, load based-standards or requirements, the provision of reliable and affordable electrical service, petroleum refining, and statewide fuel supplies to ensure the greenhouse gas emissions reduction activities to be adopted and implemented by the state board are complementary, nonduplicative, and can be implemented in an efficient and cost-effective manner.

(b) The plan shall identify and make recommendations on direct emission reduction measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources and categories of sources that the state board finds are necessary or desirable to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020.

(c) In making the determinations required by subdivision (b), the state board shall consider all relevant information pertaining to greenhouse gas emissions reduction programs in other states, localities, and nations, including the northeastern states of the United States, Canada, and the European Union.

(d) The state board shall evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California’s economy, environment, and public health, using the best available economic models, emission estimation techniques, and other scientific methods.

(e) In developing its plan, the state board shall take into account the relative contribution of each source or source category to statewide greenhouse gas emissions, and the potential for adverse effects on small businesses, and shall recommend a de minimis threshold of greenhouse gas emissions below which emission reduction requirements will not apply.

(f) In developing its plan, the state board shall identify opportunities for emission reductions measures from all verifiable and enforceable voluntary actions, including, but not limited to, carbon sequestration projects and best management practices.

(g) The state board shall conduct a series of public workshops to give interested parties an opportunity to comment on the plan. The state board shall conduct a portion of these workshops in regions of the state that have the most significant exposure to air pollutants, including, but not limited to, communities with minority populations, communities with low-income populations, or both.

(h) The state board shall update its plan for achieving the maximum technologically feasible and cost-effective reductions of greenhouse gas emissions at least once every five years.

38562. (a) On or before January 1, 2011, the state board shall adopt greenhouse gas emission limits and emission reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit, to become operative beginning on January 1, 2012.

(b) In adopting regulations pursuant to this section and Part 5 (commencing with Section 38570), to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the state board shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action

to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.

(7) Minimize the administrative burden of implementing and complying with these regulations.

(8) Minimize leakage.

(9) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

(c) In furtherance of achieving the statewide greenhouse gas emissions limit, by January 1, 2011, the state board may adopt a regulation that establishes a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit greenhouse gas emissions, applicable from January 1, 2012, to December 31, 2020, inclusive, that the state board determines will achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, in the aggregate, from those sources or categories of sources.

(d) Any regulation adopted by the state board pursuant to this part or Part 5 (commencing with Section 38570) shall ensure all of the following:

(1) The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board.

(2) For regulations pursuant to Part 5 (commencing with Section 38570), the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.

(3) If applicable, the greenhouse gas emission reduction occurs over the same time period and is equivalent in amount to any direct emission reduction required pursuant to this division.

(e) The state board shall rely upon the best available economic and scientific information and its assessment of existing and projected technological capabilities when adopting the regulations required by this section.

(f) The state board shall consult with the Public Utilities Commission in the development of the regulations as they affect electricity and natural gas providers in order to minimize duplicative or inconsistent regulatory requirements.

(g) After January 1, 2011, the state board may revise regulations adopted pursuant to this section and adopt additional regulations to further the provisions of this division.

38563. Nothing in this division restricts the state board from adopting greenhouse gas emission limits or emission reduction measures prior to January 1, 2011, imposing those limits or measures prior to January 1, 2012, or providing early reduction credit where appropriate.

38564. The state board shall consult with other states, and the federal government, and other nations to identify the most effective strategies and methods to reduce greenhouse gases, manage greenhouse gas control programs, and to facilitate the development of integrated and cost-effective regional, national, and international greenhouse gas reduction programs.

38565. The state board shall ensure that the greenhouse gas emission reduction rules, regulations, programs, mechanisms, and incentives under its jurisdiction, where applicable and to the extent feasible, direct public and

private investment toward the most disadvantaged communities in California and provide an opportunity for small businesses, schools, affordable housing associations, and other community institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions.

PART 5. MARKET-BASED COMPLIANCE MECHANISMS

38570. (a) The state board may include in the regulations adopted pursuant to Section 38562 the use of market-based compliance mechanisms to comply with the regulations.

(b) Prior to the inclusion of any market-based compliance mechanism in the regulations, to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the state board shall do all of the following:

(1) Consider the potential for direct, indirect, and cumulative emission impacts from these mechanisms, including localized impacts in communities that are already adversely impacted by air pollution.

(2) Design any market-based compliance mechanism to prevent any increase in the emissions of toxic air contaminants or criteria air pollutants.

(3) Maximize additional environmental and economic benefits for California, as appropriate.

(c) The state board shall adopt regulations governing how market-based compliance mechanisms may be used by regulated entities subject to greenhouse gas emission limits and mandatory emission reporting requirements to achieve compliance with their greenhouse gas emissions limits.

38571. The state board shall adopt methodologies for the quantification of voluntary greenhouse gas emission reductions. The state board shall adopt regulations to verify and enforce any voluntary greenhouse gas emission reductions that are authorized by the state board for use to comply with greenhouse gas emission limits established by the state board. The adoption of methodologies is exempt from the rulemaking provisions of the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code).

38574. Nothing in this part or Part 4 (commencing with Section 38560) confers any authority on the state board to alter any programs administered by other state agencies for the reduction of greenhouse gas emissions.

PART 6. ENFORCEMENT

38580. (a) The state board shall monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by the state board pursuant to this division.

(b) (1) Any violation of any rule, regulation, order, emission limitation, emissions reduction measure, or other measure adopted by the state board pursuant to this division may be enjoined pursuant to Section 41513, and the violation is subject to those penalties set forth in Article 3 (commencing with Section 42400) of Chapter 4 of Part 4 of, and Chapter 1.5 (commencing with Section 43025) of Part 5 of, Division 26.

(2) Any violation of any rule, regulation, order, emission limitation, emissions reduction measure, or other measure adopted by the state board pursuant to this division shall be deemed to result in an emission of an air contaminant for the purposes of the penalty provisions of Article 3 (commencing with Section 42400) of Chapter 4 of Part 4 of, and Chapter 1.5 (commencing with Section 43025) of Part 5 of, Division 26.

(3) The state board may develop a method to convert a violation of any rule, regulation, order, emission limitation, or other emissions reduction measure adopted by the state board pursuant to this division into the number of days in violation, where appropriate, for the purposes of the penalty provisions of Article 3 (commencing with Section 42400) of Chapter 4 of Part 4 of, and Chapter 1.5 (commencing with Section 43025) of Part 5 of, Division 26.

(c) Section 42407 and subdivision (i) of Section 42410 shall not apply to this part.

PART 7. Miscellaneous Provisions

38590. If the regulations adopted pursuant to Section 43018.5 do not remain in effect, the state board shall implement alternative regulations to control mobile sources of greenhouse gas emissions to achieve equivalent

or greater reductions.

38591. (a) The state board, by July 1, 2007, shall convene an environmental justice advisory committee, of at least three members, to advise it in developing the scoping plan pursuant to Section 38561 and any other pertinent matter in implementing this division. The advisory committee shall be comprised of representatives from communities in the state with the most significant exposure to air pollution, including, but not limited to, communities with minority populations or low-income populations, or both.

(b) The state board shall appoint the advisory committee members from nominations received from environmental justice organizations and community groups.

(c) The state board shall provide reasonable per diem for attendance at advisory committee meetings by advisory committee members from nonprofit organizations.

(d) The state board shall appoint an Economic and Technology Advancement Advisory Committee to advise the state board on activities that will facilitate investment in and implementation of technological research and development opportunities, including, but not limited to, identifying new technologies, research, demonstration projects, funding opportunities, developing state, national, and international partnerships and technology transfer opportunities, and identifying and assessing research and advanced technology investment and incentive opportunities that will assist in the reduction of greenhouse gas emissions. The committee may also advise the state board on state, regional, national, and international economic and technological developments related to greenhouse gas emission reductions.

38592. (a) All state agencies shall consider and implement strategies to reduce their greenhouse gas emissions.

(b) Nothing in this division shall relieve any person, entity, or public agency of compliance with other applicable federal, state, or local laws or regulations, including state air and water quality requirements, and other requirements for protecting public health or the environment.

(a) Nothing in this division affects the authority of the Public Utilities Commission.

38593. (b) Nothing in this division affects the obligation of an electrical corporation to provide customers with safe and reliable electric service.

38594. Nothing in this division shall limit or expand the existing authority of any district, as defined in Section 39025.

38595. Nothing in this division shall preclude, prohibit, or restrict the construction of any new facility or the expansion of an existing facility subject to regulation under this division, if all applicable requirements are met and the facility is in compliance with regulations adopted pursuant to this division.

38596. The provisions of this division are severable. If any provision of this division or its application is held invalid, that invalidity shall not affect other provisions or applications that can be given effect without the invalid provision or application.

38597. The state board may adopt by regulation, after a public workshop, a schedule of fees to be paid by the sources of greenhouse gas emissions regulated pursuant to this division, consistent with Section 57001. The revenues collected pursuant to this section, shall be deposited into the Air Pollution Control Fund and are available upon appropriation, by the Legislature, for purposes of carrying out this division.

38598. (a) Nothing in this division shall limit the existing authority of a state entity to adopt and implement greenhouse gas emissions reduction measures.

(b) Nothing in this division shall relieve any state entity of its legal obligations to comply with existing law or regulation.

38599. (a) In the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm, the Governor may adjust the applicable deadlines for individual regulations, or for the state in the aggregate, to the earliest feasible date after that deadline.

(b) The adjustment period may not exceed one year unless the Governor makes an additional adjustment pursuant to subdivision (a).

(c) Nothing in this section affects the powers and duties established in the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code).

(d) The Governor shall, within 10 days of invoking subdivision (a), provide written notification to the Legislature of the action undertaken.

SEC. 2 No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

AB-398 California Global Warming Solutions Act of 2006: market-based compliance mechanisms: fire prevention fees: sales and use tax manufacturing exemption. (2017-2018)

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Assembly Bill No. 398

CHAPTER 135

An act to amend, repeal, and add Sections 38501, 38562, and 38594 of, and to add and repeal Sections 38505.5, 38590.1, 38591.1, 38591.2, 38591.3, 38592.5, and 38592.6 of, the Health and Safety Code, to add Section 4213.05 to, to add Article 3 (commencing with Section 4229) to Chapter 1.5 of Part 2 of Division 4 of, and to repeal Chapter 1.5 (commencing with Section 4210) of Part 2 of Division 4 of, the Public Resources Code, and to amend Section 6377.1 of the Revenue and Taxation Code, relating to public resources, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor July 25, 2017. Filed with Secretary of State July 25, 2017.]

LEGISLATIVE COUNSEL'S DIGEST

AB 398, Eduardo Garcia. California Global Warming Solutions Act of 2006: market-based compliance mechanisms: fire prevention fees: sales and use tax manufacturing exemption.

(1) The California Global Warming Solutions Act of 2006 establishes the State Air Resources Board as the state agency responsible for monitoring and regulating sources emitting greenhouse gases. The act requires the state board to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to ensure that statewide greenhouse gas emissions are reduced to at least 40% below the 1990 level by 2030. The act authorizes the state board to include the use of market-based compliance mechanisms.

The act requires the state board to prepare and approve a scoping plan for achieving the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions and to update the scoping plan at least once every 5 years.

The act authorizes the state board to adopt a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases, applicable from January 1, 2012, to December 31, 2020, inclusive, as specified.

This bill would require the state board, no later than January 1, 2018, to update the scoping plan, as specified. The bill would require all greenhouse gas rules and regulations adopted by the state board to be consistent with the scoping plan.

This bill would, until January 1, 2031, extend the applicability of a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit

greenhouse gases to December 31, 2030.

This bill would, until January 1, 2031, require the state board to include specified price ceilings, price containment points, offset credit compliance limits, and industry assistance factors for allowance allocation as part of a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases from January 1, 2021, to December 31, 2030, inclusive. The bill, until January 1, 2031, additionally would require the state board to develop approaches to increase offset projects in the state and to make specified reports to the Legislature as part of that regulation.

This bill would, until January 1, 2031, establish the Compliance Offsets Protocol Task Force, with a specified membership, to provide guidance to the state board in approving new offset protocols for a market-based compliance mechanism for the purposes of increasing offset projects with direct environmental benefits in the state while prioritizing disadvantaged communities, Native American or tribal lands, and rural and agricultural regions.

This bill would, until January 1, 2031, establish the Independent Emissions Market Advisory Committee with a specified membership and would require the advisory committee to at least annually hold a public meeting and report to both the state board and the Joint Legislative Committee on Climate Change Policies on the environmental and economic performance of a specified market-based compliance mechanism and other relevant climate policies.

This bill would, until January 1, 2031, require the California Workforce Development Board, in consultation with the state board, to submit a specified report to the Legislature, no later than January 1, 2019, on the need for increased education, career technical education, job training, and workforce development resources or capacity to help industry, workers, and communities transition to economic and labor-market changes related to specified statewide greenhouse gas emissions reduction goals.

This bill would, until January 1, 2031, require the Legislative Analyst's Office to annually report to the Legislature on the economic impacts and benefits of specified greenhouse gas emissions targets.

(2) Existing law requires all moneys, except for fines and penalties, collected by the state board as part of a market-based compliance mechanism to be deposited in the Greenhouse Gas Reduction Fund and to be available upon appropriation. Existing law continuously appropriates 60% of the annual proceeds of the fund for transit, affordable housing, sustainable communities, and high-speed rail purposes.

This bill would declare the intent of the Legislature that moneys collected pursuant to the market-based compliance mechanism be appropriated in accordance with a specified order of priorities.

(3) Existing law provides that the California Global Warming Solutions Act of 2006 does not limit or expand the existing authority of air pollution control and air quality management districts.

This bill instead would, until January 1, 2031, prohibit an air district from adopting or implementing an emission reduction rule for carbon dioxide from stationary sources that are also subject to a specified market-based compliance mechanism.

(4) Existing law provides that the state has the primary financial responsibility for preventing and suppressing fires in areas that the State Board of Forestry and Fire Protection has determined are state responsibility areas, as defined. Existing law requires that a fire prevention fee be charged on each habitable structure on a parcel that is within a state responsibility area, to be used for specified fire prevention activities.

This bill, until January 1, 2031, would suspend the fire prevention fee. The bill would declare that it is the intent of the Legislature that moneys derived from the auction or sale of allowances pursuant to the market-based compliance mechanism described under (1) replace the fire prevention fee to continue the funding of the fire prevention activities. The bill would repeal those provisions requiring the payment of the fire prevention fee on January 1, 2031.

(5) Existing law, commencing July 1, 2017, provides that the California Department of Tax and Fee Administration is responsible for the administration of the Sales and Use Tax Law, which was previously administered by the State Board of Equalization.

Existing sales and use tax laws impose taxes on retailers measured by the gross receipts from the sale of tangible personal property sold at retail in this state, or on the storage, use, or other consumption in this state of tangible personal property purchased from a retailer for storage, use, or other consumption in this state, and provide various exemptions from those taxes.

Existing law exempts from those taxes, on and after July 1, 2014, and before July 1, 2022, the gross receipts from the sale of, and the storage, use, or other consumption of, qualified tangible personal property purchased by a qualified person for use primarily in manufacturing, processing, refining, fabricating, or recycling of tangible personal property, as specified; qualified tangible personal property purchased for use by a qualified person to be used primarily in research and development, as provided; qualified tangible personal property purchased for use by a qualified person to be used primarily to maintain, repair, measure, or test any qualified tangible personal property, as provided; and qualified tangible personal property purchased by a contractor purchasing that property for use in the performance of a construction contract for the qualified person, that will use that property as an integral part of specified processes.

This bill would, on and after July 1, 2014, and before July 1, 2030, additionally exempt from those taxes qualified tangible personal property purchased for use by a qualified person to be used primarily in the generation or production, as defined, or storage and distribution, as defined, of electric power or purchased for use by a contractor for the qualified person, as specified. The bill, on and after January 1, 2018, and until July 1, 2030, would also exempt from those taxes special purpose buildings and foundations used for the generation or production or storage and distribution of electric power. The bill, on and after January 1, 2018, and until July 1, 2030, would expand the definition of qualified person to include, among others, a person primarily engaged in the business of electric power generation.

Under existing law, no later than each March 1 next following a calendar year for which these provisions provide an exemption, the California Department of Tax and Fee Administration is required to provide to the Joint Legislative Budget Committee a report of the total dollar amount of exemptions taken for the immediately preceding calendar year.

This bill would require the department to also provide that exemption report to the Department of Finance. The bill would require the total dollar amount, as reported by the department, with the concurrence of the Department of Finance, to be transferred from the Greenhouse Gas Reduction Fund to the General Fund, as provided.

This bill would also make various nonsubstantive and conforming changes and would repeal this exemption on January 1, 2031.

(6) This bill would declare that it is to take effect immediately as an urgency statute.

Vote: 2/3 Appropriation: no Fiscal Committee: yes Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 38501 of the Health and Safety Code is amended to read:

38501. The Legislature finds and declares all of the following:

(a) Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

(b) Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.

(c) California has long been a national and international leader on energy conservation and environmental stewardship efforts, including the areas of air quality protections, energy efficiency requirements, renewable energy standards, natural resource conservation, and greenhouse gas emission standards for passenger vehicles. The program established by this division will continue this tradition of environmental leadership by placing California at the forefront of national and international efforts to reduce emissions of greenhouse gases.

(d) National and international actions are necessary to fully address the issue of global warming. However, action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act.

(e) By exercising a global leadership role, California will also position its economy, technology centers, financial institutions, and businesses to benefit from national and international efforts to reduce emissions of greenhouse gases. More importantly, investing in the development of innovative and pioneering technologies will assist California in achieving statewide greenhouse gas emissions targets established by this division and will provide an opportunity for the state to take a global economic and technological leadership role in reducing emissions of greenhouse gases.

(f) It is the intent of the Legislature that the State Air Resources Board coordinate with state agencies, as well as consult with the environmental justice community, industry sectors, business groups, academic institutions, environmental organizations, and other stakeholders in implementing this division.

(g) It is the intent of the Legislature that the State Air Resources Board consult with the Public Utilities Commission in the development of emissions reduction measures, including limits on emissions of greenhouse gases applied to electricity and natural gas providers regulated by the Public Utilities Commission in order to ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

(h) It is the intent of the Legislature that the State Air Resources Board design emissions reduction measures to meet the statewide emissions limits for greenhouse gases established pursuant to this division in a manner that minimizes costs and maximizes benefits for California's economy, improves and modernizes California's energy infrastructure and maintains electric system reliability, maximizes additional environmental and economic cobenefits for California, and complements the state's efforts to improve air quality.

(i) It is the intent of the Legislature that the State Air Resources Board extend the market-based compliance mechanism adopted pursuant to subdivision (c) of Section 38562 from January 1, 2021, to December 31, 2030, inclusive, in a manner that effectively reduces greenhouse gas emissions; minimizes any adverse impacts on state consumers, businesses, and the economy; and continues elements of the current program that protect state utility ratepayers.

(j) It is the intent of the Legislature that the Climate Action Team established by the Governor to coordinate the efforts set forth under Executive Order S-3-05 continue its role in coordinating overall climate policy.

(k) This section shall remain in effect only until January 1, 2031, and as of that date is repealed.

SEC. 2. Section 38501 is added to the Health and Safety Code, to read:

38501. (a) Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

(b) Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.

(c) California has long been a national and international leader on energy conservation and environmental stewardship efforts, including the areas of air quality protections, energy efficiency requirements, renewable energy standards, natural resource conservation, and greenhouse gas emission standards for passenger vehicles. The program established by this division will continue this tradition of environmental leadership by placing California at the forefront of national and international efforts to reduce emissions of greenhouse gases.

(d) National and international actions are necessary to fully address the issue of global warming. However, action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act.

(e) By exercising a global leadership role, California will also position its economy, technology centers, financial institutions, and businesses to benefit from national and international efforts to reduce emissions of greenhouse gases. More importantly, investing in the development of innovative and pioneering technologies will assist California in achieving the 2020 statewide limit on emissions of greenhouse gases established by this division and will provide an opportunity for the state to take a global economic and technological leadership role in reducing emissions of greenhouse gases.

(f) It is the intent of the Legislature that the State Air Resources Board coordinate with state agencies, as well as consult with the environmental justice community, industry sectors, business groups, academic institutions, environmental organizations, and other stakeholders in implementing this division.

(g) It is the intent of the Legislature that the State Air Resources Board consult with the Public Utilities Commission in the development of emissions reduction measures, including limits on emissions of greenhouse gases applied to electricity and natural gas providers regulated by the Public Utilities Commission in order to ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

(h) It is the intent of the Legislature that the State Air Resources Board design emissions reduction measures to meet the statewide emissions limits for greenhouse gases established pursuant to this division in a manner that minimizes costs and maximizes benefits for California's economy, improves and modernizes California's energy infrastructure and maintains electric system reliability, maximizes additional environmental and economic cobenefits for California, and complements the state's efforts to improve air quality.

(i) It is the intent of the Legislature that the Climate Action Team established by the Governor to coordinate the efforts set forth under Executive Order S-3-05 continue its role in coordinating overall climate policy.

(j) This section shall become operative on January 1, 2031.

SEC. 3. Section 38505.5 is added to the Health and Safety Code, to read:

38505.5. (a) "District" has the same meaning as in Section 39025.

(b) This section shall remain in effect only until January 1, 2031, and as of that date is repealed.

SEC. 4. Section 38562 of the Health and Safety Code is amended to read:

38562. (a) On or before January 1, 2011, the state board shall adopt greenhouse gas emissions limits and emissions reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit, to become operative beginning on January 1, 2012.

(b) In adopting regulations pursuant to this section and Part 5 (commencing with Section 38570), to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the state board shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.

(7) Minimize the administrative burden of implementing and complying with these regulations.

(8) Minimize leakage.

(9) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

(c) (1) Unless otherwise required by context, terms in this subdivision shall have the definitions that apply pursuant to Section 95802 of Title 17 of the California Code of Regulations, as they read on January 1, 2017.

(2) The state board may adopt a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases, applicable from January 1, 2012, to December 31, 2030, inclusive, that the state board determines will achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, in the aggregate, from those sources or categories of sources. In adopting a regulation applicable from January 1, 2021, to December 31, 2030, inclusive, pursuant to this subdivision, the state board shall do all of the following:

(A) (i) Establish a price ceiling. In establishing the price ceiling, the state board shall consider, using the best available science, all of the following:

(I) The need to avoid adverse impacts on resident households, businesses, and the state's economy.

(II) The 2020 tier prices of the allowance price containment reserve.

(III) The full social cost associated with emitting a metric ton of greenhouse gases.

(IV) The auction reserve price.

(V) The potential for environmental and economic leakage.

(VI) The cost per metric ton of greenhouse gas emissions reductions to achieve the statewide emissions targets established in Sections 38550 and 38566.

(ii) To implement the price ceiling, the state board shall develop a mechanism that consists of both of the following:

(I) Allowances remaining in the allowance price containment reserve as of December 31, 2020, shall be utilized solely for the purpose of sale at the price ceiling established by this section.

(II) If the allowances from the allowance price containment reserve are exhausted, the state board shall offer covered entities additional metric tons at the price ceiling if needed for compliance. All moneys generated pursuant to this clause shall be expended by the state board to achieve emissions reductions, on at least a metric ton for metric ton basis, that are real, permanent, quantifiable, verifiable, enforceable by the state board and in addition to any greenhouse gas emission reduction otherwise required by law or regulation and any other greenhouse gas emission reduction that otherwise would occur.

(B) Establish two price containment points at levels below the price ceiling. The state board shall offer to covered entities nontradable allowances for sale at these price containment points. The price containment points shall be established using two-thirds, divided equally, of the allowances in the allowance price containment reserve as of December 31, 2017.

(C) Require that current vintage allowances designated by the state board for auction that remain unsold in the auction holding account for more than 24 months to be transferred to the allowance price containment reserve.

(D) Evaluate and address concerns related to overallocation in the state board's determination of the number of available allowances for years 2021 to 2030, inclusive, as appropriate.

(E) (i) Establish offset credit limits according to the following:

(I) From January 1, 2021, to December 31, 2025, inclusive, a total of 4 percent of a covered entity's compliance obligation may be met by surrendering offset credits of which no more than one-half may be sourced from projects that do not provide direct environmental benefits in state.

(II) From January 1, 2026, to December 31, 2030, inclusive, a total of 6 percent of a covered entity's compliance obligation may be met by surrendering offset credits of which no more than one-half may be sourced from projects that do not provide direct environmental benefits in the state.

(ii) For purposes of this subparagraph, "direct environmental benefits in the state" are the reduction or avoidance of emissions of any air pollutant in the state or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the state.

(F) Develop approaches to increase offset projects in the state considering guidance provided by the Compliance Offsets Protocol Task Force, established pursuant to Section 38591.1.

(G) Set industry assistance factors for allowance allocation commencing in 2021 at the levels applicable in the compliance period of 2015 to 2017, inclusive. The state board shall apply a declining cap adjustment factor to the industry allocation equivalent to the overall statewide emissions declining cap using the methodology from the compliance period of 2015 to 2017, inclusive.

(H) Establish allowance banking rules that discourage speculation, avoid financial windfalls, and consider the impact on complying entities and volatility in the market.

(I) Report to the Legislature, by December 31, 2025, on the progress toward meeting the greenhouse gas emissions reduction targets established pursuant to Sections 38550 and 38566 and the leakage risk posed by the regulation. The state board shall include recommendations to the Legislature on necessary statutory changes to the program to reduce leakage, including the potential for a border carbon adjustment, while maintaining the state's ability to reach its targets.

(J) (i) Report to the Legislature, in consultation with the Independent Emissions Market Advisory Committee, established pursuant to Section 38591.2, if two consecutive auctions exceed the lower of the price containment levels established pursuant to subparagraph (B). The report shall assess the potential for allowance prices to reach the price ceiling for multiple auctions.

(ii) A report submitted to the Legislature pursuant to this section shall be submitted in compliance with Section 9795 of the Government Code.

(K) Report to the relevant fiscal and policy committees of the Legislature, including the Joint Committee on Climate Change Policies, on all of the following:

(i) Updates to the scoping plan prepared pursuant to Section 38561 prior to adopting the update.

(ii) Updates on the implementation of the scoping plan prepared pursuant to Section 38561.

(iii) Updates on the implementation of the market-based compliance mechanism adopted pursuant to this subdivision.

(d) Any regulation adopted by the state board pursuant to this part or Part 5 (commencing with Section 38570) shall ensure all of the following:

(1) The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board.

(2) For regulations pursuant to Part 5 (commencing with Section 38570), the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.

(3) If applicable, the greenhouse gas emission reduction occurs over the same time period and is equivalent in amount to any direct emission reduction required pursuant to this division.

(e) The state board shall rely upon the best available economic and scientific information and its assessment of existing and projected technological capabilities when adopting the regulations required by this section.

(f) The state board shall consult with the Public Utilities Commission in the development of the regulations as they affect electricity and natural gas providers in order to minimize duplicative or inconsistent regulatory requirements.

(g) The state board may revise regulations adopted pursuant to this section and adopt additional regulations to further the provisions of this division.

(h) This section shall remain in effect only until January 1, 2031, and as of that date is repealed, unless a later enacted statute which is enacted before that date, deletes or extends that date.

SEC. 5. Section 38562 is added to the Health and Safety Code, to read:

38562. (a) On or before January 1, 2011, the state board shall adopt greenhouse gas emissions limits and emissions reduction measures by regulation to achieve the maximum technologically feasible and cost-effective

reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit, to become operative beginning on January 1, 2012.

(b) In adopting regulations pursuant to this section and Part 5 (commencing with Section 38570), to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the state board shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.

(7) Minimize the administrative burden of implementing and complying with these regulations.

(8) Minimize leakage.

(9) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

(c) In furtherance of achieving the statewide greenhouse gas emissions limit, the state board may adopt a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases, applicable from January 1, 2012, to December 31, 2020, inclusive, that the state board determines will achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, in the aggregate, from those sources or categories of sources.

(d) Any regulation adopted by the state board pursuant to this part or Part 5 (commencing with Section 38570) shall ensure all of the following:

(1) The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board.

(2) For regulations pursuant to Part 5 (commencing with Section 38570), the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.

(3) If applicable, the greenhouse gas emission reduction occurs over the same time period and is equivalent in amount to any direct emission reduction required pursuant to this division.

(e) The state board shall rely upon the best available economic and scientific information and its assessment of existing and projected technological capabilities when adopting the regulations required by this section.

(f) The state board shall consult with the Public Utilities Commission in the development of the regulations as they affect electricity and natural gas providers in order to minimize duplicative or inconsistent regulatory requirements.

(g) The state board may revise regulations adopted pursuant to this section and adopt additional regulations to further the provisions of this division.

(h) This section shall become operative on January 1, 2031.

SEC. 6. Section 38590.1 is added to the Health and Safety Code, to read:

38590.1. (a) It is the intent of the Legislature that moneys collected from the auction or sale of allowances pursuant to a market-based compliance mechanism established pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500)) shall be appropriated to include, but need not be limited to, the following priorities at the time an expenditure plan is adopted:

(1) Air toxic and criteria air pollutants from stationary and mobile sources.

(2) Low- and zero-carbon transportation alternatives.

(3) Sustainable agricultural practices that promote the transitions to clean technology, water efficiency, and improved air quality.

(4) Healthy forests and urban greening.

(5) Short-lived climate pollutants.

(6) Climate adaptation and resiliency.

(7) Climate and clean energy research.

(b) This section shall remain in effect only until January 1, 2031, and as of that date is repealed unless a later enacted statute that is enacted on or before that date deletes or extends that date.

SEC. 7. Section 38591.1 is added to the Health and Safety Code, to read:

38591.1. (a) The Compliance Offsets Protocol Task Force is hereby established to provide guidance to the state board in approving new offset protocols for a market-based compliance mechanism for the purposes of increasing offset projects with direct environmental benefits in the state while prioritizing disadvantaged communities, Native American or tribal lands, and rural and agricultural regions. The state board shall appoint members to the Compliance Offsets Protocol Task Force to include a representative from each stakeholder group, including, but not limited to, all of the following:

(1) Scientists.

(2) Air pollution control and air quality management districts.

(3) Carbon market experts.

(4) Tribal representatives.

(5) Environmental Justice advocates.

(6) Labor and Workforce representatives.

(7) Forestry experts.

(8) Agriculture experts.

(9) Environmental advocates.

(10) Conservation advocates.

(11) Dairy experts.

(b) This section shall remain in effect only until January 1, 2031, and as of that date is repealed.

SEC. 8. Section 38591.2 is added to the Health and Safety Code, to read:

38591.2. (a) The Independent Emissions Market Advisory Committee is hereby established within the California Environmental Protection Agency.

(b) (1) (A) The committee shall be composed of at least five experts on emissions trading market design appointed according to the following:

(i) Three members appointed by the Governor.

(ii) One member appointed by the Senate Committee on Rules.

(iii) One member appointed by the Speaker of the Assembly.

(B) The committee shall include a representative from the Legislative Analyst's Office.

(2) The committee members shall meet all of the following requirements:

(A) Have academic, nonprofit, and other relevant backgrounds.

(B) Lack financial conflicts of interest with entities subject to the regulation adopted by the state board pursuant to subdivision (c) of Section 38562.

(c) The committee, at least annually, shall hold a public meeting and report to both the state board and the Joint Legislative Committee on Climate Change Policies on the environmental and economic performance of the regulation adopted by the state board pursuant to subdivision (c) of Section 38562 and other relevant climate policies.

(d) This section shall remain in effect only until January 1, 2031, and as of that date is repealed.

SEC. 9. Section 38591.3 is added to the Health and Safety Code, to read:

38591.3. (a) No later than January 1, 2019, the California Workforce Development Board, in consultation with the state board, shall report to the Legislature on the need for increased education, career technical education, job training, and workforce development resources or capacity to help industry, workers, and communities transition to economic and labor-market changes related to statewide greenhouse gas emissions reduction goals, pursuant to Sections 38550 and 38566, and the scoping plan, adopted pursuant to Section 38561. The California Workforce Development Board shall ensure that the report aligns, as appropriate, with California's Unified Strategic Workforce Development Plan, developed by the California Workforce Development Board. The California Workforce Development Board and the state board shall work in consultation with all of the following:

(1) State Department of Education.

(2) California Community Colleges.

(3) Trustees of the California State University.

(4) Regents of the University of California.

(5) Governor's Office of Business and Economic Development.

(6) Interested stakeholders.

(b) The report to the Legislature shall address all of the following:

(1) Creating and retaining jobs and stimulating economic activity in the state.

(2) Imbedding workforce training and employment services in infrastructure investments so that services more directly connect to the jobs created.

(3) The use of community benefits agreements, community workforce agreements, and project labor agreements that connect workforce services and job training directly to jobs impacted or jobs created.

(4) Preparing the state's students with relevant career technical education that responds to business and industry demands.

(5) Developing worker retraining programs to assist the existing workforce with the necessary tools to upgrade their skills.

(6) Responding to the job creation and workforce needs of the state's new and emerging industries, including emerging technologies that will result in greater greenhouse gas emissions reductions.

(7) Developing job training programs to assist specific populations, such as at-risk youth, displaced workers, veterans, the formerly incarcerated, and others facing barriers to employment.

(8) Opportunities for community-based organizations to partner with local workforce agencies to improve the labor-market outcomes of targeted disadvantaged populations.

(9) Targeting workforce development programs and activities in disadvantaged communities, as identified pursuant to Section 39711, and communities that are located near entities regulated by the state board pursuant to this division.

(10) Identifying and leveraging state and federal funding resources to implement the recommendations made in the report consistent with the regulatory purposes of this division.

(c) This section shall remain in effect only until January 1, 2031, and as of that date is repealed.

SEC. 10. Section 38592.5 is added to the Health and Safety Code, to read:

38592.5. (a) (1) No later than January 1, 2018, the state board shall update the scoping plan, prepared pursuant to Section 38561, to achieve the greenhouse gas emissions reductions required pursuant to Section 38566. The state board shall designate the market-based compliance mechanism adopted pursuant to subdivision (c) of Section 38562 as the rule for petroleum refineries and oil and gas production facilities to achieve their greenhouse gas emissions reductions.

(2) All greenhouse gas rules and regulations adopted by the state board shall be consistent with the updated scoping plan.

(3) Nothing in this section shall limit the state board's authority to adopt, maintain, or revise any other measure, including, but not limited to, any of the following:

(A) Measures governing methane and fugitive emissions at refineries and oil and gas facilities.

(B) Advanced clean cars program adopted by the state board.

(C) Low-Carbon Fuel Standard regulations (Subarticle 7 (commencing with Section 95480) of Article 4 of Subchapter 10 of Chapter 1 of Division 3 of Title 17 of the California Code of Regulations).

(D) Regulations addressing short-lived climate pollutants.

(E) Implementation of the sustainable freight action plan released in July 2015 pursuant to Executive Order B-32-15.

(b) This section shall remain in effect only until January 1, 2031, and as of that date is repealed, unless a later enacted statute, which is enacted before January 1, 2031, deletes or extends that date.

SEC. 11. Section 38592.6 is added to the Health and Safety Code, to read:

38592.6. (a) The Legislative Analyst's Office shall, until January 1, 2030, annually report to the Legislature on the economic impacts and benefits of the greenhouse gas emissions targets established pursuant to Sections 38550 and 38566.

(b) This section shall remain in effect only until January 1, 2031, and as of that date is repealed, unless a later enacted statute, which is enacted before January 1, 2031, deletes or extends that date.

SEC. 12. Section 38594 of the Health and Safety Code is amended to read:

38594. (a) Except as provided in subdivision (b), nothing in this division shall limit or expand the existing authority of any district.

(b) A district shall not adopt or implement an emission reduction rule for carbon dioxide from stationary sources that are also subject to a market-based compliance mechanism adopted by the state board pursuant to subdivision (c) of Section 38562.

(c) Nothing in this section affects in any manner the authority of a district to adopt or implement, as applicable, any of the following:

(1) A rule, regulation, standard, or requirement authorized or required for a district to adopt under Division 26 (commencing with Section 39000) for purposes other than to reduce carbon dioxide from sources subject to a market-based compliance mechanism adopted by the state board pursuant to subdivision (c) of Section 38562.

(2) A rule, regulation, standard, or requirement authorized pursuant to a law affecting emissions associated with landfills, refrigerants, natural gas or methane, volatile organic compounds, or a rule required to comply with the federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.) or regulations implementing that act.

(3) A rule, regulation, standard, or requirement authorized pursuant to a law to reduce vehicle trips, vehicle miles traveled, parking, or vehicular air emissions, including, but not limited to, a rule adopted pursuant to Chapter 728 of the Statutes of 2008.

(4) A rule, regulation, standard, or requirement established pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).

(5) A rule, regulation, standard, or requirement adopted by any state agency.

(d) This section shall become inoperative if the state board repeals the market-based compliance mechanism adopted by the state board pursuant to subdivision (c) of Section 38562. The state board shall notify the Secretary of State if this section becomes inoperative.

(e) This section shall remain in effect only until January 1, 2031, and as of that date is repealed.

SEC. 13. Section 38594 is added to the Health and Safety Code, to read:

38594. (a) Nothing in this division shall limit or expand the existing authority of any district, as defined in Section 39025.

(b) This section shall become operative on January 1, 2031.

SEC. 14. Section 4213.05 is added to the Public Resources Code, to read:

4213.05. (a) Commencing with the 2017–18 fiscal year, the fire prevention fee imposed pursuant to Section 4212 shall be suspended, effective July 1, 2017. Any moneys held in reserve in the State Responsibility Area Fire Responsibility Fund shall be appropriated by the Legislature in a manner consistent with subdivision (d) of Section 4214.

(b) It is the intent of the Legislature that moneys derived from the auction or sale of allowances pursuant to a market-based compliance mechanism established pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code shall be used to replace the moneys that would have otherwise been collected under Section 4212 to continue fire prevention activities.

(c) This section shall become inoperative on January 1, 2031.

SEC. 15. Article 3 (commencing with Section 4229) is added to Chapter 1.5 of Part 2 of Division 4 of the Public Resources Code, to read:

Article 3. Repeal

4229. This chapter shall remain in effect only until January 1, 2031, and as of that date is repealed, unless a later enacted statute that is enacted on or before January 1, 2031, deletes or extends that date.

SEC. 16. Section 6377.1 of the Revenue and Taxation Code is amended to read:

6377.1. (a) Except as provided in subdivision (e), on or after July 1, 2014, and before July 1, 2030, there are exempted from the taxes imposed by this part the gross receipts from the sale of, and the storage, use, or other consumption in this state of, any of the following:

(1) Qualified tangible personal property purchased for use by a qualified person to be used primarily in any stage of the manufacturing, processing, refining, fabricating, or recycling of tangible personal property, beginning at the point any raw materials are received by the qualified person and introduced into the process and ending at the point at which the manufacturing, processing, refining, fabricating, or recycling has altered tangible personal property to its completed form, including packaging, if required.

(2) Qualified tangible personal property purchased for use by a qualified person to be used primarily in research and development.

(3) Qualified tangible personal property purchased for use by a qualified person to be used primarily to maintain, repair, measure, or test any qualified tangible personal property described in paragraph (1) or (2).

(4) Qualified tangible personal property purchased for use by a contractor purchasing that property for use in the performance of a construction contract for the qualified person, that will use that property as an integral part of the manufacturing, processing, refining, fabricating, or recycling process, the generation or production, or storage and distribution, of electric power, or as a research or storage facility for use in connection with those processes.

(5) Qualified tangible personal property purchased for use by a qualified person to be used primarily in the generation or production, or storage and distribution, of electric power.

(b) For purposes of this section:

(1) "Department" means the California Department of Tax and Fee Administration.

(2) "Fabricating" means to make, build, create, produce, or assemble components or tangible personal property to work in a new or different manner.

(3) "Generation or production" means the activity of making, producing, creating, or converting electric power from sources other than a conventional power source, as defined in Section 2805 of the Public Utilities Code.

(4) "Manufacturing" means the activity of converting or conditioning tangible personal property by changing the form, composition, quality, or character of the property for ultimate sale at retail or use in the manufacturing of a product to be ultimately sold at retail. Manufacturing includes any improvements to tangible personal property that result in a greater service life or greater functionality than that of the original property.

(5) "Primarily" means 50 percent or more of the time.

(6) "Process" means the period beginning at the point at which any raw materials are received by the qualified person and introduced into the manufacturing, processing, refining, fabricating, or recycling activity of the qualified person and ending at the point at which the manufacturing, processing, refining, fabricating, or recycling activity of the qualified person has altered tangible personal property to its completed form, including packaging, if required. Raw materials shall be considered to have been introduced into the process when the raw materials are stored on the same premises where the qualified person's manufacturing, processing, refining, fabricating, or recycling activity is conducted. Raw materials that are stored on premises other than where the qualified person's manufacturing, processing, refining, fabricating, or recycling activity is conducted shall not be considered to have been introduced into the manufacturing, processing, refining, fabricating, or recycling process.

(7) "Processing" means the physical application of the materials and labor necessary to modify or change the characteristics of tangible personal property.

(8) (A) "Qualified person" means:

(i) Prior to January 1, 2018, a person that is primarily engaged in those lines of business described in Codes 3111 to 3399, inclusive, 541711, or 541712 of the North American Industry Classification System (NAICS) published by the United States Office of Management and Budget (OMB), 2012 edition.

(ii) On and after January 1, 2018, and before July 1, 2030, a person that is primarily engaged in those lines of business described in Codes 3111 to 3399, inclusive, 22111 to 221118, inclusive, 221122, 541711, or 541712 of the North American Industry Classification System (NAICS) published by the United States Office of Management and Budget (OMB), 2012 edition.

(B) Notwithstanding subparagraph (A), "qualified person" shall not include either of the following:

(i) Prior to January 1, 2018, an apportioning trade or business that is required to apportion its business income pursuant to subdivision (b) of Section 25128 or a trade or business conducted wholly within this state that would be required to apportion its business income pursuant to subdivision (b) of Section 25128 if it were subject to apportionment pursuant to Section 25101.

(ii) On and after January 1, 2018, and before July 1, 2030, an apportioning trade or business, other than a trade or business described in paragraph (1) of subdivision (c) of Section 25128, that is required to apportion its business income pursuant to subdivision (b) of Section 25128, or a trade or business, other

than a trade or business described in paragraph (1) of subdivision (c) of Section 25128, conducted wholly within this state that would be required to apportion its business income pursuant to subdivision (b) of Section 25128 if it were subject to apportionment pursuant to Section 25101.

(9) (A) "Qualified tangible personal property" includes, but is not limited to, all of the following:

(i) Machinery and equipment, including component parts and contrivances such as belts, shafts, moving parts, and operating structures.

(ii) Equipment or devices used or required to operate, control, regulate, or maintain the machinery, including, but not limited to, computers, data-processing equipment, and computer software, together with all repair and replacement parts with a useful life of one or more years therefor, whether purchased separately or in conjunction with a complete machine and regardless of whether the machine or component parts are assembled by the qualified person or another party.

(iii) Tangible personal property used in pollution control that meets standards established by this state or any local or regional governmental agency within this state.

(iv) (I) Prior to January 1, 2018, special purpose buildings and foundations used as an integral part of the manufacturing, processing, refining, fabricating, or recycling process, or that constitute a research or storage facility used during those processes. Buildings used solely for warehousing purposes after completion of those processes are not included.

(II) On and after January 1, 2018, and before July 1, 2030, special purpose buildings and foundations used as an integral part of the manufacturing, processing, refining, fabricating, or recycling process, or that constitute a research or storage facility used during those processes, or the generation or production or storage and distribution of electric power. Buildings used solely for warehousing purposes after completion of those processes are not included.

(B) "Qualified tangible personal property" shall not include any of the following:

(i) Consumables with a useful life of less than one year.

(ii) Furniture, inventory, and equipment used in the extraction process, or equipment used to store finished products that have completed the manufacturing, processing, refining, fabricating, or recycling process.

(iii) Tangible personal property used primarily in administration, general management, or marketing.

(10) "Refining" means the process of converting a natural resource to an intermediate or finished product.

(11) "Research and development" means those activities that are described in Section 174 of the Internal Revenue Code or in any regulations thereunder.

(12) "Storage and distribution" means storing or distributing through the electric grid, but not transmission of, electric power to consumers regardless of source.

(13) (A) "Useful life" for tangible personal property that is treated as having a useful life of one or more years for state income or franchise tax purposes shall be deemed to have a useful life of one or more years for purposes of this section. "Useful life" for tangible personal property that is treated as having a useful life of less than one year for state income or franchise tax purposes shall be deemed to have a useful life of less than one year for purposes of this section. For the purposes of this paragraph, tangible personal property that is deducted under Sections 17201 and 17255 or Section 24356 shall be deemed to have a useful life of one or more years.

(B) The board shall cancel any outstanding and unpaid deficiency determination and any related penalties and interest and shall not issue any deficiency determination or notice of determination, with respect to unpaid sales and use tax on qualified property with a useful life, as defined in subparagraph (A), that was purchased or leased on or after July 1, 2014, and before January 1, 2018. Any amounts paid by a qualified person pursuant to such determination shall be refunded by the department to the qualified person. Any cancellation or refund described in this subparagraph is contingent upon a qualified person making a request to the department, in a manner prescribed by the department, by June 30, 2018.

(c) An exemption shall not be allowed under this section unless the purchaser furnishes the retailer with an exemption certificate, completed in accordance with any instructions or regulations as the department may

prescribe, and the retailer retains the exemption certificate in its records and furnishes it to the department upon request.

(d) (1) Notwithstanding the Bradley-Burns Uniform Local Sales and Use Tax Law (Part 1.5 (commencing with Section 7200)) and the Transactions and Use Tax Law (Part 1.6 (commencing with Section 7251)), the exemption established by this section shall not apply with respect to any tax levied by a county, city, or district pursuant to, or in accordance with, either of those laws.

(2) Notwithstanding subdivision (a), the exemption established by this section shall not apply with respect to any tax levied pursuant to Section 6051.2, 6051.5, 6201.2, or 6201.5, pursuant to Section 35 of Article XIII of the California Constitution, or any tax levied pursuant to Section 6051 or 6201 that is deposited in the State Treasury to the credit of the Local Revenue Fund 2011 pursuant to Section 6051.15 or 6201.15.

(e) (1) The exemption provided by this section shall not apply to either of the following:

(A) Any tangible personal property purchased during any calendar year that exceeds two hundred million dollars ($200,000,000) of purchases of qualified tangible personal property for which an exemption is claimed by a qualified person under this section. For purposes of this subparagraph, in the case of a qualified person that is required to be included in a combined report under Section 25101 or authorized to be included in a combined report under Section 25101.15, the aggregate of all purchases of qualified personal property for which an exemption is claimed pursuant to this section by all persons that are required or authorized to be included in a combined report shall not exceed two hundred million dollars ($200,000,000) in any calendar year.

(B) The sale or storage, use, or other consumption of property that, within one year from the date of purchase, is removed from California, converted from an exempt use under subdivision (a) to some other use not qualifying for exemption, or used in a manner not qualifying for exemption.

(2) If a purchaser certifies in writing to the seller that the tangible personal property purchased without payment of the tax will be used in a manner entitling the seller to regard the gross receipts from the sale as exempt from the sales tax, and the purchase exceeds the two-hundred-million-dollar ($200,000,000) limitation described in subparagraph (A) of paragraph (1), or within one year from the date of purchase, the purchaser removes that property from California, converts that property for use in a manner not qualifying for the exemption, or uses that property in a manner not qualifying for the exemption, the purchaser shall be liable for payment of sales tax, with applicable interest, as if the purchaser were a retailer making a retail sale of the tangible personal property at the time the tangible personal property is so purchased, removed, converted, or used, and the cost of the tangible personal property to the purchaser shall be deemed the gross receipts from that retail sale.

(f) This section shall apply to leases of qualified tangible personal property classified as "continuing sales" and "continuing purchases" in accordance with Sections 6006.1 and 6010.1. The exemption established by this section shall apply to the rentals payable pursuant to the lease, provided the lessee is a qualified person and the tangible personal property is used in an activity described in subdivision (a).

(g) (1) Upon the effective date of this section, the Department of Finance shall estimate the total dollar amount of exemptions that will be taken for each calendar year, or any portion thereof, for which this section provides an exemption.

(2) (A) No later than each March 1 next following a calendar year for which this section provides an exemption, the department shall provide to the Joint Legislative Budget Committee and to the Department of Finance a report of the total dollar amount of exemptions taken under this section for the immediately preceding calendar year. The report shall compare the total dollar amount of exemptions taken under this section for that calendar year with the department's estimate for that same calendar year. If that total dollar amount taken is less than the estimate for that calendar year, the report shall identify options for increasing exemptions taken so as to meet estimated amounts.

(B) No later than June 30 of that same calendar year, that total dollar amount, notwithstanding subparagraph (A) of paragraph (13) of subdivision (b), as reported by the department, with the concurrence of the Department of Finance, shall be transferred from the Greenhouse Gas Reduction Fund to the General Fund.

(h) This section is repealed on January 1, 2031.

SEC. 17. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the California Constitution and shall go into immediate effect. The facts constituting the necessity are:

To secure a greater reduction in greenhouse gas emissions to prevent catastrophic climate change, it is necessary for this act to take effect immediately.

SB-2 Energy: transportation fuels: supply and pricing: maximum gross gasoline refining margin. (2023-2024)

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Senate Bill No. 2

CHAPTER 1

An act to amend Sections 25354, 25355, 25362, and 25364 of, to add Sections 25354.2, 25355.5, 25355.7, and 25367 to, and to add Chapter 4.6 (commencing with Section 25370) to Division 15 of, the Public Resources Code, relating to energy.

[Approved by Governor March 28, 2023. Filed with Secretary of State March 28, 2023.]

LEGISLATIVE COUNSEL'S DIGEST

SB 2, Skinner. Energy: transportation fuels: supply and pricing: maximum gross gasoline refining margin.

Existing law requires operators of refineries in the state that produce gasoline meeting California specifications, within 30 days of the end of each calendar month, to submit a report to the State Energy Resources Conservation and Development Commission containing certain information regarding its refining activities related to the production of gasoline in that month, including the gross gasoline refining margin of gasoline sold in that month. Existing law requires the commission within 45 days of the end of each calendar month to post certain information on its internet website.

This bill would authorize the commission to set a maximum gross gasoline refining margin, as provided. The bill would require the commission, if the commission establishes the maximum gross gasoline refining margin, to establish a penalty for exceeding the maximum gross gasoline refining margin, as provided. The bill would authorize the commission to petition the court to enjoin a refiner from exceeding the maximum gross gasoline refining margin. The bill would also authorize the commission to impose an administrative civil penalty on a refiner for exceeding the maximum gross gasoline refining margin, as provided. The bill would require the commission to consider a refiner’s request for an exemption from the maximum gross gasoline refining margin, as provided. The bill would require a refiner seeking an exemption to file a statement under the penalty of perjury setting forth the facts that form the basis for the request for exemption. By requiring the statement to be filed under the penalty of perjury, the bill would expand the scope of the crime of perjury, thereby imposing a state-mandated local program. The bill would require the penalties collected to be deposited into the Price Gouging Penalty Fund, which the bill would create in the State Treasury. The bill would require moneys in the fund, upon appropriation by the Legislature, to be used to address any consequences of price gouging on Californians. The bill would require the California State Auditor, no later than March 1, 2033, to complete an audit and performance review of the maximum gross gasoline refining margin and penalty, if set by the commission. The bill would require the California State Auditor to make a determination in a report to the Legislature and the commission, by no later than June 1, 2033, as to whether the maximum gross gasoline refining margin and penalty is achieving the intended goal to reduce gasoline price spikes and stabilize the gasoline fuel supply market. If the California State Auditor concludes that the maximum gross gasoline refining

margin and penalty should be terminated, the bill would require the commission, within 180 days after the issuance of the report, to cease implementing the maximum gross gasoline refining margin and penalty, except as provided.

This bill would require the commission, in cooperation with the California Department of Tax and Fee Administration, to submit a report to the Legislature, on or before March 1 of each year, that includes a review of the price of gasoline in California and its impact on state revenues for the previous calendar year, as provided. The bill would authorize the department to request from any person certain records required to be maintained and any records in the person's possession, custody, or control that the department deems necessary to facilitate the report or to assist the commission.

This bill would require the commission, on or before January 1, 2024, and every 3 years thereafter, to submit an assessment to the Governor and the Legislature that, among other things, identifies methods to ensure a reliable supply of affordable and safe transportation fuels in California, as provided. The bill would require the commission to use reasonable means necessary and available to seek and obtain information from any sources for purposes of preparing the assessment and would authorize the commission to impose a civil penalty if a person fails to timely provide information necessary for preparing the assessment. The bill would require the commission and the State Air Resources Board, on or before December 31, 2024, and taking into account the assessment, to prepare a Transportation Fuels Transition Plan, as provided.

This bill would establish the Division of Petroleum Market Oversight in the commission that is led by a director appointed by the Governor and subject to Senate confirmation. The bill would specify that the division operates with authority independent of the commission's authority. The bill would specify the duties of the division, including, among other duties, the duty to provide guidance and recommendations to the Governor and the commission on any issues related to transportation fuels pricing and transportation decarbonization in California. The bill would establish the Independent Consumer Fuels Advisory Committee, consisting of specified members, within the commission, and would require the committee to advise the commission and the division.

This bill would require operators of refineries to report additional information, including the net gasoline refining margin per barrel of gasoline sold in that month. The bill would require the commission to post on its internet website certain information related to the net gasoline refining margin.

Existing law requires major oil producers, refiners, marketers, oil transporters, and oil storers to annually submit certain information to the commission, as provided.

This bill would revise and recast the above reporting requirement to, among other things, require pipeline operators and operators of ports through which refined gasoline is imported to annually report their capacities for all pipelines and ports used to transport refined gasoline, require all importers of refined products and renewable fuels via marine vessel to submit reports to the commission, as specified, require nonrefiners that commercially trade in gasoline, gasoline blending components, diesel fuel, or renewable fuel inventory to submit weekly reports to the commission, as provided, require refiners and nonrefiners that consummate spot market transactions to submit a daily report to the commission containing certain information for each transaction occurring in the preceding day, as provided, and require refiners to report maintenance activities, both planned and unplanned, to the commission, as provided.

Existing law subjects a person who fails to provide information to the commission after being notified of the failure to civil penalties in specified amounts.

This bill would increase the amount of civil penalties that may be imposed.

Existing constitutional provisions require that a statute that limits the right of access to the meetings of public bodies or the writings of public officials and agencies be adopted with findings demonstrating the interest protected by the limitation and the need for protecting that interest.

This bill would make legislative findings to that effect.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: yes

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. The Legislature finds and declares all of the following:

(a) From August to October of 2022, Californians experienced some of the highest gasoline prices ever recorded in the state, even though the price of crude oil declined, state taxes and fees remained unchanged, and gasoline prices did not increase outside the western United States.

(b) Much of this increase was caused by refiners, which increased the costs and profits they added to the price California consumers paid at the pump, leading to prices that were substantially higher per gallon than average prices in the rest of the United States.

(c) During the third and fourth quarters of 2022, the overlap in timing of planned maintenance at refiners' facilities resulted in a larger decrease in crude oil processing capacity than would otherwise have occurred if planned maintenance at refiners' facilities had not coincided.

(d) During this same period of time, refiners allowed gasoline inventory levels to reach decade-low levels, placing an upward pressure on gasoline prices.

(e) This refiner conduct makes clear that greater transparency into and oversight of refinery maintenance schedules and inventory is necessary, to avoid preventable supply shocks in the market for transportation fuels.

(f) Historically, refinery outages and issues have created an opportunity for market participants to take advantage of naturally high prices by manipulating prices to stay higher longer, as evidenced by gasoline prices in California remaining elevated without explanation following a temporary price shock after a refinery explosion in 2015. This further demonstrates the need for greater visibility into the pricing, contracting, and marketing practices of industry participants at all levels of the supply chain, and greater oversight by regulators empowered with the information and investigative tools needed to deter and detect anticompetitive conduct and other behavior that harms California consumers.

(g) Although preventable capacity limitations and inventory shortages played a role in the third quarter of 2022 price increases, they cannot account for all of those increases. Similar factors did not lead to extreme price spikes in prior years, suggesting that the sky-high prices Californians faced from August to October of 2022 were due in significant part to opportunistic price gouging by oil companies.

(h) Indeed, during a 90-day period in 2022, refiners earned a record $63,000,000,000 in profits, with some refiners earning more than tenfold their profits for the same period of time in 2021. Refiners' annual profits for 2022 also set new record highs.

(i) Fundamental change is necessary to prevent future extreme price spikes and price gouging by oil companies, which are entitled to a reasonable return but are not entitled to reap exorbitant profits at the expense of Californians, many of whom rely on gasoline as an essential commodity or who are impacted by the increased cost of goods and services that results from the gasoline price spikes, even as the state begins to transition away from dependence on the fossil fuels that are destroying our climate.

SEC. 2. Section 25354 of the Public Resources Code is amended to read:

25354. (a) Each refiner and major marketer shall submit information each month to the commission in such form and extent as the commission prescribes pursuant to this section. For purposes of this section, the term "refiner" and "refinery" shall include refiners and refineries as defined in Sections 25127 and 25128, and also those persons and facilities that process renewable feedstocks instead of crude oil feedstocks and otherwise meet the definitions in Sections 25127 and 25128. The information shall be submitted within 30 days after the end of each monthly reporting period and shall include the following:

(1) Refiners shall report, by volume, price, and type, for each of their refineries, feedstock inputs, origin of petroleum receipts, imports of finished petroleum products and blendstocks and ethanol, including the source of those imports, exports of finished petroleum products and blendstocks and ethanol, including the destination of those exports and the entity receiving those exports, refinery outputs, refinery stocks, finished product supply and distribution, including all gasoline sold unbranded by the refiner, blender, or importer, and all current inventories of refined and unrefined petroleum products.

(2) Major marketers shall report, by volume, price, and type, on petroleum product receipts and the sources of these receipts, inventories of finished petroleum products and blendstocks and ethanol, distributions through

branded and unbranded distribution networks, and exports of finished petroleum products and blendstocks and ethanol from the state.

(b) Each major oil producer, refiner, marketer, oil transporter, oil storer, pipeline operator, or port through which refined gasoline is imported or exported, shall annually submit information to the commission in such form and extent as the commission prescribes pursuant to this section. The information shall be submitted within 30 days after the end of each reporting period, and shall include the following:

(1) Major oil transporters shall report on petroleum by reporting the capacities of each major transportation system, the amount transported by each system, and inventories thereof. The commission may prescribe rules and regulations that exclude pipeline and transportation modes operated entirely on property owned by major oil transporters from the reporting requirements of this section if the data or information is not needed to fulfill the purposes of this chapter. The provision of the information shall not be construed to increase or decrease any authority the Public Utilities Commission may otherwise have.

(2) Major oil storers shall report on storage capacity, inventories, receipts and distributions, and methods of transportation of receipts and distributions.

(3) Major oil producers shall, with respect to thermally enhanced oil recovery operations, report annually by designated oil field, the monthly use, as fuel, of crude oil and natural gas.

(4) Refiners shall report on facility capacity, and utilization and method of transportation of refinery receipts and distributions.

(5) Major oil marketers shall report on facility capacity and methods of transportation of receipts and distributions.

(6) Pipeline operators and port operators shall report their capacities for all pipelines and ports used to transport refined gasoline.

(7) All major oil producers, refiners, marketers, oil transporters, oil storers, pipeline operators, or port operators submitting information under this subdivision shall include in the report for each reporting period the full names of all persons or entities that directly or indirectly own 10 percent or more of the major oil producer, refiner, marketer, oil transporter, oil storer, pipeline operator, or port operator submitting the information.

(c) Each person required to report pursuant to subdivision (a) shall submit a projection each month of the information to be submitted pursuant to subdivision (a) for the quarter following the month in which the information is submitted to the commission.

(d) In addition to the data required under subdivision (a), each integrated oil refiner that produces, refines, transports, and markets in interstate commerce and that supplies more than 500 branded retail outlets in California shall submit to the commission an annual industry forecast for Petroleum Administration for Defense, District V, covering Arizona, Nevada, Washington, Oregon, California, Alaska, and Hawaii. The forecast shall include the information to be submitted under subdivision (a), and shall be submitted by March 15 of each year. The commission may require California-specific forecasts only if the commission finds them necessary to carry out its responsibilities.

(e) The commission may by order or regulation modify the reporting period as to any individual item of information setting forth in the order or regulation its reason for so doing.

(f) (1) Destination facilities shall submit to the commission, by deadlines set by the commission, the following information regarding crude oil transported to or within California via rail car or marine vessel:

(A) The route of transport within California.

(B) The marketable crude oil name.

(C) The loading facility, including the loading facility name, and the latitude, longitude, and state where the facility is located.

(D) The name of the destination facility, the type of facility, and the latitude and longitude where the facility is located.

(E) Whether the crude oil is nonfloating oil, as defined in Section 8670.3 of the Government Code.

(2) The commission shall quarterly prepare and make available to the public a report based on the data collected pursuant to paragraph (1) that shall include, at a minimum, the routes of transport of crude oil within California, the types of crude oil transported over each of those routes, and the frequency with which nonfloating oil has been transported over each of those routes during the reporting period. The commission shall aggregate information used in a report prepared under this paragraph to the extent necessary to assure confidentiality if public disclosure of the specific information or data would result in unfair competitive disadvantage to the person supplying the information or would adversely affect market competition.

(3) The commission may require additional information to be submitted as necessary to perform its responsibilities under this chapter.

(g) Any person required to submit information or data under this chapter, in lieu thereof, may submit a report made to any other governmental agency, if:

(1) The alternate report or reports contain all of the information or data required by this chapter.

(2) The person clearly identifies the specific provision of this chapter to which the alternate report is responsive.

(h) Each refiner shall submit to the commission, within 30 days after the end of each monthly reporting period, all of the following information in such form and extent as the commission prescribes:

(1) Monthly California weighted average prices and sales volumes of finished leaded regular, unleaded regular, and premium motor gasoline sold through company-operated retail outlets, to other end-users, and to wholesale customers.

(2) Monthly California weighted average prices and sales volumes for residential sales, commercial and institutional sales, industrial sales, sales through company-operated retail outlets, sales to other end-users, and wholesale sales of No. 2 diesel fuel, No. 2 fuel oil, and any renewable fuels.

(3) Monthly California weighted average prices and sales volumes for retail sales and wholesale sales of No. 1 distillate, kerosene, finished aviation gasoline, kerosene-type jet fuel, No. 4 fuel oil, residual fuel oil with 1 percent or less sulfur, residual fuel oil with greater than 1 percent sulfur, and consumer grade propane.

(i) (1) Beginning the first week after January 1, 2004, and each week thereafter, an oil refiner, oil producer, petroleum product transporter, petroleum product marketer, petroleum product pipeline operator, and terminal operator, as designated by the commission, shall submit a report in the form and extent as the commission prescribes pursuant to this section. The commission may determine the form and extent necessary by order or by regulation.

(2) A report may include any of the following information:

(A) Receipts and inventory levels of crude oil and petroleum products at each refinery and terminal location.

(B) Amount of gasoline, diesel, jet fuel, blending components, and other petroleum products imported and exported.

(C) Amount of gasoline, diesel, jet fuel, blending components, and other petroleum products transported intrastate by marine vessel.

(D) Amount of crude oil imported, including information identifying the source of the crude oil.

(E) The regional average of invoiced retailer buying price. This subparagraph does not either preclude or augment the current authority of the commission to collect additional data under paragraph (3) of subdivision (f).

(F) Copies of all contracts or agreements entered into, or amendments to contracts or agreements, with other oil refiners, oil producers, petroleum product transporters, petroleum product marketers, petroleum product pipeline operators, terminal operators, or any other entity that trades in petroleum products whether or not those entities take possession of petroleum products, as designated by the commission, during the monthly reporting period, along with records of every transaction made under those contracts or agreements and the prices charged for those transactions.

(3) This subdivision is intended to clarify the commission’s existing authority under subdivision (f) to collect specific information. This subdivision neither precludes nor augments the existing authority of the commission

to collect information.

(j) All importers of refined products and renewable fuels via marine vessel shall report to the commission, at least 96 hours before the arrival of a marine vessel delivery to California, all of the following information:

(1) The name of the product tanker or name of the barge, including associated tug name.

(2) The loading location or locations for cargo.

(3) The volume by each type of transportation fuel, such as gasoline, gasoline blending components, diesel fuel, renewable diesel fuel, jet fuel, sustainable aviation fuel, biodiesel, and ethanol.

(4) The cargo landed cost, including the cost incurred to purchase, load, transport, and all other costs and fees to deliver, each type of transportation fuel, such as gasoline, gasoline blending components, diesel fuel, renewable diesel fuel, jet fuel, sustainable aviation fuel, biodiesel, and ethanol.

(5) The status of any transportation fuel as sold before discharge, the identity of the buyer for any presold product, and the sale price of any presold product.

(6) The planned discharge location, such as the marine berth designation, or locations.

(7) The foreign, domestic, and intrastate marine movements of the vessel from the port of origin to the port of delivery of the cargo.

(k) Nonrefiners, such as proprietary storage companies, that commercially trade in gasoline, gasoline blending components, diesel fuel, or renewable diesel fuel inventory not subject to contractual supply obligations, shall submit weekly reports to the commission, starting 30 days after the effective date of the act adding this subdivision, that include the weekly inventory volume, by type, such as gasoline, gasoline blending components, diesel fuel, or renewable fuels, for each position holder by name of company, and copies of all contracts or agreements entered into with any refiners, oil producers, petroleum product transporters, petroleum product marketers, petroleum product pipeline operators, terminal operators, or any other entity that trades in petroleum products whether or not those entities take possession of those products, as designated by the commission.

(l) Refiners and nonrefiners that consummate spot market transactions shall submit a daily report to the commission, starting 30 days after the effective date of the act adding this subdivision, that includes all of the following information for each transaction occurring during the preceding day:

(1) The identity of the spot market where the transaction occurred.

(2) Whether the transaction was reported to the Oil Price Information Service (OPIS), or any other price reporting service, and the time of the reporting.

(3) The date of the transaction.

(4) The time of the transaction.

(5) The contract identification number for the transaction.

(6) The position sequence number for the transaction.

(7) The contract position identification number for the transaction.

(8) The name, or nonanonymized identification of the executing trader for the transaction.

(9) The counterparty for the transaction, including company name and name or nonanonymized identification of the executing trader.

(10) Whether the reporting entity is the seller or buyer.

(11) The broker, including company name and name or nonanonymized identification of the executing broker.

(12) The type of refined transportation fuel, such as gasoline, diesel, or jet fuel.

(13) The product name for each type of refined transportation fuel.

(14) The volume of each transaction in thousands of barrels, or specified unit of measurement if unable to be indicated in thousands of barrels.

(15) The invoiced volume of each transaction in thousands of barrels, or specified unit of measurement if unable to be indicated in thousands of barrels.

(16) The time and date the material that is the subject of the transaction is scheduled to be delivered or was delivered.

(17) The delivery location specified in the contract for the transaction and the actual delivery location.

(18) The method of transportation for the delivery, such as pipeline, marine vessel, or truck, and the name of the transport.

(19) The actual title transfer date.

(20) The contract subcycle, including descriptors such as "Any," "L3," "FH," "BH," "C1," "C2," "C3," or "C4."

(21) The type of pricing method, including exchange of futures for physical (EFP), fixed price, fixed date range, floating date range, reference formula, OPIS close, event-related date range, such as three days on and around delivery or discharge, or any other utilized method of pricing.

(22) The contract price formula, including the differential from any contract formula and the unit of measurement for any price differential.

(23) The pricing start and end dates for each contract.

(24) The price value of the contract.

(25) For EFP contracts, the name of the futures product, the contract month of the futures product expressed as the two-digit month and the two-digit year (MM-YY), and the price value of the futures product.

(m) It is the intent of the Legislature that all refiners shall, while protecting the health and safety of the public and employees, schedule planned maintenance and turnaround in a manner that ensures minimum levels of transportation fuels in production or reserves necessary to prevent supply shortages or price spikes. To advance that purpose, refiners shall report maintenance activities for each refinery to the commission as follows:

(1) Notwithstanding any other law, a refiner shall notify the executive director of the commission of all plans to undertake turnaround and planned maintenance. A refiner's notification shall include, at a minimum, all of the following information:

(A) A brief description of planned work.

(B) The scheduled start date.

(C) The scheduled return-to-service date.

(D) The individual process units involved.

(E) The name and operational capacity of each process unit.

(F) The estimated daily decrease in output of material or substance produced by the unit, such as gasoline, diesel, or jet fuel components.

(G) The projected quantity of contractual supply obligations for finished gasoline due during the planned maintenance event or turnaround.

(H) The drawdown of inventory levels of gasoline and gasoline blending components and other material or substance produced by the unit that are controlled by the refiner at the refinery and at other storage locations in California during the planned maintenance event or turnaround, the current levels of such inventories at the time notice is provided, and the anticipant levels of such inventories immediately before the commencement of the planned maintenance event or turnaround.

(I) Imports of gasoline and gasoline blend components and other material or substance produced by the unit in preparation for or during the planned maintenance event.

(J) Planned purchases of gasoline and gasoline blending components and other material or substance produced by the unit from other market participants in California related to the planned maintenance event.

(K) Planned reductions of noncontracted sales of gasoline or other material or substance produced by the unit related to the planned maintenance event.

(2) The refiner's notification shall be submitted to the executive director of the commission at least 120 days before the planned maintenance or turnaround.

(3) Before submitting its turnaround schedule notification to the Division of Occupational Safety and Health pursuant to Section 7872 of the Labor Code, each refiner shall submit its turnaround schedule to the executive director of the commission. When submitting its schedule to the division, each refiner shall indicate that, for each scheduled turnaround, the notification to the commission was submitted.

(4) For unplanned maintenance resulting in a shutdown of a refinery process of greater than 24 hours, submit initial and final reports as follows:

(A) The initial report, due within 48 hours of the initial outage, shall include all of the following information:

(i) The name and operational capacity of each process unit involved in the unplanned outage.

(ii) The initial estimated daily decrease in output of gasoline, diesel, and jet fuel components from each process unit affected by the unplanned outage.

(iii) The current inventory levels of the material or substance produced by the unit affected by the unplanned outage that are controlled by the refiner at the refinery and at other storage locations in California during the unplanned maintenance event.

(iv) A description of the reason for the unplanned maintenance or outage.

(v) The projected duration of production reduction.

(B) The final report, due within 48 hours of the completion of repairs, shall include all of the following information:

(i) The return-to-service date.

(ii) The total decreased output of gasoline, diesel, and jet fuel components from each of the affected process units.

(iii) The total increased output from other process units by type of refined product to partially compensate for the reduced output from the process units affected by the unplanned outage.

(iv) The amount of material obtained from other sources that compensated for the decrease described in clause (ii) and enabled the refiner to cover for the loss of that production.

(v) The drawdown of inventory levels of any material or substance produced by the unit that are controlled by the refiner at the refinery and at other storage locations in California during the unplanned maintenance event.

(5) Upon receipt of a notification under this subdivision, the executive director of the commission shall review the notification and may request any additional information from the refiner that is necessary for the commission to assess the potential effect of the planned maintenance event on the supply and prices of transportation fuels in the state.

(n) (1) Notwithstanding any other law, information in the notification provided to the commission by a refiner providing a notice or report of its planned maintenance, unplanned maintenance, or turnaround schedule, including notifications under subdivision (m) shall be considered confidential information not subject to public disclosure under the California Public Records Act (Division 10 (commencing with Section 7920.000) of Title 1 of the Government Code). The commission may share the information with other state agencies, including the Attorney General, only if the other state agency agrees to maintain the confidentiality of the information.

(2) The commission may adopt guidelines to prescribe the manner in which the executive director of the commission shall implement subdivision (m) at a commission business meeting. The Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code) does not apply to any regulations, guidelines, or other standards adopted by the commission pursuant to this paragraph.

(o) Refiners shall report annually to the commission their planned production levels and schedule for turnarounds and planned maintenance for the following 12 months, by month and by finished product.

(p) (1) The operator of any refinery in this state shall report to the Commission at least 12 months in advance if that refinery operator intends to permanently shut down, shut down to reconfigure, or sell a refinery in a transaction that may result in a refinery shutting down or reconfiguring.

(2) Upon receipt of a notice pursuant to paragraph (1), the commission shall notify the Legislature in a manner that does not disclose confidential information, if applicable.

(3) After the completion of the report by the commission required by Section 25371 and its submission to the Legislature, the commission may modify the notice required under this subdivision. The commission shall not reduce the notice period to less than 12 months.

SEC. 3. Section 25354.2 is added to the Public Resources Code, to read:

25354.2. The commission, in consultation with the Labor and Workforce Development Agency and labor and industry stakeholders, shall consider ways to manage necessary refinery turnarounds and maintenance that would protect the health and safety of employees and the public, and minimize the impact of maintenance-related production losses on fuel prices. The commission may, by regulation, impose requirements governing the timing of turnaround and maintenance developed through consultations under this section.

SEC. 4. Section 25355 of the Public Resources Code is amended to read:

25355. (a) For purposes of this section, the following definitions apply:

(1) "Gross gasoline refining margin" means the difference, expressed in dollars per barrel, between the volume-weighted average price of wholesale gasoline sold by a refiner in the state and the average price of crude oil received by the refinery.

(2) "Net gasoline refining margin" means the gross gasoline refining margin minus the refinery's operational costs.

(3) "Operational costs" means costs, expressed in dollars per barrel, necessarily incurred by the operator of a refinery in the state to produce gasoline meeting California specifications, including, but not limited to, costs of labor, electricity, natural gas, chemicals, maintenance, hydrogen, and other intermediate oil products, federal renewable identification numbers, obligation costs, capital investments, logistics costs, and additive costs.

(b) Within 30 days of the end of each calendar month, the operator of each refinery operating in the state that produces gasoline meeting California specifications shall submit to the commission a report for the refinery containing all of the following information:

(1) The volume, in barrels, of crude oil received in that month, separated into domestic and foreign subtotals.

(2) The volume-weighted average crude oil acquisition cost paid for crude oil that is received and intended to be refined during that month, separated into domestic and foreign crude oil acquisition costs.

(3) The volume in barrels of refined gasoline received or imported in that month from entities other than the refiner.

(4) The volume-weighted average cost of any refined gasoline received or imported by a refiner during that month.

(5) The quantity, in barrels, of wholesale gasoline meeting California specifications sold and the corresponding volume-weighted average prices, less all applicable local, state, and federal taxes, separated by unbranded rack sales, branded rack sales, bulk sales, spot pipeline sales, and dealer tankwagon (DTW) sales in that month.

(6) Separate quantification of the volume-weighted fees or estimated valuations of costs embedded in all wholesale gasoline sales associated with the low-carbon fuel standard (LCFS) and associated with the cap and trade cap-at-the-rack (CAR) program, for each volume-weighted average price for: (A) unbranded rack sales, (B) branded rack sales, (C) bulk sales, (D) spot pipeline sales, and (E) DTW sales, in that month.

(7) The gross gasoline refining margin per barrel of gasoline sold in that month.

(8) The operational costs per barrel of gasoline sold in that month, including a complete description and amount of each category of cost identified in paragraph (3) of subdivision (a) and any other category of cost.

(9) The net gasoline refining margin per barrel of gasoline sold in that month.

(c) Within 45 days of the end of each calendar month, the commission shall post on its internet website all of the following:

(1) The gross gasoline refining margin data reported pursuant to this section for that month, and any gross gasoline refining margin independently calculated by the commission, as a volume-weighted gross refining margin in aggregate for all the combined refineries in the state.

(2) The gross gasoline refining margin data reported for that month, and any gross gasoline refining margin independently calculated by the commission, in aggregate for each refiner with more than one refinery operating within California.

(3) The net gasoline refining margin data reported pursuant to this section for that month, and any net gasoline refining margin independently calculated by the commission, as a volume-weighted net refining margin in aggregate for all the combined refineries in the state.

(4) The net gasoline refining margin data reported for that month, and any net gasoline refining margin independently calculated by the commission, in aggregate for each refiner with more than one refinery operating within the state.

(5) The aggregated data submitted pursuant to paragraphs (1) through (4), inclusive, of subdivision (b) for that month.

SEC. 5. Section 25355.5 is added to the Public Resources Code, to read:

25355.5. (a) For purposes of this section, the following definitions apply:

(1) "Gross gasoline refining margin excluding state program costs" means the amount, expressed in dollars per barrel and calculated by the commission on a monthly basis, equal to the volume-weighted average rack price of wholesale gasoline sold by a refiner in the state, less the volume-weighted fees or estimated valuations of costs embedded in all of the refiner's wholesale gasoline sales associated with the low carbon fuel standard and the cap and trade cap-at-the-rack program, less the refiner's volume-weighted average acquisition cost.

(2) "Maximum gross gasoline refining margin" means the maximum amount of gross gasoline refining margin excluding state program costs established under subdivision (b).

(3) "Volume-weighted average acquisition cost" means the combined volume-weighted average of the refiner's volume-weighted average crude oil acquisition cost and the refiner's volume-weighted cost of acquiring refined gasoline imported to California or received from an entity other than the refiner.

(4) "Volume-weighted average rack price of wholesale gasoline" means the combined volume-weighted average of the refiner's rack price of the branded and unbranded rack sales reported under paragraph (5) of subdivision (b) of Section 25355.

(5) "Volume-weighted average crude oil acquisition cost" means the amount reported as required by paragraph (2) of subdivision (b) of Section 25355.

(b) The commission may, by regulation or order at a business meeting, subject to the requirements of subdivision (f), set a maximum gross gasoline refining margin.

(c) (1) If the commission sets a maximum gross gasoline refining margin under subdivision (b), it shall also establish a penalty for exceeding that maximum margin, by regulation or order at a business meeting, subject to the requirements of subdivision (f), that may be the same meeting described in subdivision (b).

(2) The penalty shall be a percentage of the amount by which the refiner's gross gasoline refining margin excluding state program costs exceeds the maximum gross gasoline refining margin, converted from dollars per barrel to dollars per gallon, multiplied by the number of gallons sold by the refiner during the calendar month for all transactions described in paragraph (6) of subdivision (b) of Section 25355.

(3) Subject to subdivision (j), the penalty shall be tiered, such that the penalty percentage shall increase with the amount by which the refiner's gross gasoline refining margin excluding state program costs exceeds the

maximum gross gasoline refining margin, as follows:

(A) Amounts earned by a refiner that exceed the maximum gross gasoline refining margin by less than ten cents ($0.10) per gallon shall be subject to the base penalty percentage set by the commission.

(B) Amounts earned by a refiner that exceed the maximum gross gasoline refining margin between by more than ten cents ($0.10) and less than or equal to twenty cents ($0.20) per gallon shall be subject to a penalty percentage higher than the base penalty percentage.

(C) Amounts earned by a refiner that exceed the maximum gross gasoline refining margin by more than twenty cents ($0.20) per gallon shall be subject to a penalty percentage higher than the penalty percentage set under subparagraph (B).

(d) In establishing a maximum gross gasoline refining margin and penalty, the commission shall consider information reported under subdivision (b) of Section 25355 and any other public data and reports that it determines will assist its analysis. The commission shall also consider confidential information submitted pursuant to Sections 25354 and 25355. A refiner may submit additional information and facts for the commission to consider under an application for confidential designation pursuant to Section 25364.

(e) The commission shall not set a maximum gross gasoline refining margin or accompanying penalty under subdivisions (b) and (c), respectively, unless it finds that the likely benefits to consumers outweigh the potential costs to consumers. In making that determination, the commission shall consider all factors that in its discretion it deems relevant, including at a minimum all of the following factors, although no one factor shall be determinative:

(1) Whether it is likely that the maximum gross gasoline refining margin and penalty will lead to a greater imbalance between supply and demand in the California transportation fuels market than would exist without the maximum margin and penalty.

(2) Whether it is likely that the maximum gross gasoline refining margin and penalty will lead to higher average prices at the pump on an annual basis than would exist without the maximum margin and penalty.

(3) Whether case-by-case exemptions from the gross gasoline refining maximum margin will be sufficient to ensure that individual refiners have an opportunity to demonstrate the need for a greater margin before they make decisions about production.

(f) Decisions of the commission under subdivision (b) to adopt a regulation or order setting a maximum gross gasoline refining margin, under subdivision (c) to adopt a regulation or order establishing a penalty for exceeding the maximum gross gasoline refining margin, under subdivision (e) regarding the benefits and costs to consumers, and under subdivision (k) regarding adjustments to, or rescission of, the maximum gross gasoline refining margin or penalty, shall be made in accordance with all of the following procedures:

(1) A notice and draft decision, regulation, or order shall be posted publicly at least 30 days before the business meeting at which adoption of the decision, regulation, or order will be considered.

(2) The commission shall receive written comments on the draft decision, regulation, or order.

(3) The commission shall hear public comment on the draft decision, regulation, or order at its business meeting.

(g) If the commission has set a maximum gross gasoline refining margin and penalty, the margin and penalty shall take effect 60 days following the commission’s regulation or order establishing the margin and penalty pursuant to subdivisions (b) and (c), respectively. Within 15 days of the regulation or order establishing a maximum gross gasoline refining margin and penalty, the commission shall notify refiners by a means determined by the commission that may include, but is not limited to, mail, email, or internet website posting.

(h) If the commission has set a maximum gross gasoline refining margin under subdivision (b), it shall be a violation of this section for a refiner to exceed the maximum gross gasoline refining margin.

(i) In addition to any other remedy that may be available, the commission may petition a court to enjoin a refiner from violating this section.

(j) The commission may impose an administrative civil penalty for a violation of this section in the amounts established pursuant to subdivision (c).

(k) The commission may, by regulation or order, at a business meeting, subject to the requirements of subdivision (f), rescind or adjust the maximum gross gasoline refining margin and the penalty percentages and amounts specified in subdivisions (b) and (c) to ensure that a sufficient, affordable, and fairly priced supply of gasoline is available to Californians. A refiner may submit information and facts for the commission to consider in support of any rescission or adjustment under an application for confidential designation pursuant to Section 25364. Rescission of, or adjustments to, the maximum gross gasoline refining margin and the penalty percentages and amounts specified in subdivisions (b) and (c), respectively, pursuant to this subdivision shall be effective on the first day of the calendar month at least 15 days after the commission gives public notice of the rescission or adjustment, unless the commission orders otherwise.

(l) Notwithstanding Section 25901 and except as provided in subdivision (n), a petition for writ of mandate pursuant to Section 1085 of the Code of Civil Procedure shall be the exclusive remedy available to challenge any regulation, order, decision, rule, guideline, or adjudication of an exemption request adopted by the commission under this section. The court's review shall be limited exclusively to the record before the commission. Any petition shall be filed within 30 days of the commission's decision.

(m) (1) The commission shall consider a refiner's request for an exemption from the maximum gross gasoline refining margin and shall grant the exemption upon a showing by the refiner, based on competent and reliable evidence and subject to the commission's review, examination, and investigation of the evidence, that an application of the maximum gross gasoline refining margin would be unconstitutional as applied to the refiner. The commission may, in its discretion, grant a request for an exemption upon a showing by the refiner of good cause for an exemption, subject to alternative maximum margins or other conditions as the commission may set.

(2) Any refiner seeking an exemption shall, at a minimum, file a statement with the commission, signed under penalty of perjury, setting forth the facts that form the basis for the request for exemption. A refiner may submit information and facts under an application for confidential designation pursuant to Section 25364 to support its application for an exemption.

(n) (1) Before imposing the administrative civil penalty under subdivision (j), the executive director of the commission shall issue and serve a complaint on the refiner, and the commission shall hold a hearing, adopt a decision, and require payment of the penalty in accordance with the procedures described in subdivisions (a) to (d), inclusive, of Section 25534.1.

(2) Judicial review and enforcement of an order imposing an administrative civil penalty under subdivision (j) may be had in accordance with the procedures described in subdivisions (a) and (b) of Section 25534.2.

(3) Penalties collected under this section shall be deposited into the Price Gouging Penalty Fund, which is hereby created in the State Treasury and shall be used, upon appropriation by the Legislature, to address any consequences of price gouging on Californians.

(4) The commission shall make public, on a quarterly basis, the name and address of each refiner that has exceeded the maximum gross gasoline refining margin for any month during the previous quarter, and the amount of administrative civil penalty to be assessed.

(o) The Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code) does not apply to any regulation, order, decision, rule, guideline, adjudication of an exemption request, or adjustment of the maximum gross gasoline margin, adopted by the commission under this section.

(p) The California State Auditor shall begin, no earlier than January 1, 2032, and complete, no later than March 1, 2033, an audit and performance review of the maximum gross gasoline refining margin and penalty set pursuant to this section, if the commission has set a maximum gross gasoline refining margin and penalty. The California State Auditor shall make determinations in a report to the Legislature and the commission, by no later than June 1, 2033, as to whether this section is achieving the intended goal to reduce gasoline price spikes and stabilize the gasoline fuel supply market for California consumers. Within 60 days of the issuance of the report, the commission shall hear from the California State Auditor at a business meeting of the commission. If the California State Auditor concludes that the maximum gross gasoline refining margin and penalty should be terminated, then the commission shall cease implementing the maximum gross gasoline refining margin and penalty provisions no later than 180 days after the issuance of the report, unless the Legislature has enacted subsequent legislation to extend the maximum gross gasoline refining margin and penalty provisions in the meantime.

SEC. 6. Section 25355.7 is added to the Public Resources Code, to read:

25355.7. (a) Notwithstanding Section 10231.5 of the Government Code, on or before March 1, 2024, and March 1 of each year thereafter, the commission, in cooperation with the California Department of Tax and Fee Administration, shall submit a report to the Legislature, in accordance with Section 9795 of the Government Code, that includes a review of the price of gasoline in California and its impact on state revenues for the previous calendar year.

(b) (1) (A) To facilitate the report required in subdivision (a) and to assist the commission in providing independent analysis and oversight of the market for transportation fuels, and in identifying potential market design flaws and market power abuses, the California Department of Tax and Fee Administration may, notwithstanding any other law, use any information that comes into its possession and may request from any person records required to be maintained pursuant to Section 7053 or 8301 of the Revenue and Taxation Code or any other records in a person's possession, custody, or control that the California Department of Tax and Fee Administration deems necessary for these purposes. Records that the California Department of Tax and Fee Administration may request, include, but are not limited to, sales prices and contracts for unbranded rack sales, branded rack sales, bulk sales, spot pipeline sales, dealer tankwagon sales, imported fuel transactions, and retail sales of gasoline meeting California specifications, including prices per gallon of gasoline charged by retailers by retail location and by grade of gasoline.

(B) Except as provided in paragraph (4), the information, including, but not limited to, business affairs or trade secrets, provided to the California Department of Tax and Fee Administration pursuant to this section shall constitute confidential information for purposes of Section 7056 of the Revenue and Taxation Code or Section 15570.84 of the Government Code and shall not be subject to public disclosure.

(2) (A) The records requested pursuant to paragraph (1) shall be provided in the form and manner specified by the California Department of Tax and Fee Administration within 30 days of the notice of request.

(B) The California Department of Tax and Fee Administration shall provide written notification to the commission within 10 days after the failure or refusal of any person to provide information or records in the time and manner as specified pursuant to subparagraph (A).

(3) For purposes of the report required by subdivision (a), the commission may impose a civil penalty after receiving notification from the California Department of Tax and Fee Administration that a person has failed or refused to provide information or records in the time and manner as required. A civil penalty under this subdivision shall be imposed under the procedures set forth in subdivision (a) of Section 25362, except that the maximum penalty amount shall be ten thousand dollars ($10,000) per day.

(4) (A) Notwithstanding any other law, the California Department of Tax and Fee Administration may provide any information provided to it by any person pursuant to this subdivision to the commission, to the Attorney General, to any contractor retained to prepare reports required by this section, or any entity that the California Department of Tax and Fee Administration may contract with for the purpose of preparing the reports required by this section. The Attorney General may request from the commission or the California Department of Tax and Fee Administration any information collected pursuant to Section 25354 or 25355 or this section, or Chapter 4.6 (commencing with Section 25730).

(B) Except as provided in subdivision (c), the information, including, but not limited to, business affairs or trade secrets, provided pursuant to this paragraph shall be confidential and shall not be subject to public disclosure by the commission, the Attorney General, any contractor retained to prepare the reports required by this section, or the California Department of Tax and Fee Administration or its contractors.

(c) Notwithstanding any other law, the reports required by this section shall only disclose confidential taxpayer information presented in aggregate form to the extent necessary to ensure confidentiality if public disclosure of the specific information or data would result in unfair competitive disadvantage to the person supplying the information or would adversely affect market competition.

SEC. 7. Section 25362 of the Public Resources Code is amended to read:

25362. (a) The commission shall notify those persons who have failed to timely provide the information specified in Section 25354 or 25355. If, within five days after being notified of the failure to provide the specified information, the person fails to supply the specified information, the person shall be subject to a civil penalty of not less than five thousand dollars ($5,000) nor more than twenty thousand dollars ($20,000) per day for each

day the submission of information is refused or delayed, up to a maximum penalty of five hundred thousand dollars ($500,000) per submission.

(b) A person who willfully makes any false statement, representation, or certification in any record, report, plan, or other document filed with the commission shall be subject to a civil penalty not to exceed forty thousand dollars ($40,000).

(c) The administration of civil penalties under this section shall be subject to the procedures provided in Section 25534.1, and to the procedures for judicial review under Section 25534.2.

(d) In addition to any civil penalty provided for by this section, if a person fails to timely provide the information specified in Section 25354 or 25355, the commission may petition a court for an order compelling the person to provide that information.

(e) For purposes of this section, the term "person" shall mean, in addition to the definition contained in Section 25116, any responsible corporate officer.

SEC. 8. Section 25364 of the Public Resources Code is amended to read:

25364. (a) A person required to present information to the commission pursuant to Section 25354 or 25355 or a person making a request for exemption pursuant to Section 25355.5 may request that specific information be held in confidence. Information requested to be held in confidence shall be presumed to be confidential.

(b) Information presented to the commission pursuant to Section 25354, 25355, or 25355.5 shall be held in confidence by the commission or aggregated to the extent necessary to ensure confidentiality if public disclosure of the specific information or data would result in unfair competitive disadvantage to the person supplying the information or would adversely affect market competition.

(c) (1) Whenever the commission receives a request to publicly disclose unaggregated information, or otherwise proposes to publicly disclose information submitted pursuant to Section 25354, 25355, or 25355.5, notice of the request or proposal shall be provided to the person submitting the information. The notice shall indicate the form in which the information is to be released. Upon receipt of notice, the person submitting the information shall have 10 working days in which to respond to the notice to justify the claim of confidentiality on each specific item of information covered by the notice on the basis that public disclosure of the specific information would result in unfair competitive disadvantage to the person supplying the information or would adversely affect market competition.

(2) The commission shall consider the respondent's submittal in determining whether to publicly disclose the information submitted to it to which a claim of confidentiality is made. The commission shall issue a written decision which sets forth its reasons for making the determination whether each item of information for which a claim of confidentiality is made shall remain confidential or shall be publicly disclosed.

(d) The commission shall not make public disclosure of information submitted to it pursuant to Section 25354, 25355, or 25355.5 within 10 working days after the commission has issued its written decision required in this section.

(e) No information submitted to the commission pursuant to Section 25354, 25355, or 25355.5 shall be deemed confidential if the person submitting the information or data has made it public.

(f) With respect to petroleum products and blendstocks reported by type pursuant to paragraph (1) or (2) of subdivision (a) of Section 25354, information provided pursuant to subdivision (h) or (i) of Section 25354, and information provided under Section 25355, neither the commission, the State Air Resources Board, or the Attorney General, nor any employee or contractor of those entities, may do any of the following:

(1) Use the information furnished under paragraph (1) or (2) of subdivision (a) of Section 25354, under subdivision (h) or (i) of Section 25354, or under Section 25355 for any purpose other than law enforcement or the statistical purposes for which it is supplied.

(2) Make any publication whereby the information furnished by any particular establishment or individual under paragraph (1) or (2) of subdivision (a) of Section 25354, under subdivision (h) or (i) of Section 25354, or under Section 25355 can be identified.

(3) Permit anyone other than commission members, the State Air Resources Board, the Attorney General, and employees or contractors of those entities to examine the individual reports provided under paragraph (1) or

(2) of subdivision (a) of Section 25354, under subdivision (h) or (i) of Section 25354, or under Section 25355.

(g) Notwithstanding any other law, the commission may disclose confidential information received pursuant to subdivision (a) of Section 25304, or Section 25354 or 25355 to the State Air Resources Board or the Attorney General if the state board or the Attorney General agrees to keep the information confidential. With respect to the information it receives, the state board and the Attorney General shall be subject to all pertinent provisions of this section.

(h) (1) Notwithstanding any other law, the commission shall, upon request, timely disclose confidential information received pursuant to subdivision (a) of Section 25304, or Section 25354 or 25355 to the Speaker of the Assembly, the Senate Committee on Rules, the appropriate policy committees in the Assembly or the Senate, or staff members of each, provided that the information shall be provided only in aggregated or otherwise anonymized form, and each individual person receiving or having access to the information shall first agree, in writing, to keep the information confidential. Any person or committee receiving information under this subdivision shall be subject to all pertinent provisions of this section.

(2) Aggregated or otherwise anonymized information disclosed under paragraph (1) shall be made available by the commission to the public no more than quarterly, upon request of the Speaker of the Assembly, the Senate Committee on Rules, or the appropriate policy committees in the Assembly or the Senate, under conditions as the commission may determine are necessary to ensure that public disclosure of the specific information would not result in unfair competitive disadvantage to the person supplying the information or adversely affect market competition.

(i) Notwithstanding any other law, the commission may disclose confidential information received pursuant to paragraph (1) of subdivision (f) of Section 25354 to the administrator for oil spill response, appointed pursuant to Section 8670.4 of the Government Code, upon request for oil spill planning and preparedness purposes, and to first responders in the event of an accident or spill. Information disclosed to the administrator or first responders pursuant to this subdivision that has been identified as confidential under subdivision (a) shall not be disclosed to any other entity except pursuant to a request in accordance with the California Public Records Act (Division 10 (commencing with Section 7920.000) of Title 1 of the Government Code). Upon receipt of a records request seeking information disclosed pursuant to this subdivision, the administrator or first responder receiving the request shall provide the destination facility who provided the confidential information to the commission with an opportunity to submit, within a reasonable time, a response and information in support of exemption from disclosure before making the determination whether the requested records are exempt from disclosure. No requirement or deadline contained in the California Public Records Act (Division 10 (commencing with Section 7920.000) of Title 1 of the Government Code) shall be extended or waived as a result of this subdivision.

(j) This section does not apply to aggregate data that are required to be posted on the commission's internet website pursuant to subdivision (c) of Section 25355.

SEC. 9. Section 25367 is added to the Public Resources Code, to read:

25367. (a) Except as otherwise provided, the adoption of, or amendment to, regulations or orders implementing this chapter shall be considered by the Office of Administrative Law as an emergency, and necessary for the immediate preservation of the public peace, health, safety, and general welfare. Notwithstanding any other law, the emergency regulations or orders adopted to implement this chapter shall remain in effect for two years. Although the commission may adopt regulations to further define terms or prescribe reporting procedures or calculation methodologies pursuant to this chapter, or prescribe any other method of implementing this chapter, the provisions of this chapter are self-executing and shall not require any implementing regulation to be effective.

(b) The commission may enter into contracts to implement this chapter, and the contracts shall not require the review, consent, or approval of the Department of General Services or any other state department or agency and do not need to comply with requirements under the State Contracting Manual or the Public Contract Code.

SEC. 10. Chapter 4.6 (commencing with Section 25370) is added to Division 15 of the Public Resources Code, to read:

CHAPTER 4.6. Petroleum Market
Article 1. General Provisions

25370. For purposes of this chapter and Chapter 4.5 (commencing with Section 25350), the following definitions apply:

(a) "Planned maintenance" means regular, periodic maintenance or repair of one or more pieces of equipment within a petroleum refinery that may require the shutdown of that equipment, or that may reduce production of a petroleum refinery.

(b) "Price spike" means a rate of increase of a refinery's gross gasoline refining margin, as defined in Section 25355, that is greater than the rate of increase of the average price of crude oil received by the refinery, for the same period of time, or a rate of decrease of a refinery's gross gasoline refining margin that is less than the rate of decrease of the average price of crude oil received by the refinery, for the same period of time.

(c) "Transportation fuels" means gasoline, gasoline blending components, diesel fuel, or renewable fuels.

(d) "Turnaround" has the same meaning as that term is defined in Section 7872 of the Labor Code.

(e) "Unplanned maintenance" means any maintenance or repair that requires the shutdown of any part of the petroleum refinery that will result in any reduction in production that was not scheduled as turnaround or planned maintenance.

Article 2. Transportation Fuels Assessment

25371. (a) (1) Notwithstanding Section 10231.5 of the Government Code, on or before January 1, 2024, and every three years thereafter, the commission shall submit an assessment to the Legislature, in accordance with Section 9795 of the Government Code, and to the Governor that does all of the following:

(A) 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 at the state level, and, to the extent feasible, at regional and local levels, and individual refineries if relevant, that should be held in reserve by refiners to prevent gasoline price spikes. The assessment shall consider all factors causing price fluctuation in retail gasoline prices when recommending adequate reserve levels. The commission shall consider all relevant evidence from any reasonably available source, including, but not limited to, information about imports, by amount, source, if known, and data received by the commission pursuant to existing laws, economic and business experts, and information from any local, state, and federal agencies. The commission shall transmit to the Legislature, in accordance with Section 9795 of the Government Code, any proposals it deems appropriate for mandatory reserve levels and the terms of a program to implement reserve levels.

(B) Evaluates the price of transportation fuels, including branded and unbranded retail prices, alternate formulations of gasoline with lower carbon impact, and other products suitable for production from refineries in California. This evaluation shall consider the market demand for these products at 3-, 7-, 10- and 20-year intervals from the date of the assessment and shall rely on the most recent transportation forecasting and assessment activities conducted pursuant to Section 25304. This evaluation shall include both of the following:

(i) An examination of whether branded fuel additives have any impact, and if so, how much, on fuel efficiency and vehicle emissions.

(ii) An assessment of the presence and availability of retail outlets, including monitoring changes in availability of retail outlets that contribute to increasing retail prices in local and regional areas.

(C) Considers different levels of supply conditions and assesses the impact of potential refinery closures in California.

(D) Includes an analysis of the impacts on production of refinery planned maintenance, unplanned maintenance, and turnaround. The assessment shall evaluate ways to manage necessary maintenance among the various facilities that would protect the health and safety of employees and the public, and minimize the impact of maintenance-related production losses. Notwithstanding any other law, the Department of Industrial Relations and Division of Occupational Safety and Health shall disclose to the commission, upon request, any information the department and division have received under Section 7872 of the Labor Code to ensure all aspects of refinery safety are incorporated into the assessment. All information designated confidential shall be treated as confidential by the commission.

(E) Evaluates the utility and feasibility of alternative methods to maintain adequate supplies of transportation fuels, including delivery alternatives for fuel and components of refined fuel, such as delivery by rail, a publicly maintained strategic fuel reserve, and other solutions beyond the activities of refineries and petroleum market participants.

(F) Proposes solutions to mitigate any impacts described in the assessment. The solutions shall include an assessment of the employment impacts and the cost and cost-effectiveness of any proposal, including cost impacts to all impacted sectors, both public and private. The assessment shall include recommendations and alternatives.

(2) The first assessment shall include the evaluation of oil and gas extraction and refining that the State Air Resources Board outlined in the most recent update to the scoping plan prepared pursuant to Section 38561 of the Health and Safety Code.

(b) The assessment shall be separate from the report submitted pursuant to Section 25302 and shall be developed in a public process. The assessment shall be available to the public within the proceeding docket and shall be approved by a vote of the commission at its business meeting.

(c) The commission may enter into contracts to perform the assessment required by subdivision (a) and the contracts shall not require the review, consent, or approval of the Department of General Services or any other state department or agency and do not need to comply with requirements under the State Contracting Manual or the Public Contract Code.

(d) The Division of Petroleum Market Oversight shall provide input to and otherwise support other divisions of the commission in preparation of the assessment required by subdivision (a).

25371.1. (a) The commission shall use reasonable means necessary and available, including, but not limited to, the authority under subdivisions (e) and (f) of Section 11181 of the Government Code, to seek and obtain any facts, figures, and other information from any source for the purpose of preparing the assessment under Section 25371. The commission shall specifically report in the assessment any ongoing or unsuccessful attempts to obtain information from potential sources, including the lack of cooperation or refusal to provide information.

(b) For purposes of the assessment prepared under Section 25371, the commission may impose a civil penalty whenever a person fails to timely provide the information specified in that section and any other information the commission deems necessary to conduct the assessment. A civil penalty under this subdivision shall be imposed under the procedures set forth in subdivision (a) of Section 25362.

(c) Subdivisions (b) and (c) of Section 25362 shall apply to a person who willfully submits or makes any false statement to the commission.

(d) The commission shall conduct a public meeting in December of each year to provide an opportunity for the public to provide input on transportation fuel prices.

25371.2. (a) The commission shall aggregate information used in the assessment prepared under Section 25371 to the extent necessary to ensure its confidentiality if public disclosure of the specific information or data would adversely affect market competition.

(b) A person required to present information to the commission pursuant to Section 25371 may request that specific information be held in confidence. Information requested to be held in confidence shall be presumed to be confidential.

(c) For purposes of the assessment conducted under Section 25371, the commission shall comply with the disclosure of information requirements of subdivisions (c) to (e), inclusive, of Section 25364.

25371.3. On or before December 31, 2024, the commission and the State Air Resources Board, taking into account findings of the assessment conducted under Section 25371, shall prepare a Transportation Fuels Transition Plan. The commission and the State Air Resources Board shall determine the contents of the report, but the report shall include, at a minimum, 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 the most current scoping plan approved by the State Air Resources Board under Section 38561 of the Health and Safety Code. The report shall be prepared in consultation with the state's fuel producers and refiners and a multistakeholder, multiagency workgroup, including the California Environmental Protection Agency and the Natural Resources Agency, convened by the commission and the State Air Resources

Board to identify mechanisms to plan for and monitor progress toward the state's reliable, safe, equitable, and affordable transition away from petroleum fuels in line with declining instate petroleum demand. The Division of Petroleum Market Oversight shall provide input to and otherwise support other divisions of the commission in preparation of the plan.

Article 3. Division of Petroleum Market Oversight

25372. For purposes of this article and Article 4 (commencing with Section 25373), "division" means the Division of Petroleum Market Oversight.

25372.1. (a) The Division of Petroleum Market Oversight is hereby established in the commission.

(b) Notwithstanding Chapter 3 (commencing with Section 25200), the division shall operate with authority independent of the commission's authority.

(c) The division shall be led by a director, who is appointed by the Governor and is subject to confirmation by the Senate, and holds office at the pleasure of the Governor.

(d) The annual salary of the director shall be provided for by Chapter 6 (commencing with Section 11550) of Part 1 of Division 3 of Title 2 of the Government Code.

(e) The director shall employ and prescribe the duties of other staff members as necessary to carry out the provisions of this article. The staff shall include, when feasible, economists, individuals with expertise in the transportation fuels markets, and investigative staff with legal training.

25372.2. (a) The division shall do all of the following:

(1) Provide independent oversight and analysis of the transportation fuels markets for the protection of consumers by identifying market design flaws, market power abuses, and any other manner by which market participants act to harm competition or act contrary to the best interests of consumers in the state.

(2) Provide guidance and recommendations to the commission relating to the development of the assessment required by Section 25371 and the Transportation Fuels Transition Plan described in Section 25371.3.

(3) Provide guidance and recommendations to members of the commission, other divisions of the commission, and the California Department of Tax and Fee Administration relating to the reports described in Section 25355.7.

(4) Provide guidance and recommendations to the Governor, members of the commission, and other divisions of the commissions on any other issues related to transportation fuels pricing and transportation decarbonization in California.

(5) Report its findings and recommendations to improve market performance at least annually to the Legislature, in accordance with Section 9795 of the Government Code, the Governor, the commission, the Attorney General, and the California Department of Tax and Fee Administration.

(b) The division may subpoena witnesses, compel their attendance and testimony, administer oaths and affirmations, take evidence and require by subpoena the production of any books, papers, records, or other items material to the performance of the division's duties or exercise of its powers, including, but not limited to, current and historical pricing and sales data and contracts with other petroleum industry participants.

(c) The division may refer potential violations of law to the Attorney General confidentially at any time.

25372.3. The director of the division shall, when requested, appear before the appropriate policy committees in the Assembly and Senate to provide an update on the division's performance as compared to its objectives, the status of competition in the transportation fuels markets, and any other information the committees request.

25372.4. (a) Information provided to the division shall presumptively be confidential and not subject to public disclosure. The division shall not divulge or make known in any manner any information provided to it unless it determines both of the following:

(1) Public disclosure of the specific information would not result in unfair competitive disadvantage to the person supplying the information.

(2) Public disclosure of the specific information would not adversely affect market competition.

(b) Notwithstanding any other law, the division may disclose information deemed confidential under this subdivision to members of the commission, other divisions of the commission, the Attorney General, or the California Department of Tax and Fee Administration if the receiving entity agrees to keep the information confidential, except that the Attorney General may present the information to a court to support an enforcement action but shall submit confidential information under seal where permissible. If the Attorney General requests the assistance of the division in connection with any investigation, the division shall provide information to the Attorney General under this subdivision and any other assistance that is feasible.

(c) For purposes of the division's annual reports under Section 25372.2, the division shall aggregate data or otherwise anonymize and generalize information as needed to mitigate the risk that public disclosure of the specific information would result in unfair competitive disadvantage to the person supplying the information or would adversely affect market competition.

Article 4. Independent Consumer Fuels Advisory Committee

25373. (a) The commission and division shall be advised by the Independent Consumer Fuels Advisory Committee which is hereby established within the commission. The committee shall consist of the following members:

(1) Six members appointed by the Governor as follows:

(A) A member who holds an academic appointment and has knowledge of economics or business operations of the transportation fuels market.

(B) A member representing the California petroleum fuels industry.

(C) A member representing consumers.

(D) A member representing labor.

(E) A member with expertise in community, environmental, or environmental justice issues.

(F) A member with expertise in antitrust law.

(2) One member appointed by the Speaker of the Assembly.

(3) One member appointed by the Senate Committee on Rules.

(b) (1) Except for the member described in subparagraph (B) of paragraph (1) of, or subparagraph (D) of paragraph (1) of, subdivision (a), no member of the committee shall have been employed by, contracted with, or received direct compensation from, a company that produces, refines, distributes, trades in, markets, or sells any petroleum product in the preceding 12 months.

(2) Except for the member described in subparagraph (B) of paragraph (1) of, or subparagraph (D) of paragraph (1) of, subdivision (a), before accepting appointment, members of the committee shall agree, in writing, not to be employed by, contract with, or receive direct compensation from companies described in paragraph (1) for the 12 months following the completion of their service on the committee.

(c) Each member of the committee shall receive a per diem of one hundred dollars ($100) for each day actually spent in the discharge of official duties, and shall be reimbursed for traveling and other expenses necessarily incurred in the performance of official duties.

(d) The duties, organization, and schedule of meetings of the Independent Consumer Fuels Advisory Committee shall be prescribed by the commission. The commission may delegate the authority under this subdivision to the executive director of the commission.

(e) The Independent Consumer Fuels Advisory Committee shall have access to all information submitted to the commission or to the division necessary to fulfill its duties. The members of the committee shall agree, in writing, to maintain the confidentiality of all information received.

(f) The executive director of the commission shall ensure that any confidential information shared with the members of the Independent Consumer Fuels Advisory Committee is subject to a nondisclosure agreement and is maintained in a way that protects it from inadvertent disclosure.

SEC. 11. The Legislature finds and declares that Section 2 of this act, which amends Section 25354 of the Public Resources Code, Section 5 of this act, which adds Section 25355.5 to the Public Resources Code, and Section 6 of this act, which adds Section 25355.7 to the Public Resources Code, imposes a limitation on the public's right of access to the meetings of public bodies or the writings of public officials and agencies within the meaning of Section 3 of Article I of the California Constitution. Pursuant to that constitutional provision, the Legislature makes the following findings to demonstrate the interest protected by this limitation and the need for protecting that interest:

The restrictions on information prescribed in Sections 25354, 25355.5, and 25355.7 of the Public Resources Code is necessary to protect sensitive business information and trade secrets from public disclosure.

SEC. 12. The Legislature finds and declares that Section 10 of this act, which adds Chapter 4.6 (commencing with Section 25370) to Division 15 of the Public Resources Code, imposes a limitation on the public's right of access to the meetings of public bodies or the writings of public officials and agencies within the meaning of Section 3 of Article I of the California Constitution. Pursuant to that constitutional provision, the Legislature makes the following findings to demonstrate the interest protected by this limitation and the need for protecting that interest:

The restrictions on information prescribed in Sections 25371.2 and 25372.4 are necessary to prevent adverse impacts on market competition in the transportation fuels sector and to protect the public health and safety and the environment, respectively.

SEC. 13. The provisions of this act are severable. If any provision of this act or its application is held invalid, that invalidity shall not affect other provisions or applications that can be given effect without the invalid provision or application.

SEC. 14. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

AB-1207 Climate change: market-based compliance mechanism: extension. (2025-2026)

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Date Published: 09/22/2025 10:00 AM

Assembly Bill No. 1207

CHAPTER 117

An act to amend Sections 38501, 38562, 38590.1, 38591.1, 38591.2, 38592.5, 38592.6, and 38594 of, and to add and repeal Section 38562.1 of, the Health and Safety Code, and to amend Section 748.5 of, and to add Section 748.5.5 to, the Public Utilities Code, relating to climate change, making an appropriation therefor, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor September 19, 2025. Filed with Secretary of State September 19, 2025.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1207, Irwin. Climate change: market-based compliance mechanism: extension.

The California Global Warming Solutions Act of 2006 requires the State Air Resources Board to adopt regulations for greenhouse gas emissions limits and emissions reduction measures to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit, as defined. The act authorizes the state board to revise regulations or adopt additional regulations to further the act. The act authorizes that state board to include in those regulations the use of a market-based compliance mechanism to comply with those regulations.

This bill would require the state board to adopt regulations for greenhouse gas emissions limits and emissions reduction measures to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions to instead achieve certain emissions reductions goals and the purposes of the act. The bill would require the state board, in adopting regulations, to design the regulations in a manner that transitions support from gas corporations to electrical distribution utilities to minimize ratepayer impacts and meet the emissions reduction goals of the act. The bill would require the state board to consider the effects of the regulations on affordability, cost-effectiveness, minimization of leakage in California, and achieving the emissions reduction goals of the act. The bill would state the intent of the Legislature that the market-based compliance mechanism be known as the California Cap-and-Invest Program.

The act, until January 1, 2031, authorizes the state board to adopt a regulation establishing a market-based compliance mechanism that is a system of market-based declining aggregate emissions limits for sources or categories of sources that emit greenhouse gases meeting certain requirements, including the establishment of a price ceiling, as provide, the allowance price containment reserve, and a requirement for state board, if the allowance from the allowance price containment reserve is exhausted, to offer covered entities additional allowances at the price ceiling if need for compliance. The act requires that moneys generated by the sale of those additional allowances be expended by the state board to achieve emissions reductions, as provided. The act, until January 1, 2031, establishes the Compliance Offsets Protocol Task Force to provide guidance to the

state board in approving new offset protocols for the market-based compliance mechanism for purposes of increasing offset projects, as provided. The act, until January 1, 2031, establishes the Independent Emissions Market Advisory Committee within the California Environmental Protection Agency and requires the committee to annually report to the state board and the Joint Legislative Committee on Climate Change Policies on the environmental and economic performance of the regulation establishing the market-based compliance mechanism and other relevant climate change policies. The act, until January 1, 2031, requires the state board to designate the market-based compliance mechanism as the rule for petroleum refineries and oil and gas production facilities to achieve their greenhouse gas emissions reductions. The act provides that a violation of any rule, regulation, order, emissions limitation, emissions reduction measure, or other measure adopted by the state board under the act is a crime.

Existing law requires moneys collected by the state board from the auction or sale of allowances as part of a market-based compliance mechanism to be deposited in the Greenhouse Gas Reduction Fund and continuously appropriates a portion of the moneys in the fund for various purposes.

This bill would extend the above-described provisions until January 1, 2046. The bill would require the state board, in adopting those regulations, to additionally do certain things, including establish offset credit limits from January 1, 2026, to December 31, 2045, inclusive, as provided. The bill would require that moneys generated from the sale of additional allowances at the price ceiling be deposited into the California Climate Mitigation Fund, which the bill would create in the State Treasury. The bill would require moneys in the California Climate Mitigation Fund be available, upon appropriation by the Legislature, for purposes of providing direct rebates and investments to reduce household energy costs. Because a violation of the market-based compliance mechanism whose operation would be extended by the bill would be a crime, the bill would impose a state-mandated local program. By extending the operation of the market-based compliance mechanism, thereby extending the deposit of moneys from that market-based compliance mechanism into the fund, the bill would make an appropriation. This bill would specify that the members of the Independent Emissions Market Advisory Committee are to be considered designated employees of the California Environmental Protection Agency for purposes of the Political Reform Act of 1974.

This bill would, if the state board initiates a regulatory process to update those regulations that is expected to be a major regulation for purposes of the Administrative Procedure Act, require the chairperson of the state board, until January 1, 2046, to present to the Joint Legislative Committee on Climate Change Policies and other relevant policy committees of the Legislature on the current state of the market-based compliance mechanism and provide the rationale for updating the regulations, as provided, and to transmit certain information to the joint legislative committee and the relevant budget subcommittees, including the economic analysis required by the Administrative Procedure Act of the proposed amendments to the regulations. The bill would require the state board and other state agencies implementing programs that are funded by the Greenhouse Gas Reduction Fund, upon request, to appear annually before the Joint Legislative Committee on Climate Change Policies and the relevant budget subcommittees to give a presentation on the expenditures of those moneys.

The act requires the state board, on or before January 1, 2009, to prepare and adopt a scoping plan for achieving the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions and to update the scoping plan at least once every 5 years.

This bill would require the state board, until January 1, 2046, to include in the updates to the scoping plan the progress towards meeting certain greenhouse gas emissions reduction targets and recommendations to the Legislature on necessary statutory changes to the market-based compliance mechanism to further cost-effectively reduce emissions of greenhouse gases.

Existing law authorizes the Public Utilities Commission to allocate 15% of the revenues received by electrical corporations as a result of the direct allocation of greenhouse gas allowances to electric corporations for clean energy and energy efficiency projects that are administered by the electrical corporations or a qualified third-party administrator and that are not otherwise funded by other funding sources. Existing law requires the commission to require the balance of those revenues to be credited directly to the residential, small business, and emissions-intensive, trade-exposed retail customers of the electrical corporations. Existing law requires the commission to require the adoption and implementation of a customer outreach plan for each electrical corporation for purposes of obtaining the maximum feasible public awareness of the crediting of greenhouse gas allowance revenues.

This bill would require the credits provided to residential customers to be provided on the bills of those customers in no more than 4 high-billed months of each year to maximize customer electric bill affordability or as otherwise directed by the commission to address extreme, unforeseen, and temporary circumstances. The bill

would instead authorize the commission to require those revenues to be credited to small businesses and emission-intensive trade-exposed retail customers of the electrical corporations. The bill would require the commission, not later than January 1, 2027, to require each electrical corporation to update its customer outreach plan, as provided.

This bill would make the 15% allocation for clean energy and energy efficiency projects inoperative on July 1, 2026. The bill would require, from July 1, 2026, to January 1, 2031, inclusive, 5% of those revenues be remitted to the State Treasury for deposit into the California Transmission Accelerator Revolving Fund and be available to California Infrastructure and Economic Development Bank for purposes of the California Transmission Accelerator Revolving Fund Program.

Under existing law, a violation of the Public Utilities Act or an order, decision, rule, direction, demand, or requirement of the commission is a crime.

Because certain provisions of the bill would be part of the Public Utilities Act and a violation of a commission action implementing the bill's requirements would be a crime, this bill would impose a state-mandated local program.

This bill would require local publicly owned electric utilities receiving a direct allocation of greenhouse gas allowances in addition to the greenhouse gas allowance totals specified in the regulations implementing the market-based compliance mechanism to provide a credit, as provided. The bill would require local publicly owned electric utilities to report to the state board on the uses of all revenues received by those utilities as a result of the direct allocation of greenhouse gas allowances under those regulations and would require the state board to annually submit a report to the Legislature on the uses of those revenues. By imposing additional duties on local publicly owned electric utilities, the bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for specified reasons.

This bill would declare that it is to take effect immediately as an urgency statute.

Vote: 2/3 Appropriation: yes Fiscal Committee: yes Local Program: yes

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 38501 of the Health and Safety Code, as amended by Section 1 of Chapter 135 of the Statutes of 2017, is amended to read:

38501. (a) The Legislature finds and declares all of the following:

(1) Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

(2) Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.

(3) California has long been a national and international leader on energy conservation and environmental stewardship efforts, including the areas of air quality protections, energy efficiency requirements, renewable and clean energy standards, natural resource conservation, and greenhouse gas emission standards for vehicles. The program established by this division will continue this tradition of environmental leadership by placing California at the forefront of national and international efforts to reduce emissions of greenhouse gases.

(4) National and international actions are necessary to fully address the issue of global warming. However, action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by

encouraging other states, the federal government, and other countries to act.

(5) California has positioned its economy, technology centers, financial institutions, and businesses to benefit from national and international efforts to reduce emissions of greenhouse gases. More importantly, investing in the development of innovative and pioneering technologies will continue to assist California in achieving statewide greenhouse gas emissions targets established by this division and will continue to provide an opportunity for the state to take a global economic and technological leadership role in reducing emissions of greenhouse gases.

(b) (1) It is the intent of the Legislature that the State Air Resources Board coordinate with state agencies, as well as consult with the environmental justice community, industry sectors, business groups, academic institutions, environmental organizations, and other stakeholders in implementing this division.

(2) It is the intent of the Legislature that the State Air Resources Board consult with the Public Utilities Commission in the development of emissions reduction measures, including limits on emissions of greenhouse gases applied to electricity and natural gas providers regulated by the Public Utilities Commission, in order to ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

(3) It is the intent of the Legislature that the State Air Resources Board design emissions reduction measures to meet the statewide emissions limits for greenhouse gases established pursuant to this division in a manner that minimizes costs and maximizes benefits for California's economy, improves and modernizes California's energy infrastructure and maintains a safe, clean, affordable, resilient, and reliable electric system, maximizes additional environmental and economic cobenefits for California, and complements the state's efforts to improve air quality.

(4) It is the intent of the Legislature that the State Air Resources Board extend the market-based compliance mechanism adopted pursuant to subdivision (c) of Section 38562 from January 1, 2021, to December 31, 2045, inclusive, in a manner that effectively reduces greenhouse gas emissions; minimizes any adverse impacts on state consumers, businesses, and the economy; and continues elements of the current program that protect state utility ratepayers, encourages decarbonization of the state's economic sectors, and further enables Californians to affordably decarbonize and power their end uses.

(5) It is the intent of the Legislature that the Climate Action Team established by the Governor to coordinate the efforts set forth under Executive Order No. S-3-05 continue its role in coordinating overall climate policy.

(6) It is the intent of the Legislature that the market-based compliance mechanism be known as the California Cap-and-Invest Program in recognition of its cost-effective, market-based approach to reduce emissions of greenhouse gases and the direct and indirect investments the mechanism has demonstrated, and should continue to demonstrate, in cost-effective emission reduction measures.

(c) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 2. Section 38501 of the Health and Safety Code, as added by Section 2 of Chapter 135 of the Statutes of 2017, is amended to read:

38501. (a) The Legislature finds and declares all of the following:

(1) Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

(2) Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.

(3) California has long been a national and international leader on energy conservation and environmental stewardship efforts, including the areas of air quality protections, energy efficiency requirements, renewable energy standards, natural resource conservation, and greenhouse gas emission standards for passenger

vehicles. The program established by this division will continue this tradition of environmental leadership by placing California at the forefront of national and international efforts to reduce emissions of greenhouse gases.

(4) National and international actions are necessary to fully address the issue of global warming. However, action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act.

(5) California has positioned its economy, technology centers, financial institutions, and businesses to benefit from national and international efforts to reduce emissions of greenhouse gases. More importantly, investing in the development of innovative and pioneering technologies will continue to assist California in achieving the 2020 statewide limit on emissions of greenhouse gases established by this division and will continue to provide an opportunity for the state to take a global economic and technological leadership role in reducing emissions of greenhouse gases.

(b) (1) It is the intent of the Legislature that the State Air Resources Board coordinate with state agencies, as well as consult with the environmental justice community, industry sectors, business groups, academic institutions, environmental organizations, and other stakeholders in implementing this division.

(2) It is the intent of the Legislature that the State Air Resources Board consult with the Public Utilities Commission in the development of emissions reduction measures, including limits on emissions of greenhouse gases applied to electricity and natural gas providers regulated by the Public Utilities Commission, in order to ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

(3) It is the intent of the Legislature that the State Air Resources Board design emissions reduction measures to meet the statewide emissions limits for greenhouse gases established pursuant to this division in a manner that minimizes costs and maximizes benefits for California’s economy, improves and modernizes California’s energy infrastructure and maintains a clean, safe, affordable, resilient, and reliable electric system, maximizes additional environmental and economic cobenefits for California, and complements the state’s efforts to improve air quality.

(4) It is the intent of the Legislature that the Climate Action Team established by the Governor to coordinate the efforts set forth under Executive Order No. S-3-05 continue its role in coordinating overall climate policy.

(5) It is the intent of the Legislature that the market-based compliance mechanism be known as the California Cap-and-Invest Program in recognition of its cost-effective, market-based approach to reduce emissions of greenhouse gases and the direct and indirect investments the mechanism has demonstrated, and should continue to demonstrate, in cost-effective emission reduction measures.

(c) This section shall become operative on January 1, 2046.

SEC. 3. Section 38562 of the Health and Safety Code, as amended by Section 4 of Chapter 135 of the Statutes of 2017, is amended to read:

38562. (a) The state board shall adopt greenhouse gas emissions limits and emissions reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions to achieve the requirements of Sections 38562.2 and 38566 and the purposes of this division.

(b) In adopting regulations pursuant to this section and Part 5 (commencing with Section 38570), to the extent feasible, to achieve the requirements of Sections 38562.2 and 38566 and the purposes of this division, the state board shall do all of the following:

(1) (A) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(B) (i) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that transitions support from gas corporations to electrical distribution utilities, as defined in Section 95802 of Title 17 of the California Code of Regulations, on or before January 1, 2031, to minimize ratepayer impacts and achieve the requirements of Sections 38562.2 and 38566 and the purposes of this division.

(ii) For purposes of this subparagraph, "gas corporation" has the same meaning as set forth in Section 222 of the Public Utilities Code.

(iii) Except as provided in clause (i), this subparagraph shall not be construed to impact the distribution of emissions allowances to emissions-intensive, trade-exposed industrial sectors.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions before the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.

(7) Consider the effect of these regulations on affordability, cost effectiveness, minimization of leakage in California, and achieving the requirements of Sections 38562.2 and 38566 and the purposes of this division.

(8) Minimize the administrative burden of implementing and complying with these regulations.

(9) Minimize leakage.

(10) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

(c) (1) Unless otherwise required by context, terms in this subdivision shall have the definitions that apply pursuant to Section 95802 of Title 17 of the California Code of Regulations, as they read on January 1, 2017.

(2) To achieve the requirements of Sections 38562.2 and 38566 and the purposes of this division, the state board shall adopt a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases, applicable from January 1, 2012, to December 31, 2045, inclusive, that the state board determines will achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, in the aggregate, from those sources or categories of sources, and ensures that programwide aggregate emissions from covered sources, at a minimum, decline with the requirements of Sections 38562.2 and 38566. In adopting a regulation applicable from January 1, 2021, to December 31, 2045, inclusive, pursuant to this subdivision, the state board shall do all of the following:

(A) (i) Establish a price ceiling. In establishing the price ceiling, the state board shall consider, using the best available science, all of the following:

(I) The need to avoid adverse impacts on resident households, businesses, and the state's economy.

(II) The 2020 tier prices of the allowance price containment reserve.

(III) The full social cost associated with emitting a metric ton of greenhouse gases.

(IV) The auction reserve price.

(V) The potential for environmental and economic leakage.

(VI) The cost per metric ton of greenhouse gas emissions reductions to achieve the statewide emissions targets established in Sections 38550 and 38566.

(ii) To implement the price ceiling, the state board shall develop a mechanism that consists of both of the following:

(I) Allowances remaining in the allowance price containment reserve as of December 31, 2020, shall be used solely for the purpose of sale at the price ceiling established by this section.

(II) If the allowances from the allowance price containment reserve are exhausted, the state board shall offer covered entities additional metric tons at the price ceiling if needed for compliance. Notwithstanding any other law, all moneys generated pursuant to this clause shall be deposited into the California Climate Mitigation Fund, which is hereby created in the State Treasury. Moneys in that fund shall be available, upon appropriation by the Legislature, for purposes, including, but not limited to, providing direct rebates and investments to reduce household energy costs, including incentives to transition to zero-emission vehicles and energy efficient housing.

(iii) If the state board finds that the price containment reserve or the price ceiling, or both the price containment reserve and price ceiling do not adequately protect California consumers, the state board shall consider additional actions to ensure consumers are protected. Those actions may include, but are not limited to, adjustment to the allowance price containment reserve or the price ceiling, or both the allowance price containment reserve and the price ceiling.

(B) Establish two price containment points at levels below the price ceiling. The state board shall offer to covered entities nontradable allowances for sale at these price containment points. The price containment points shall be established using two-thirds, divided equally, of the allowances in the allowance price containment reserve as of December 31, 2017.

(C) Require that current vintage allowances designated by the state board for auction that remain unsold in the auction holding account for more than 24 months to be transferred to the allowance price containment reserve.

(D) Evaluate and address concerns related to overallocation in the state board's determination of the number of available allowances for years 2021 to 2030, inclusive, as appropriate.

(E) (i) Establish offset credit limits according to the following:

(I) From January 1, 2021, to December 31, 2025, inclusive, a total of 4 percent of a covered entity's compliance obligation may be met by surrendering offset credits of which no more than one-half may be sourced from projects that do not provide direct environmental benefits in state.

(II) From January 1, 2026, to December 31, 2045, inclusive, no greater than a total of 6 percent of a covered entity's compliance obligation may be met by surrendering offset credits of which no more than one-half may be sourced from projects that do not provide direct environmental benefits in the state.

(ii) For purposes of this subparagraph, "direct environmental benefits in the state" are the reduction or avoidance of emissions of any air pollutant in the state or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the state.

(iii) A number of allowances equal to the total number of offset credits used for compliance obligations in the prior year shall be removed from the next year's annual allowance budget and retired.

(F) Develop approaches to increase offset projects in the state considering guidance provided by the Compliance Offsets Protocol Task Force, established pursuant to Section 38591.1.

(G) Set industry assistance factors for allowance allocation commencing in 2021 through 2030 at the levels applicable in the compliance period of 2015 to 2017, inclusive. Commencing January 1, 2031, the state board shall distribute industrial sector allowances in a manner that minimizes emissions leakage risk to cost-effectively achieve the requirements of Sections 38562.2 and 38566 and the purposes of this division.

(H) Consider developing additional compliance offset protocols to address sectors that are not covered by the market-based compliance mechanism but are identified in the scoping plan prepared pursuant to Section 38561, including carbon dioxide removal, or the targets established pursuant to Section 38561.5.

(I) Establish allowance banking rules that discourage speculation, avoid financial windfalls, and consider the impact on complying entities and volatility in the market.

(J) Report to the Legislature, by December 31, 2025, on the progress toward meeting the greenhouse gas emissions reduction targets established pursuant to Sections 38550 and 38566 and the leakage risk posed by the regulation. The state board shall include recommendations to the Legislature on necessary statutory changes to the program to reduce leakage, including the potential for a border carbon adjustment, while maintaining the state's ability to reach its targets.

(K) (i) Report to the Legislature, in consultation with the Independent Emissions Market Advisory Committee, established pursuant to Section 38591.2, if two consecutive auctions exceed the lower of the price containment levels established pursuant to subparagraph (B). The report shall assess the potential for allowance prices to reach the price ceiling for multiple auctions.

(ii) A report submitted to the Legislature pursuant to this section shall be submitted in compliance with Section 9795 of the Government Code.

(L) Report to the relevant fiscal and policy committees of the Legislature, including the Joint Committee on Climate Change Policies, on all of the following:

(i) Updates to the scoping plan prepared pursuant to Section 38561 before adopting the update.

(ii) Updates on the implementation of the scoping plan prepared pursuant to Section 38561.

(iii) Updates on the implementation of the market-based compliance mechanism adopted pursuant to this subdivision.

(d) Any regulation adopted by the state board pursuant to this part or Part 5 (commencing with Section 38570) shall ensure all of the following:

(1) The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board.

(2) For regulations pursuant to Part 5 (commencing with Section 38570), the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.

(3) If applicable, the greenhouse gas emission reduction occurs over the same time period and is equivalent in amount to any direct emission reduction required pursuant to this division.

(e) The state board shall rely upon the best available economic and scientific information and its assessment of existing and projected technological capabilities when adopting the regulations required by this section.

(f) The state board shall consult with the Public Utilities Commission in the development of the regulations as they affect electricity and natural gas providers in order to minimize duplicative or inconsistent regulatory requirements.

(g) The state board may revise regulations adopted pursuant to this section and adopt additional regulations to further the provisions of this division.

(h) In the updates to the scoping plan prepared pursuant to Section 38561, the state board shall include the progress toward meeting the greenhouse gas emissions reduction targets established pursuant to Section 38562.2. The state board shall include recommendations to the Legislature on necessary statutory changes to the market-based compliance mechanism to further cost-effectively reduce emissions.

(i) The state board shall evaluate the cost impact of the market-based compliance mechanism on California consumers when it revises regulations implementing that mechanism pursuant to this section.

(j) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 4. Section 38562 of the Health and Safety Code, as added by Section 5 of Chapter 135 of the Statutes of 2017, is amended to read:

38562. (a) The state board shall adopt greenhouse gas emissions limits and emissions reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions to achieve the purposes of this division.

(b) In adopting regulations pursuant to this section and Part 5 (commencing with Section 38570), to the extent feasible, to achieve the purposes of this division, the state board shall do all of the following:

(1) (A) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(B) (i) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that transitions support from gas corporations to electrical distribution utilities, as defined in Section 95802 of Title 17 of the California Code of Regulations, on or before January 1, 2031, to minimize ratepayer impacts and achieve the purposes of this division.

(ii) For purposes of this subparagraph, "gas corporation" has the same meaning as set forth in Section 222 of the Public Utilities Code.

(iii) Except as provided in clause (i), this subparagraph shall not be construed to impact the distribution of emissions allowances to emissions-intensive, trade-exposed industrial sectors.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions before the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.

(7) Consider the effect of these regulations on affordability, cost-effectiveness, minimization of leakage in California, and achieving the purposes of this division.

(8) Minimize the administrative burden of implementing and complying with these regulations.

(9) Minimize leakage.

(10) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

(c) To achieve the purposes of this division, the state board shall adopt a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases, applicable from January 1, 2012, to December 31, 2045, inclusive, that the state board determines will achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, in the aggregate, from those sources or categories of sources, and ensures that programwide aggregate emissions from covered sources, at a minimum, decline in line with the purposes of this division.

(d) Any regulation adopted by the state board pursuant to this part or Part 5 (commencing with Section 38570) shall ensure all of the following:

(1) The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board.

(2) For regulations pursuant to Part 5 (commencing with Section 38570), the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.

(3) If applicable, the greenhouse gas emission reduction occurs over the same time period and is equivalent in amount to any direct emission reduction required pursuant to this division.

(e) The state board shall rely upon the best available economic and scientific information and its assessment of existing and projected technological capabilities when adopting the regulations required by this section.

(f) The state board shall consult with the Public Utilities Commission in the development of the regulations as they affect electricity and natural gas providers in order to minimize duplicative or inconsistent regulatory requirements.

(g) The state board may revise regulations adopted pursuant to this section and adopt additional regulations to further the provisions of this division.

(h) This section shall become operative on January 1, 2046.

SEC. 5. Section 38562.1 is added to the Health and Safety Code, to read:

38562.1. (a) If the state board initiates a regulatory process to update the market-based compliance mechanism, consistent with Section 38562, that is expected to be a major regulation as defined in Section 11342.548 of the Government Code, the chairperson of the state board shall present to the Joint Legislative Committee on Climate Change Policies and other relevant policy committees of the Legislature on the current state of the market-based compliance mechanism and provide the rationale for updating the market-based compliance mechanism, including the specific issues that the update is meant to address. The presentation by the chairperson of the state board pursuant to this section shall satisfy the requirements of subdivision (b) of Section 9147.10 of the Government Code and subdivision (b) of Section 38531 of this code for the year in which the presentation occurs.

(b) The state board shall transmit the economic analyses required by Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code for a regulatory process subject to subdivision (a) to the Joint Legislative Committee on Climate Change Policies and the relevant budget subcommittees. Within 30 days of that transmittal, if requested by the chair of the Joint Legislative Committee on Climate Change Policies or the chairs of the relevant policy committees or budget subcommittees of the Legislature, the chairperson of the state board shall make themselves available for a hearing on the proposed regulatory amendments.

(c) The state board shall transmit to the Joint Legislative Committee on Climate Change Policies and other relevant policy committees of the Legislature the public agenda, when it is available, for the board meeting at which the amendments for a rulemaking under the regulatory process subject to subdivision (a) will be considered by the state board. If requested by the chair of the Joint Legislative Committee on Climate Change Policies or the chairs of the relevant policy committees or budget subcommittees of the Legislature, the chairperson of the state board shall make themselves available for a hearing on the amendments.

(d) The legislative hearings and notifications in this section shall not delay the state board's rulemaking process pursuant to Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.

(e) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 6. Section 38590.1 of the Health and Safety Code is amended to read:

38590.1. (a) It is the intent of the Legislature that moneys collected from the auction or sale of allowances pursuant to a market-based compliance mechanism established pursuant to this division shall be appropriated to include, but need not be limited to, the following priorities at the time an expenditure plan is adopted:

(1) Air toxic and criteria air pollutants from stationary and mobile sources.

(2) Low- and zero-carbon transportation alternatives.

(3) Sustainable agricultural practices that promote the transitions to clean technology, water efficiency, and improved air quality.

(4) Healthy forests and urban greening.

(5) Nature-based climate solutions, as defined in Section 38561.5.

(6) Short-lived climate pollutants.

(7) Climate adaptation and resiliency.

(8) Climate and clean energy research.

(b) Upon request of the chair of the Joint Legislative Committee on Climate Change Policies or the chair of the relevant budget subcommittees, the state board and any other agencies that have implemented programs funded using moneys collected from the auction or sale of allowances pursuant to a market-based compliance mechanism established pursuant to this division shall annually appear before the Joint Legislative Committee on Climate Change Policies and the relevant budget subcommittees of the Legislature to give a presentation on the expenditures of those moneys.

(c) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 7. Section 38591.1 of the Health and Safety Code is amended to read:

38591.1. (a) The Compliance Offsets Protocol Task Force is hereby established to provide guidance to the state board in approving new offset protocols for a market-based compliance mechanism for the purposes of increasing offset projects with direct environmental benefits in the state while prioritizing disadvantaged communities, Native American or tribal lands, and rural and agricultural regions. The state board shall appoint members to the Compliance Offsets Protocol Task Force to include a representative from each stakeholder group, including, but not limited to, all of the following:

(1) Scientists.

(2) Air pollution control and air quality management districts.

(3) Carbon market experts.

(4) Tribal representatives.

(5) Environmental justice advocates.

(6) Labor and workforce representatives.

(7) Forestry experts.

(8) Agriculture experts.

(9) Environmental advocates.

(10) Conservation advocates.

(11) Dairy experts.

(b) The Compliance Offsets Protocol Task Force shall consider the development of additional offset protocols, including, but not limited to, protocols for the enhanced management or conservation of agricultural and natural lands, and for the enhancement and restoration of wetlands.

(c) The Compliance Offsets Protocol Task Force shall develop recommendations for the state board on the inclusion of methodologies to allow groups of landowners to jointly develop natural and working lands offset projects under the approved offset protocols. The recommendations shall address how to lower project transaction costs for participants and enable a greater number of landowners to participate in those projects while protecting the integrity and transparency of those projects.

(d) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 8. Section 38591.2 of the Health and Safety Code is amended to read:

38591.2. (a) The Independent Emissions Market Advisory Committee is hereby established within the California Environmental Protection Agency.

(b) (1) (A) The committee shall be composed of at least five experts on emissions trading market design appointed according to the following:

(i) Three members appointed by the Governor.

(ii) One member appointed by the Senate Committee on Rules.

(iii) One member appointed by the Speaker of the Assembly.

(B) (i) The committee shall include a representative from the Legislative Analyst's Office.

(ii) The representative from the Legislative Analyst's Office shall be a nonvoting committee member.

(2) The committee members shall meet all of the following requirements:

(A) Have academic, nonprofit, and other relevant backgrounds.

(B) Lack financial conflicts of interest with entities subject to the regulation adopted by the state board pursuant to subdivision (c) of Section 38562.

(3) Notwithstanding any other law, committee members shall be considered designated employees, as defined in Section 82019 of the Government Code, of the California Environmental Protection Agency for the purposes of Section 82019 of the Government Code.

(c) The committee, at least annually, shall hold a public meeting and report to both the state board and the Joint Legislative Committee on Climate Change Policies on the environmental and economic performance of the regulation adopted by the state board pursuant to subdivision (c) of Section 38562 and other relevant climate policies.

(d) The activities of the committee pursuant to this section shall not be subject to subdivision (b) of Section 11122.5 of the Government Code.

(e) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 9. Section 38592.5 of the Health and Safety Code is amended to read:

38592.5. (a) (1) No later than January 1, 2018, the state board shall update the scoping plan, prepared pursuant to Section 38561, to achieve the greenhouse gas emissions reductions required pursuant to Section 38562.2 or 38566. The state board shall designate the market-based compliance mechanism adopted pursuant to subdivision (c) of Section 38562 as the rule for petroleum refineries and oil and gas production facilities to achieve their greenhouse gas emissions reductions.

(2) All greenhouse gas rules and regulations adopted by the state board shall be consistent with the updated scoping plan.

(3) This section does not limit the state board's authority to adopt, maintain, or revise any other measure, including, but not limited to, any of the following:

(A) Measures governing methane and fugitive emissions at refineries and oil and gas facilities.

(B) Advanced clean cars program adopted by the state board.

(C) Low-Carbon Fuel Standard regulations (Subarticle 7 (commencing with Section 95480) of Article 4 of Subchapter 10 of Chapter 1 of Division 3 of Title 17 of the California Code of Regulations).

(D) Regulations addressing short-lived climate pollutants.

(E) Implementation of the sustainable freight action plan released in July 2015 pursuant to Executive Order B-32-15.

(b) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 10. Section 38592.6 of the Health and Safety Code is amended to read:

38592.6. (a) The Legislative Analyst's Office shall, until January 1, 2046, annually report to the Legislature on the economic impacts and benefits of the greenhouse gas emissions targets established pursuant to Sections 38550, 38562.2, and 38566.

(b) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 11. Section 38594 of the Health and Safety Code, as amended by Section 12 of Chapter 135 of the Statutes of 2017, is amended to read:

38594. (a) Except as provided in subdivision (b), nothing in this division shall limit or expand the existing authority of any district.

(b) A district shall not adopt or implement an emission reduction rule for carbon dioxide from stationary sources that are also subject to a market-based compliance mechanism adopted by the state board pursuant to subdivision (c) of Section 38562.

(c) Nothing in this section affects in any manner the authority of a district to adopt or implement, as applicable, any of the following:

(1) A rule, regulation, standard, or requirement authorized or required for a district to adopt under Division 26 (commencing with Section 39000) for purposes other than to reduce carbon dioxide from sources subject to a market-based compliance mechanism adopted by the state board pursuant to subdivision (c) of Section 38562.

(2) A rule, regulation, standard, or requirement authorized pursuant to a law affecting emissions associated with landfills, refrigerants, natural gas or methane, volatile organic compounds, or a rule required to comply with the federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.) or regulations implementing that act.

(3) A rule, regulation, standard, or requirement authorized pursuant to a law to reduce vehicle trips, vehicle miles traveled, parking, or vehicular air emissions, including, but not limited to, a rule adopted pursuant to Chapter 728 of the Statutes of 2008.

(4) A rule, regulation, standard, or requirement established pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).

(5) A rule, regulation, standard, or requirement adopted by any state agency.

(d) This section shall become inoperative if the state board repeals the market-based compliance mechanism adopted by the state board pursuant to subdivision (c) of Section 38562. The state board shall notify the Secretary of State if this section becomes inoperative.

(e) This section shall remain in effect only until January 1, 2046, and as of that date is repealed.

SEC. 12. Section 38594 of the Health and Safety Code, as added by Section 13 of Chapter 135 of the Statutes of 2017, is amended to read:

38594. (a) Nothing in this division shall limit or expand the existing authority of any district, as defined in Section 39025.

(b) This section shall become operative on January 1, 2046.

SEC. 13. Section 748.5 of the Public Utilities Code is amended to read:

748.5. (a) (1) Except as provided in subdivisions (c), (d), and (e), the commission shall require revenues, including any accrued interest, received by an electrical corporation as a result of the direct allocation of greenhouse gas allowances to electric utilities pursuant to subdivision (b) of Section 95890 of Title 17 of the California Code of Regulations to be credited directly to the residential customers of the electrical corporation.

(2) Small business, emissions-intensive, trade-exposed retail customers of the electrical corporation that are covered entities under the regulations adopted pursuant to Section 38562 of the Health and Safety Code, and emissions-intensive, trade-exposed retail customers of the electrical corporation that are not covered entities under the regulations adopted pursuant to Section 38562 of the Health and Safety Code, may also be credited from the revenues in paragraph (1), as determined by the commission.

(3) The credits provided to residential customers of an electrical corporation shall be provided on the bills of those customers in no more than four high-billed months of each year to maximize customer electric bill affordability, or as otherwise directed by the commission to address extreme, unforeseen, and temporary circumstances.

(b) (1) Not later than January 1, 2013, the commission shall require the adoption and implementation of a customer outreach plan for each electrical corporation, including, but not limited to, such measures as notices in bills and through media outlets, for purposes of obtaining the maximum feasible public awareness of the crediting of greenhouse gas allowance revenues. Costs associated with the implementation of this plan are subject to recovery in rates pursuant to Section 454.

(2) Not later than January 1, 2027, the commission shall require each electrical corporation to update the customer outreach plan developed pursuant to paragraph (1) to include a statement at the top of customer bills in applicable months specifying the amount of money saved on a utility bill in that month and attributing those savings to the climate credit and the California Cap-and-Invest Program.

(c) The commission may allocate up to 15 percent of the revenues, including any accrued interest, received by an electrical corporation as a result of the direct allocation of greenhouse gas allowances to electrical distribution utilities pursuant to subdivision (b) of Section 95890 of Title 17 of the California Code of Regulations, for clean energy and energy efficiency projects established pursuant to statute that are administered by the electrical corporation, or a qualified third-party administrator as approved by the commission, and that are not otherwise funded by another funding source. This subdivision shall become inoperative on July 1, 2026.

(d) (1) The commission shall require an electrical corporation to annually remit to the State Treasury 5 percent of the revenues, including any accrued interest, received by the electrical corporation as a result of the direct allocation of greenhouse gas allowances to electrical distribution utilities pursuant to subdivision (b) of Section 95890 of Title 17 of the California Code of Regulations for deposit in the California Transmission Accelerator Revolving Fund, pursuant to Section 63049.72 of the Government Code. This paragraph shall become operative on July 1, 2026, and shall become inoperative on July 1, 2031.

(2) The revenues deposited in the fund shall be available to the California Infrastructure and Economic Development Bank for purposes of the California Transmission Accelerator Revolving Fund Program established pursuant to Sections 63049.71 to 63049.73, inclusive, of the Government Code.

SEC. 14. Section 748.5.5 is added to the Public Utilities Code, to read:

748.5.5. (a) A local publicly owned electric utility that receives an allowance allocation in addition to the allowance totals specified in Section 95892 of Title 17 of the California Code of Regulations pursuant to subparagraph (B) of paragraph (1) of subdivision (b) of Section 38562 of the Health and Safety Code shall provide a credit in an amount equal to the total value of that additional allocation directly to ratepayers. This section does not limit the acceptable uses, as specified in paragraph (3) of subdivision (d) of Section 95892 of Title 17 of the California Code of Regulations, of other allowances allocated to local publicly owned electric utilities.

(b) A local publicly owned electric utility shall report to the State Air Resources Board on the uses of all revenues, including any accrued interest, received by that local publicly owned electric utility as a result of the direct allocation of greenhouse gas allowances to electric utilities pursuant to subdivision (b) of Section 95890 of Title 17 of the California Code of Regulations.

(c) Notwithstanding Section 10231.5 of the Government Code, the State Air Resources Board shall annually submit a report to the Legislature on the uses of revenues specified in subdivision (b) in accordance with Section 9795 of the Government Code.

SEC. 15. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act or because costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

SEC. 16. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the California Constitution and shall go into immediate effect. The facts constituting the necessity are:

To secure a greater reduction in greenhouse gas emissions to prevent catastrophic climate change, it is necessary for this act to take effect immediately.

SB-32 California Global Warming Solutions Act of 2006: emissions limit. (2015-2016)

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Senate Bill No. 32

CHAPTER 249

An act to add Section 38566 to the Health and Safety Code, relating to greenhouse gases.

[Approved by Governor September 08, 2016. Filed with Secretary of State September 08, 2016.]

LEGISLATIVE COUNSEL'S DIGEST

SB 32, Pavley. California Global Warming Solutions Act of 2006: emissions limit.

(1) The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions.

This bill would require the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.

(2) This bill would become operative only if AB 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. The Legislature finds and declares all of the following:

(a) The California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code) authorizes the State Air Resources Board to adopt regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions.

(b) The California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code) requires the State Air Resources Board to reduce statewide emissions of greenhouse gases to at least the 1990 emissions level by 2020 and to maintain and continue reductions thereafter.

(c) Continuing to reduce greenhouse gas emissions is critical for the protection of all areas of the state, but especially for the state’s most disadvantaged communities, as those communities are affected first, and, most frequently, by the adverse impacts of climate change, including an increased frequency of extreme weather

events, such as drought, heat, and flooding. The state's most disadvantaged communities also are disproportionately impacted by the deleterious effects of climate change on public health.

(d) The State Air Resources Board shall achieve the state's more stringent greenhouse gas emission reductions in a manner that benefits the state's most disadvantaged communities and is transparent and accountable to the public and the Legislature.

SEC. 2. Section 38566 is added to the Health and Safety Code, to read:

38566. In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.

SEC. 3. This act shall become operative only if Assembly Bill 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017.

SB-840 Greenhouse gases: Greenhouse Gas Reduction Fund: studies. (2025-2026)

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Date Published: 09/22/2025 10:00 AM

Senate Bill No. 840

CHAPTER 121

An act to amend Section 39719 of, and to add Sections 38562.3, 39712.5, and 39719.4 to, the Health and Safety Code, relating to greenhouse gases, making an appropriation therefor, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor September 19, 2025. Filed with Secretary of State September 19, 2025.]

LEGISLATIVE COUNSEL'S DIGEST

SB 840, Limón. Greenhouse gases: Greenhouse Gas Reduction Fund: studies.

The California Global Warming Solutions Act of 2006 requires the State Air Resources Board to adopt regulations for greenhouse gas emissions limits and emissions reduction measures to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit, as defined. The act authorizes the state board to revise regulations or adopt additional regulations to further the act. The act authorizes that state board to include in those regulations the use of a market-based compliance mechanism to comply with those regulations. Existing law requires the state board, in regulations implementing the market-based compliance mechanism to, among other things, establish limits on the use of offset credits as a means for a covered entity to meet its compliance obligations. Existing law requires moneys collected by the state board from the auction or sale of allowances as part of a market-based compliance mechanism to be deposited in the Greenhouse Gas Reduction Fund and continuously appropriates a portion of the moneys in the fund for various purposes.

This bill would state the intent of the Legislature to direct specific percentages of the revenues deposited into the Greenhouse Gas Reduction Fund to individual funds dedicated to funding clean transportation, housing and community investment, clean air and water, wildfire prevention and resilience, agriculture, clean energy, and climate-focused innovation. The bill would make the continuous appropriations from the fund inoperative on July 1, 2026. The bill would, beginning with the 2026–27 fiscal year, allocate moneys in the fund in a specified priority and would continuously appropriate a certain amount of moneys in the fund for certain purposes.

This bill would require the state board, no later than December 31, 2026, to conduct a study and report to the Legislature evaluating and making recommendations on the use of offsets. The bill would require the state board, no later than January 1, 2029, to update all existing compliance offset protocols to reflect the best available science. The bill would require the state board, no later than January 1, 2034, and every 5 years thereafter, to evaluate all compliance offset protocols and to consider whether updates are necessary to ensure the protocols reflect the best available science.

This bill would declare that it is to take effect immediately as an urgency statute.

Vote: 2/3 Appropriation: yes Fiscal Committee: yes Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. (a) It is the intent of the Legislature to enact legislation in the 2025–2026 Regular Session establishing a unit within the Legislative Counsel Bureau to provide advice and investigation services to the Legislature related to matters within the jurisdiction of the Joint Legislative Committee on Climate Change Policies, and of other committees of the Legislature covering energy, environmental quality and safety, natural resources, and water.

(b) Moneys appropriated pursuant to paragraph (3) of subdivision (a) of Section 39719.4 of the Health and Safety Code shall not be expended until the roles and responsibilities of the unit are established in the legislation specified in subdivision (a).

SEC. 2. Section 38562.3 is added to the Health and Safety Code, to read:

38562.3. (a) (1) No later than December 31, 2026, the state board shall conduct a study and report to the Legislature, in accordance with Section 9795 of the Government Code, on all of the following related to offsets:

(A) Evaluation of the contribution of offset projects to progress toward California's climate goals.

(B) Evaluation of the potential for changes to the definition of "direct environmental benefits in the state" for purposes of subparagraph (E) of paragraph (2) of subdivision (c) of Section 38562.

(C) Recommendations on how instate offset projects could be more attractive for development.

(D) Recommendations for alternative valuation methodologies or criteria for instate offset projects, particularly projects that support the goals of Section 38561.5 of this code or subdivision (b) of Section 71450 of the Public Resources Code.

(2) Pursuant to Section 10231.5 of the Government Code, this subparagraph shall become inoperative on December 31, 2030.

(b) No later than January 1, 2029, the state board shall update all existing compliance offset protocols to ensure that the compliance offset protocols reflect the best available science, including, but not limited to, consideration of compliance offset protocols in other carbon markets, crediting mechanisms established under Article 6.4 of the Paris Agreement adopted by the United Nations Climate Change Conference (COP21) in Paris, France, on December 12, 2015, also known as the Paris Agreement Crediting Mechanism, academic research, and industry best practices, that prioritize offset quality.

(c) No later than January 1, 2034, and every five years thereafter, the state board shall evaluate all compliance offset protocols and consider whether updates are necessary to ensure that the compliance offset protocols reflect the best available science, including consideration of items specified in subdivision (b).

SEC. 3. Section 39712.5 is added to the Health and Safety Code, to read:

39712.5. It is the further intent of the Legislature to direct specific percentages of the revenues deposited into the fund to be distributed to individual funds dedicated to funding clean transportation, housing and community investment, clean air and water, wildfire prevention and resilience, agriculture, clean energy, and climate-focused innovation, with appropriations from each of those funds to be guided by fund-specific, multiyear spending plans.

SEC. 4. Section 39719 of the Health and Safety Code is amended to read:

39719. (a) The Legislature shall appropriate the annual proceeds of the fund for the purpose of reducing greenhouse gas emissions in this state in accordance with the requirements of Section 39712.

(b) To carry out a portion of the requirements of subdivision (a), the annual proceeds of the fund are continuously appropriated for the following:

(1) Beginning in the 2015–16 fiscal year, and notwithstanding Section 13340 of the Government Code, 35 percent of the annual proceeds of the fund are continuously appropriated, without regard to fiscal years, for

transit, affordable housing, and sustainable communities programs as follows:

(A) Ten percent of the annual proceeds of the fund is hereby continuously appropriated to the Transportation Agency for the Transit and Intercity Rail Capital Program created by Part 2 (commencing with Section 75220) of Division 44 of the Public Resources Code.

(B) Five percent of the annual proceeds of the fund is hereby continuously appropriated to the Low Carbon Transit Operations Program created by Part 3 (commencing with Section 75230) of Division 44 of the Public Resources Code. Moneys shall be allocated by the Controller, according to requirements of the program, and pursuant to the distribution formula in subdivision (b) or (c) of Section 99312 of, and Sections 99313 and 99314 of, the Public Utilities Code.

(C) Twenty percent of the annual proceeds of the fund is hereby continuously appropriated to the Strategic Growth Council for the Affordable Housing and Sustainable Communities Program created by Part 1 (commencing with Section 75200) of Division 44 of the Public Resources Code. Of the amount appropriated in this subparagraph, no less than 10 percent of the annual proceeds of the fund shall be expended for affordable housing, consistent with the provisions of that program.

(2) Beginning in the 2015–16 fiscal year, notwithstanding Section 13340 of the Government Code, and subject to the requirements of Section 39719.3, 25 percent of the annual proceeds of the fund is hereby continuously appropriated to the High-Speed Rail Authority for the following components of the initial operating segment and Phase I Blended System as described in the 2012 business plan adopted pursuant to Section 185033 of the Public Utilities Code:

(A) Acquisition and construction costs of the project.

(B) Environmental review and design costs of the project.

(C) Other capital costs of the project.

(D) Repayment of any loans made to the authority to fund the project.

(3) (A) Beginning in the 2020–21 fiscal year, and until June 30, 2030, 5 percent of the annual proceeds of the fund, up to the sum of one hundred thirty million dollars ($130,000,000), is hereby annually transferred to the Safe and Affordable Drinking Water Fund established pursuant to Section 116766 for the purposes of Chapter 4.6 (commencing with Section 116765) of Part 12 of Division 104.

(B) Moneys transferred under this paragraph shall be used for the purpose of facilitating the achievement of reductions of greenhouse gas emissions in this state in accordance with the requirements of Section 39712 or to improve climate change adaptation and resiliency of disadvantaged communities or low-income households or communities, consistent with Division 25.5 (commencing with Section 38500). For purposes of the moneys transferred under this paragraph, a state agency may also comply with the requirements of paragraphs (2) and (3) of subdivision (a) of Section 16428.9 of the Government Code by describing how each proposed expenditure will improve climate change adaptation and resiliency of disadvantaged communities or low-income households or communities.

(4) Notwithstanding Section 13340 of the Government Code, for each fiscal year, beginning in the 2022–23 fiscal year through the 2028-29 fiscal year, the sum of two hundred million dollars ($200,000,000) is hereby continuously appropriated, to the Department of Forestry and Fire Protection and allocated as follows:

(A) One hundred sixty-five million dollars ($165,000,000) for healthy forest and fire prevention programs and projects that improve forest health and reduce emissions of greenhouse gases caused by uncontrolled wildfires.

(B) Thirty-five million dollars ($35,000,000) for the completion of prescribed fire and other fuel reduction projects through proven forestry practices consistent with the recommendations of the California Forest Carbon Plan, including the operation of year-round prescribed fire crews and implementation of a research and monitoring program for climate adaptation.

(c) In determining the amount of the annual proceeds of the fund for purposes of the calculation in paragraphs (1) to (3), inclusive, of subdivision (b), the funds subject to Section 39719.1 and the sum set forth in paragraph (4) of subdivision (b) shall not be included.

(d) This section shall become inoperative on July 1, 2026.

SEC. 5. Section 39719.4 is added to the Health and Safety Code, to read:

39719.4. Beginning with the 2026–27 fiscal year, moneys in the funds shall be allocated in the following priority:

(a) (1) Amounts described in Sections 4210 to 4214, inclusive, of the Public Resources Code to replace the revenues generated by the State Responsibility Area fire prevention fee authorized by Section 4212 of the Public Resources Code.

(2) Amounts appropriated by subparagraph (A) of paragraph (3) of subdivision (g) of Section 6377.1 of the Revenue and Taxation Code.

(3) The sum of three million dollars ($3,000,000) for the establishment of the Legislative Counsel Climate Bureau.

(b) After the amounts specified in subdivision (a) are fully allocated, as determined by the Department of Finance, the remaining moneys in the fund shall be allocated as follows:

(1) Notwithstanding Section 13340 of the Government Code and subject to Section 39719.3, the sum of one billion dollars ($1,000,000,000) is continuously appropriate without regard to fiscal year to the High-Speed Rail Authority for the following components of the initial operating segment and Phase I Blended System as described in the 2012 business plan adopted pursuant to Section 185033 of the Public Utilities Code:

(A) Acquisition and construction costs of the project.

(B) Environmental review and design costs of the project.

(C) Other capital costs of the project.

(D) Repayment of any loans made to the authority to fund the project.

(2) (A) The sum of one billion dollars ($1,000,000,000) is reserved for appropriation by the Legislature in the annual Budget Act or other statute.

(B) It is the intent of the Legislature that the amount reserved pursuant to subparagraph (A) is allocated in the following amounts for the 2026—27 fiscal year:

(i) The sum of one hundred twenty-five million dollars ($125,000,000) for transit passes.

(ii) The sum of twenty-five million dollars ($25,000,000) for seed funding for a University of California Climate Research Center.

(iii) The sum of fifteen million dollars ($15,000,000) for rebuilding Topanga Park.

(iv) The sum of eighty-five million dollars ($85,000,000) for an entity chosen by the Legislature to support climate-focused technological innovation, related research, and the deployment of climate solutions identified in the scoping plan prepared pursuant to Section 38561.

(c) (1) After the amounts specified in subdivisions (a) and (b) are fully allocated, as determined by the Department of Finance, the remaining moneys in the fund, notwithstanding Section 13340 of the Government Code, are continuously appropriated, without regard to fiscal year, as follows:

(A) The sum of eight hundred million dollars ($800,000,000) to the Strategic Growth Council for the Affordable Housing and Sustainable Communities Program created by Part 1 (commencing with Section 75200) of Division 44 of the Public Resources Code. Of the amount appropriated in this subparagraph, no less than 10 percent of the annual proceeds of the fund shall be expended for affordable housing, consistent with the provisions of that program.

(B) The sum of four hundred million dollars ($400,000,000) to the Transportation Agency for the Transit and Intercity Rail Capital Program created by Part 2 (commencing with Section 75220) of Division 44 of the Public Resources Code.

(C) The sum of two hundred fifty million dollars ($250,000,000) to the State Air Resources Board for community air protection programs and allocated for financial incentives to reduce mobile and stationary sources of criteria air pollutants or toxic air contaminants consistent with community emissions reduction programs developed pursuant to Section 44391.2 and for support for local air districts' implementation of Chapter 136 of the Statutes of 2017.

(D) The sum of two hundred million dollars ($200,000,000) to the Transportation Agency for the Low Carbon Transit Operations Program created by Part 3 (commencing with Section 75230) of Division 44 of the Public Resources Code. Moneys shall be allocated by the Controller, according to requirements of the program, and pursuant to the distribution formula in subdivision (b) or (c) of Section 99312 of, and Sections 99313 and 99314 of, the Public Utilities Code.

(E) The sum of two hundred million dollars ($200,000,000) to the Department of Forestry and Fire Protection and allocated as follows:

(i) Eighty-two and one-half percent for healthy forest and fire prevention programs and projects that improve forest health and reduce emissions of greenhouse gases caused by uncontrolled wildfires.

(ii) Seventeen and one-half percent for the completion of prescribed fire and other fuel reduction projects through proven forestry practices consistent with the recommendations of the California Forest Carbon Plan, including the operation of year-round prescribed fire crews and implementation of a research and monitoring program for climate adaptation.

(F) The sum of one hundred thirty million dollars ($130,000,000) is transferred to the Safe and Affordable Drinking Water Fund established pursuant to Section 116766 for the purposes of Chapter 4.6 (commencing with Section 116765) of Part 12 of Division 104.

(2) (A) Moneys appropriate pursuant to paragraph (1) shall be used for the purpose of facilitating the achievement of reductions of greenhouse gas emissions in this state in accordance with the requirements of Section 39712 or to improve climate change adaptation and resiliency of disadvantaged communities or low-income households or communities, consistent with Division 25.5 (commencing with Section 38500).

(B) For purposes of the moneys appropriated pursuant to paragraph (1), a state agency may comply with the requirements of paragraphs (2) and (3) of subdivision (a) of Section 16428.9 of the Government Code by describing how each proposed expenditure will improve climate change adaptation and resiliency of disadvantaged communities or low-income households or communities.

(3) If, for any fiscal year the Department of Finance determines that, after fully allocating the amounts pursuant to subdivisions (a) and (b), there are insufficient annual proceeds to fully provide for the appropriations specified in paragraph (1) in addition to any state operations costs appropriated in the annual Budget Act, the amounts specified in paragraph (1) shall be proportionally reduced as determined by the Department of Finance.

(d) Any amounts in the fund not needed to fully fund the amounts pursuant to subdivisions (a), (b), and (c) in a fiscal year are available to be appropriated by the Legislature in the annual Budget Act or other statute.

SEC. 6. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the California Constitution and shall go into immediate effect. The facts constituting the necessity are:

To address the existential threat of climate change to Californians, it is necessary for the bill to take effect immediately.