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WSPA Comments and Citations Third ICFAC Meeting 1-6-2026 Docket 23-ICFAC-01

Additional submitted attachment is included below.

WSPA
Jodie Muller
President & CEO

January 6, 2026

California Energy Commission
Docket Unit, MS-4
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Sacramento, California 95814

Uploaded to Docket 23-ICFAC-01

RE: WSPA Comments on December 2025 ICFAC Meeting [23-ICFAC-01]

The Western States Petroleum Association (WSPA) appreciates the opportunity to comment on the California Energy Commission's (CEC) convening of the third meeting of the Independent Consumer Fuels Advisory Committee (ICFAC) on December 9, 2025, to discuss updates on "petroleum supply stabilization strategies and other petroleum-focused efforts,"[1] per implementation of Senate Bill (SB) X1-2 (2023) and Assembly Bill (AB) X2-1 (2024). We also seek to address and present real world considerations regarding the Division of Petroleum Market Oversight's (DPMO) economics perspective on industry trends and potential resupply and minimum inventory requirements as presented and discussed at the meeting.

We appreciate ICFAC's efforts to better understand California's complex gasoline market given recently completed or announced refinery transitions and closures, respectively. As we welcome ongoing dialogue in search of practical solutions to offset this lost gasoline production, we remain concerned with any attempt by the State to micromanage California-only refinery fuel inventories. At this time, adding even more complexity to California's systemic fuel supply challenges would likely worsen its susceptibility to market volatility and could hasten the closure of additional refineries. Industry has repeatedly warned of ongoing efforts to confront decades of intentional and compounding State policies that actively restrain locally produced fuel supplies while increasing local refining costs. WSPA also previously raised concerns[2,3,4,5,6,7] that refinery resupply and minimum inventory mandates could adversely impact California's market and could harm Arizona and Nevada consumers too – especially if refineries are required to withhold supply for only the perceived benefit of California consumers. These types of impacts could ultimately lead to costly and time-consuming litigation for California's interference with interstate commerce. We have continuously urged the CEC to further analyze whether these requirements are even needed – and at what cost.

To help inform this discussion, we hope that the following policy context and technical information regarding the potential imposition of resupply obligations coupled with minimum inventory requirements

[1] *See* CEC Third Meeting of the Independent Consumer Fuels Advisory Committee, December 9, 2025; available at: https://www.energy.ca.gov/event/2025-12/third-meeting-independent-consumer-fuels-advisory-committee
[2] *See* "Western States Petroleum Association Comments - WSPA Comments on AB X2-1 Resupply Framework Pre-Rulemaking Workshop 25-PIIRA-01," filed March 11, 2025; available at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=25-PIIRA-01
[3] *See* "WSPA Comments on Second AB X2-1 Refinery Resupply Pre-Rulemaking Workshop," filed March 17, 2025; available at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=25-PIIRA-01
[4] *See* "Western States Petroleum Association Comments - WSPA Comments on 9-24-2025 Petroleum Supply Stabilization OIIP Workshop 10-8-2025 Docket 25-OIIP-02," filed October 8, 2025; available at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=25-OIIP-02
[5] *See* "Western States Petroleum Association Comments - WSPA Comments on Gasoline Supply Reliability Workshop 9-10-2024 (Docket #23-SB-02)," filed September 10, 2024; available at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-SB-02
[6] *See* "Western States Petroleum Association Comments - WSPA Preliminary Comments on Gasoline Supply Reliability Workshop (Docket 23-SB-02)," filed August 29, 2024; available at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-SB-02
[7] *See* "WSPA Comments on CEC DRAFT Transportation Fuels Assessment," filed May 17, 2024; available at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-SB-02

upon California refiners only will be helpful to ICFAC. This context draws upon published analyses, stakeholder comments, and real-world industry perspectives to help illuminate the complexities involved with dynamic inventory management.

We also remind policymakers of the high-quality analysis that must precede defining any such minimum inventory or resupply mandate, given the likely unintended consequences of such mandates. We believe ICFAC must approach its legislative directive in a thoughtful, data-driven manner to protect the health and safety of employees, local communities, and the public. The ICFAC's role as an independent review body and participant in the CEC's regulatory decision-making necessitates that it receives factually complete information to understand these complex issues most effectively as applied in the real world.

LEGISLATIVE CONTEXT AND MANDATES

AB X2-1 further expanded the CEC's oversight of California's petroleum sector. This included identifying market mitigation strategies and shoring up the State's fuel supply. AB X2-1 represented yet another unprecedented tightening of the State's control over the transportation fuels market. In addition to less procedural checks (i.e., Administrative Procedures Act, etc.), SB X1-2 allows the CEC to set a maximum gross gasoline refining margin (and penalty), while under AB X2-1, the CEC could newly promulgate emergency rules to impose minimum inventory and resupply obligations *only for refiners operating in the State* it deems necessary.

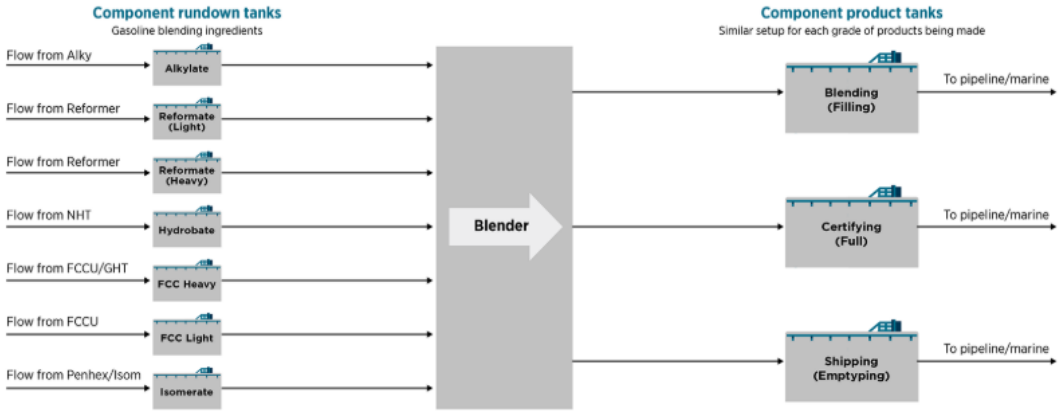
During this workshop, the CEC and DPMO Director Tai Milder have asserted that the now-regular flow of imports has smoothed the episodic disruptions that contributed to price volatility in 2023 and 2024, and that a repeat of those swings is unlikely in this current market. At the same time, they continue to investigate whether regulated inventories might serve as a "guardrail" against future instances of instability – an inquiry that presupposes the need for State-regulated volume thresholds even as existing supplies appear steadier. With some refiners planning to exit California, an inventory hold or other mandates may seem like an easy-to-enforce, regret-free solution for policymakers; but we have yet to see analysis demonstrating how such mandates would prevent supply disruptions under California's unique market conditions or how further regulations would not strain California's fuel market or the local economies that depend on refiners for jobs and tax income.

REFINERY GASOLINE SYSTEM CONSTRAINTS AND CONSIDERATIONS

To an observer, tank capacity in California could be misunderstood and overestimated – however, there simply is not enough existing capacity to both store product *and* supply the State. As shared in our September 2025 comments regarding petroleum supply stabilization strategies, the following diagram illustrates the basic architecture of a typical gasoline system. Instead of one big tank full of gasoline, dozens of vessels sit upstream and downstream of one another to produce "finished gasoline." Some tanks hold individual blendstocks – the intermediate hydrocarbon streams (e.g., butane, reformate, alkylate, isomerate) that are the *components of* finished gasoline – while others hold finished gasoline product that has been blended according to strict specifications and is certified for sale. This system is dynamic: raw ingredients flow continuously from multiple processing units into their respective component tanks. Gasoline components are mixed in specific proportions – like following a recipe. The exact blend depends on the qualities of the available components, so the final mix meets California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB) product standards. After blending, the finished gasoline in the storage tanks is sampled, tested, and certified, in a batch, before it can be used. Finished gasoline is then drawn out of its own tank for shipment to its destination, and blending cannot recommence until all required components are present in the correct proportions. At any point, about half of the inventory on hand consists of *components*; if one component is missing or short, all other components become "unblendable" – which would be akin to trying to bake a cake without sugar. A refinery will almost always see these tanks well below capacity because there is an

inherent safety risk if one is overfilled. As such, avoiding this risk involves turning down operations at processing units, resulting in less gasoline components production (i.e., less gasoline). Similarly, it is not possible to run at capacity in finished product tanks. A simple illustration of a multi-tank finished product system requiring blending, certification, and selling quickly demonstrates that you will always have one tank that has been blended and certified, while there are other tanks that are being blended or being emptied (in practice, you will typically see these at well below 100% total capacity).

Structurally, component tanks are always kept well below full capacity for operational reasons:
Full component tanks force process unit cuts (less gasoline production)
Empty components tanks cause product blending disruptions (less gasoline production)



Both components and finished tank inventories are included in reported EIA Inventories. Roughly ~50/50 total volume split between component and finished service. CEC "Days of supply" reporting is based on all reported inventories – not finished gasoline blends – not true reflection of days supply.

*Note: this visual is for illustrative purposes only and would vary based on individual refinery configurations, processing units and finished product production.

There simply are not enough tanks today to hold additional finished blends for storage. As a result, low refinery tank utilization across a system like this is very realistic. This is not a function of artificially low inventory, but rather a reflection of the complexity inherent in blending CARBOB gasoline. Next, it is important to understand the potential implications for mandating State-determined inventory levels:

- **Real-world capacity constraints.** The graph that DPMO presented as their sole evidence of a viable refiner inventory footprint ignores the potential capacity constraints related to fuel specification seasonality, available marine shipment capacity, and blending tank working capacity. Further, claims of California refineries holding artificially low inventories are in direct conflict with public U.S. Energy Information Administration data,[8] which shows California refinery inventory utilization at or above storage utilization rates in other U.S. regions. The cross-region comparison clearly demonstrates that inventory levels in the range held today are a function of refinery and supply chain constraints. Forcing inventory levels above said levels will by definition result in refinery suboptimization, likely reducing gasoline production.
- **Minimum inventories will restrict supply.** Mandatory inventory thresholds remove significant supply from the market that refiners would otherwise sell, creating an economic fundamental of driving up wholesale prices. When refiners build and maintain inventories, it reduces the quantity available for immediate sale, thus restricting supply.
- **"Days-of-Supply" misconception.** WSPA is concerned that while simply counting aggregate stocks relative to average demand may yield a comforting number – that "we have X days of supply" – it likely masks essential details. This overly simplistic approach fails to distinguish between blendstock and finished product; does not reflect that continuous production tanks must operate well below full capacity to avoid safety risks; and does not acknowledge that finished product tanks are in simultaneous states of blending, certification, and emptying – so, by definition, they are never at 100% of their aggregate volume. Policymakers who promulgate mandates based

[8] *See* March 2024 U.S. Energy Information Administration "Working and Net Available Shell Storage Capacity" report released March 31, 2024; available at: https://www.eia.gov/petroleum/storagecapacity/

solely on a "days-of-supply" metric therefore risk writing rules divorced from real world operational realities.

- **Factors driving turnarounds.** Any minimum inventory mandate would fundamentally conflict with operational flexibilities refiners need to produce fuels and would likely raise significant worker and public safety issues. For example, having to accommodate mandatory inventories requirements during planned maintenance periods undermines expert-led decision-making regarding turnaround timing, planning, and execution, thereby shifting control away from experienced refinery engineers and operators to State regulators with limited (if any) operational expertise or refining experience. This presents a significant safety concern, and refineries will not operate in an unsafe manner.
- **Good intentions with unsupported claims.** While we appreciate efforts to avoid the capital of constructing new storage infrastructure, the DPMO's assertion that regulation is necessary to improve inventory efficiency is illogical and unsupported by evidence presented to date. Efficiencies arise from disciplined planning and accurate forecasting – not from rigid, externally imposed quantities or "blunt instruments" such as mandatory resupply obligations and minimum inventory requirements – and is best advanced through improved reporting, transparency, and quality analysis.
- **Need for comprehensive cost-benefit analysis.** As was previously noted in The Brattle Group's report, "A comprehensive cost-benefit analysis … includes projections of incremental inventories, assessment of storage availability and cost, estimation of supply-event likelihood, development of supply and demand schedules, and a model of the relationship between gasoline inventories and prices."[9] Such analysis would be a logical and responsible next step before the CEC even considers adopting any enforceable volumetric threshold. We appreciate that policymakers may wish to avoid building new storage infrastructure in California, thereby limiting capital expenditures for refiners, investors, and ultimately consumers at the pump. While avoiding building new tanks is prudent, avoiding capital expenditures alone does not mean there is not a significant cost that will deter investors – and any merits and downsides of any such mandate must be evaluated comprehensively and reviewed independently as it would apply in the real world. WSPA previously noted that no economic consensus exists on the cost versus benefits of imposing potential inventory mandates. The September 24, 2025, "Petroleum Supply Stabilization" informational proceeding workshop did not include operational, economic, or scientific analysis demonstrating that consumer benefits outweigh potential costs. WSPA further noted that an academic consensus had not been established, indicating that further examination and modeling of the operational factors affecting production and costs related to inventory and resupply mandates is warranted.

WSPA RECOMMENDATIONS

WSPA is concerned that imposing inflexible resupply obligations and/or minimum inventory mandates upon only California refiners could present significant policy risks and unintended consequences. The Brattle Group has addressed how marginal costs increase as quotas ramp up, while the presumed benefits fall, and how the link between inventories and prices is sufficiently complicated that it "requires a model" rather than a simple rule. It remains unclear how or whether a minimum gasoline inventory requirement would induce larger gasoline inventories as carrying costs and, thus, petroleum refining costs, would increase. Imposing additional burdens in the wake of announced refinery closures risks making California "uninvestible." WSPA therefore recommends the following:

- The CEC commission an independent and comprehensive cost-benefit analysis before adopting any enforceable inventory thresholds;
- To perform cost-benefit analysis, CEC must clearly define all relevant terms and measurements, including but not limited to:
  a. Business entities subject to requirements
  b. Distinction between blendstock and finished gasoline

[9] *See* The Brattle Group's analysis of minimum inventory requirements; August 2024.

   c. Minimum levels that trigger compliance
   d. Mechanisms for measuring or averaging volumes
   e. Conditions that allow drawdown below minimum levels without penalties
   f. Size of permitted drawdown for various conditions
   g. Lead times required to build up inventory;
- Consider flexible alternatives such as a strategic reserve, voluntary pooling, reverse auctions, dynamic thresholds, or industry-led best practices;
- Engage all stakeholders including refiners, storage owners, importers, consumer advocates, and environmental and community groups; and
- If the evaluation indicates that the benefits may not fully justify the costs, engage with stakeholders to explore practical solutions that strengthen and sustain in-State refining capacity.

CONCLUSION

The goal of AB X2-1 – to mitigate price volatility and ensure a safe, reliable, and affordable supply of transportation fuels – is one we share. California has already benefited from imports, which dampened disruptions seen in 2023 and 2024 as the market sought to correct itself. The instinct to build further guardrails through inventory mandates is understandable, but the facts to date caution against simple prescriptions. A balanced approach built on rigorous analysis, clear definitions, flexible mechanisms, and broad engagement will serve consumers well, sustain market confidence, and help advance California's environmental goals without sacrificing reliability or affordability.

Fortunately, AB X2-1 is clear that the CEC "shall not" adopt a resupply regulation "unless it finds that the likely benefits to consumers from avoiding price volatility outweigh the potential costs to consumers." Resupply requirements that prevent the free transaction of fuel on the open market when and where needed to satisfy demand will distort the market, further restrict available supply, and hurt consumers. We urge the CEC to continue working with WSPA and our member companies to reach a mutually beneficial framework that supports supplying fuel to the market and does not compromise refinery safety while seeking to mitigate potential consumer impacts.

WSPA appreciates the opportunity to provide these comments on fuel supply issues of critical importance to all California consumers – and consumers of other states dependent on California's refinery production – who rely on affordable and reliable sources of transportation fuel every single day. These comments are based on WSPA's review of the materials and statements at the workshop, and we reserve the right to amend these comments or add to the docket as necessary to reflect additional materials or changes in the CEC's decisions.

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

Sincerely,

Jodie Muller
President & CEO

WSPA

Sophie Ellinghouse
Vice President, General Counsel & Corporate Secretary

March 11, 2025

California Energy Commission
Docket Unit, MS-4
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Sacramento, California 95814

Uploaded to Docket 25-PIIRA-01

RE: WSPA Comments on February 2025 AB X2-1 Pre-Rulemaking Workshop [25-PIIRA-01]

The Western States Petroleum Association (WSPA) appreciates the opportunity to comment on the California Energy Commission's (CEC) February 25, 2025, pre-rulemaking staff workshop regarding a refinery resupply planning framework to implement Assembly Bill (AB) X2-1 (2024) – specifically, towards developing rules regarding necessary refinery maintenance and turnarounds, including the CEC's authority to establish refinery resupply requirements, pursuant to Public Resources Code (PRC) Section 25354.2.

We appreciate the CEC's ongoing engagement with WSPA member companies to better understand California's gasoline market, particularly around planned refinery maintenance activities and recent refinery transitions and closure impacts on the market. We welcome an ongoing dialogue in search of practical solutions to offset lost production due to planned maintenance. We remain concerned, however, that any attempt by the State to micromanage refinery fuel inventories or refinery maintenance will further complicate California's fundamental, systemic problems, which are a result of decades of intentional State policies that actively restrain locally produced fuel supplies while increasing local refining costs. Such issues will likely only worsen California's susceptibility to price volatility – especially when the few remaining California refineries perform necessary maintenance activities required for safe, reliable, and responsible operations.

WSPA is also concerned that any refinery resupply requirement, if not carefully crafted, could conflict with existing statutory mandates for refiners ***not*** to withhold fuel from the market – which would not only adversely impact the California market but would harm Arizona and Nevada consumers if refineries are required to withhold fuel supplies for the benefit of Californians. These types of impacts to states like Arizona and Nevada could ultimately lead to costly and time-consuming litigation for California's interference with interstate commerce. We therefore urge the CEC to further analyze whether refinery resupply requirements are indeed needed – and at what cost. Any requirement that keeps fuel from the market will require the market to increasingly resort to foreign sources, forcing more long-duration marine imports into a market that may not be short and creating unintended and even more expensive consequences for consumers.

Fortunately, AB X2-1 is clear that the CEC "shall not" adopt a regulation "unless it finds that the likely benefits to consumers from avoiding price volatility outweigh the potential costs to consumers." Resupply requirements that prevent the free transaction of fuel on the open market when and where needed to satisfy demand will distort the market, further restrict available supply, and hurt consumers. We urge the CEC to continue working with WSPA and our member companies to reach a mutually beneficial framework that supports supplying fuel to the market and does not compromise refinery safety while seeking to mitigate potential consumer impacts.

ONGOING PROCEDURAL CONCERNS WITH USE OF EMERGENCY RULEMAKINGS

In addition to concerns regarding the delay in posting workshop presentation slides – which limits the time stakeholders have to review, analyze, and opine on them – WSPA reiterates here its ongoing concerns regarding the continued use of, and reliance upon, truncated emergency rulemaking procedures in implementation of AB X2-1. There is no actual "emergency" as defined by California law; the State has faced structural fuel supply issues for decades, and these problems are entrenched and complex. Considering these rules on an emergency basis denies both the public and stakeholders their right to due process and meaningful engagement in an iterative process with staff. The scope and impact of this proposed regulatory framework demands no less than a full and proper assessment by the CEC, the industry, and the public.

WSPA agrees that it is critical to ensure Californians have adequate and affordable supplies of fuel and are protected from price volatility resulting from structural market influences. But effectively addressing these issues will require proper consideration of refinery-specific variables, relevant market data, and of the functioning of the industry as a whole across three states. Given the importance and complexity of the issues involved, the CEC should not short-change a thorough assessment which could result in workable and effective regulations, and Californians deserve adequate time to review and comment on whatever system emerges from that assessment.

In the future, the CEC should provide workshop materials prior to the start of the workshop. This would provide stakeholders that will be directly impacted by proposed policies with sufficient opportunity to assess potential impacts, inform the CEC as to whether the proposals are consistent with existing statutory and operational requirements, and seek clarification from staff regarding any ambiguous policies or regulatory proposals as far in advance as possible.

WSPA RESPONSE TO CEC PRESENTATION ON PROPOSED RESUPPLY FRAMEWORK

We appreciate the CEC staff's ongoing efforts to better understand California's complex transportation fuel system. However, WSPA believes that a "one size fits all" approach to setting reporting thresholds and exemption pathways is unlikely to solve the State's concerns regarding market volatility for consumers. We urge the CEC to meet individually with each refiner, under the confidentiality protections afforded by the Petroleum Industry Information Reporting Act, to fully understand the implications of the proposed resupply framework on each refiner and to ensure that any such framework would not cause more harm than good.

A resupply threshold can present operational challenges if set too high or too low – because this is refinery-dependent. While we appreciate staff's belief that setting a resupply threshold amount too low may not mitigate price volatility, WSPA also believes that setting a resupply threshold amount too high may not mitigate price volatility either, and instead further starve the market of needed fuel supplies. We would further question whether the CEC has the expertise and capacity to intervene in planned refinery maintenance events that would trigger resupply requirements.

We are also concerned about the prospect of any inconsistent application, and therefore enforcement, under any potential exemption pathways. For example, a proposed "trigger level" of merely 450,000 total barrels in an anticipated event is quite low (using ICF's base case of an 8-week outage, that is only approximately 8,000 barrels per day). We would suggest substantially increasing this amount – and reducing the reporting threshold to at least 90 days – to avoid being overly burdensome and potentially intrusive.

Whether the CEC's goal is to drive industry accountability for managing resupply planning or simply to assess how such decisions are made, WSPA questions whether there may be other

frameworks to accomplish this. We look forward to working with the CEC to discuss alternative options.

WSPA RESPONSE TO ICF PRESENTATION ON RESUPPLY BENEFIT COST ANALYSIS

WSPA believes that a thoughtful response would involve reviewing how ICF sourced the data that led to the conclusions presented. A review would assist in our evaluation of ICF's underlying cost-benefit analysis assumptions, including assisting WSPA member companies in assessing how ICF's conclusions would impact refinery operators and to validate whether they are consistent with any statutory or operational requirements and constraints.

For example, ICF assumed a conservative scenario whereby refiners would lose money (at a 25% loss) on marine imports brought in. As this is likely the case for marine cargoes, we question what assumptions were made given increasing constraints placed upon marine imports by the California Air Resources Board through the 2020 At-Berth Regulation amendments and other regulations, and for refiners that may have limited access to marine terminals. Furthermore, the assertion that a resupply plan should account for 70-90% of lost production requires further analysis by industry experts to assess feasibility and potential real-world cost impacts, and should be assessed against California market demand rather than refiner production. Specifically, WSPA is concerned about the following analysis assumptions:

1. *Overestimation of Consumer Benefits*: The analysis may overestimate the benefits to consumers by assuming refiners were not already utilizing resupply plans during benchmark events. ICF assumes that an 8-week planned refinery outage event resulted in a total gasoline production loss of 2.5 million barrels. However, the actual impact on prices may be minimal if other factors – such as global oil prices, consumer demand, and market dynamics – continue to play a dominant role.
2. *Underestimation of Compliance Costs*: The analysis might underestimate the costs associated with compliance for refinery operators. Implementing resupply requirements, rather than allowing refineries to implement their own resupply plans – which refiners have been doing for decades, could necessitate uneconomic strategies to secure non-spot market resupplies (e.g., marine imports) and additional capital to guarantee inventories. These costs could be passed on to consumers, potentially leading to higher gasoline prices. This is similar to the concerns we have highlighted around managing mandated inventory levels and how that may reduce the available supply for consumers, thereby increasing costs.
3. *Lack of Flexibility and Potential Conflicts*: The proposed resupply requirements may lack the necessary flexibility to take advantage of unique operational opportunities identified within 60 days prior to planned maintenance or economic supply opportunities identified during the planned maintenance event. This rigidity could result in compliance difficulties and potential conflicts with existing statutory requirements that prohibit refiners from withholding fuel from the market. WSPA has emphasized the need for flexibility in resupply source, quantity, and timing to minimize consumer costs and to avoid unintended consequences.

WSPA intends to provide additional comments to the docket regarding ICF's gasoline forecast model pending a detailed review of their modeling assumptions.

WSPA RESPONSE TO DPMO PRESENTATION ON ECONOMIC CONSIDERATIONS

WSPA reiterates here that a thoughtful response would involve understanding the assumptions used in the Division of Petroleum Market Oversight's (DPMO) cost-benefit analysis. The DPMO's claim that price increases are due to refinery outages has been disputed in the past;

there are numerous underlying reasons for California's rising gasoline prices, including the permanent loss of refinery production, providing boutique fuel blends to an isolated fuel market, minimum wage increases at retail stations, fluctuating crude oil prices on the global market, and the increasing cost of compliance with California-specific regulations (e.g., the Low Carbon Fuel Standard and the Cap-and-Trade Program).

WSPA has repeatedly raised warnings[1] regarding the State's attempt to micromanage California's gasoline inventory supplies and refinery maintenance events. Unfortunately, these warnings appear to have gone unheeded and, since then, another California refinery has opted to close. As part of prior comment letters – including regarding the DPMO's past presentations – we have repeatedly expressed concerns that California's policies present a recipe for increased fuel costs for the consumers of California and potentially reduced fuel supplies to California, as well as Arizona and Nevada.

Yet the DPMO's ongoing attribution of consumer price increases to refinery outages and "profit spikes" for industry continues to fail to appreciate both indirect and direct pricing factors, and also fails to explain why a refiner in a competitive free market would willingly schedule maintenance activities during the busiest demand periods. Basic refinery operations necessitate that tanks will always be partially used to ensure optimal and safe rates for refining operations, as some tank applications can have upstream operational effects, necessitating a reduction in unit rates when the tank levels are too high. In the simplest of terms, if a refiner has two similarly sized tanks, with demand and production balanced, an operator will only have an approximately 50% utilization rate as one tank will be filling at the same rate as the other tank is emptying. As a result, any effort to force the industry to store more product in existing storage vessels would *reduce* refinery production and *increase* supply variability – counter to what the DPMO and CEC are striving to achieve.

CONCLUSION

WSPA appreciates the opportunity to provide these comments on fuel supply issues of critical importance to all California consumers – and consumers of other states dependent on California's refinery production – who rely on affordable and reliable sources of transportation fuel every single day. These comments are based on WSPA's review of the materials and statements at the workshop, and we reserve the right to amend these comments or add to the docket as necessary to reflect additional materials or changes in the CEC's decisions.

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

Sincerely,

Sophie Ellinghouse
Vice President, General Counsel & Corporate Secretary

[1] Western States Petroleum Association Comments - WSPA Comments on Gasoline Supply Reliability Workshop 9-10-2024 (Docket #23-SB-02); September 10, 2024 at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-SB-02

WSPA
Sophie Ellinghouse
Vice President, General Counsel & Corporate Secretary

March 17, 2025

California Energy Commission
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Sacramento, California 95814

Uploaded to Docket 25-PIIRA-01

RE: WSPA Comments on AB X2-1 Refinery Resupply Planning Pre-Rulemaking Workshop [25-PIIRA-01]

The Western States Petroleum Association (WSPA) appreciates the opportunity to comment on the California Energy Commission's (CEC) March 5, 2025, pre-rulemaking workshop on refinery resupply planning to implement Assembly Bill (AB) X2-1 (2024) and Senate Bill (SB) X1-2 (2023) – specifically, the refinery resupply framework and draft "express terms,"[1] pursuant to Public Resources Code (PRC) Section 25354.2. WSPA acknowledges the CEC's ongoing dialogue with WSPA member companies to better understand planned refinery maintenance activities, and efforts by staff to release the proposed express terms in advance of this workshop. However – given the unusually short comment period, even in an emergency rulemaking proceeding – WSPA recommends that materials be released at least five business days (not calendar days) in advance to afford the public and affected industry stakeholders the opportunity to review, assess impacts, and prepare well-informed comments in time for the workshop.

WSPA reiterates its concerns with any State attempt to micromanage refinery fuel inventories. The CEC has a limited knowledge of complex refinery operations, and its lack of technical expertise leaves open great potential here for unintended consequences that can end up hurting California consumers. If the CEC is going to insist on adopting a refinery resupply policy, any such policy must provide maximum flexibility for refinery operators while minimizing any potential consumer impacts associated with compliance. Indeed, AB X2-1 expressly forbids the CEC from adopting any such regulation "unless it finds that the likely benefits to consumers from avoiding price volatility outweigh the potential costs to consumers." WSPA is concerned that the CEC does not currently have the facts in front of it to legitimately support such a finding with respect to imposing a refinery resupply requirement.

Any refinery resupply requirement, if not carefully crafted, could conflict with existing statutory requirements in SB X1-2 for refiners ***not*** to withhold fuel from the market – such withholding can potentially result in market distortions and undesirable price impacts due to the purposeful and artificial reduction of immediately available supply to the market, and could violate California's Cartwright Act requirements. These potential adverse impacts very likely would extend to Arizona and Nevada as well, and make it harder for those states to secure needed supplies of fuel in the face of regulations expressly favoring Californians' access to fuel. These types of interstate impacts could ultimately lead to costly and time-consuming litigation for California's interference with interstate commerce. In short, the adoption of a "one size fits all" rule for a complex issue such as California refinery fuel inventories has the potential to harm California

[1] CEC "Draft Language Refinery Resupply Plans" California Code of Regulations, Title 20, Chapter 15 Refinery Maintenance Timing, Article 1 Refinery Maintenance Scheduling, Section 3400; dated February 28, 2025.

consumers more than help them. Additionally, it is deeply concerning that the CEC would impose civil penalties upon a refinery operator for either failing to perform resupply under an approved plan, or where the CEC's Executive Director has denied a plan despite the need for planned or unplanned refinery maintenance when legitimate operational, safety, and/or uncontrollable reasons exist.

WSPA continues to believe that the CEC's analysis (as informed by consultants) is likely overestimating the assumed consumer benefits while underestimating compliance costs. It is wrong to assume that refiners are not already utilizing resupply plans during benchmark events, just as it is incorrect to assume that factors such as global crude oil prices and market dynamics may not have dominant roles to play in impacting prices. Further, implementing resupply requirements could necessitate uneconomic strategies to secure non-spot market resupplies and additional capital to guarantee inventories that could potentially lead to higher gasoline prices. Not providing the necessary flexibility to take advantage of unique operational opportunities could result in compliance difficulties and potential conflicts with existing statutory requirements that prohibit refiners from withholding fuel from the market. WSPA previously emphasized the need for flexibility in resupply source, quantity, and timing to minimize consumer costs and avoid unintended consequences.

WSPA RESPONSE TO DRAFT REFINERY RESUPPLY PLANS (EXPRESS TERMS)

WSPA has identified numerous issues and concerns with the CEC's draft refinery resupply plan language ("Proposed Refinery Maintenance Scheduling Rule") and offers the following suggestions where appropriate.

§3400 – Definitions

The following proposed definition requires technical modifications:

- **"Seasonal specification" [§3400(e)].** The CEC's proposed definition is incomplete. Reid Vapor Pressure is only one specification that changes between summertime and wintertime blends. The California Air Resources Board (CARB) also sets a different standard for the T50 distillation specification, and California Business and Professions Code §13440 calls for gasoline to meet ASTM D4814, which has several specifications that differ between seasons.

§3401 – Refinery Maintenance Scheduling

- **Reporting threshold [§3401(b)(2)].** The CEC's reporting threshold to require submittal of a "Refinery Maintenance and Turnaround Supply Plan" in §3401(b)(2) is inappropriate.
  - §3401(b)(2) proposes to set a "trigger level" at "more than 450,000 barrels total" or 20,000 barrels per day for at least 21 days. Understanding that there will likely be operational complexities should the CEC set a threshold that is either too low or too high, as either may not mitigate price volatility, we question the appropriateness of 450,000 total barrels. We look forward to hearing from the CEC and the Division of Petroleum Market Oversight (DPMO) regarding the basis of how a suitable volume threshold for resupply plans was determined. WSPA cautions the CEC that there appears to be no perfect threshold amount that would both protect consumers and not place undue burden on refiners and the CEC.
  - §3401(b) requires refiners to submit their resupply plan "at least **120 days** prior" to a qualifying planned maintenance or turnaround event. WSPA recommends that this be changed to "not prior to **90 days**" given the impracticality of assessing significant global market changes that can happen between 30 to 120 days. An extended time horizon would therefore offer little benefit to the CEC in its attempts to assist refiners in finding affordable consumer resupply inventory. Further, the rule does not address the scenario of a qualifying planned maintenance or turnaround event that occurs inside the 120-day

(or 90-day) window. WSPA recommends these scenarios be expressly eligible for exemption under §3402, particularly if resupply is not feasible.

- **Spot market purchases [§3401(c)].** First, WSPA is perplexed by the CEC's presumption that refiners can predict how resupply sourcing plans would impact the California market. The ability to do so would necessarily require participation in the spot market, which would be precluded in §3401(c)(3). Second, restricting spot market participation in order to resupply California's market is likely demanding the impossible. Refiners cannot demonstrate, or even provide evidence of impacts, prior to participation in the spot market. WSPA strongly recommends that this subsection be modified to allow for spot market participation to help address any perceived resupply problem. Third, WSPA questions the practical constraints associated with removing spot market transactions as a viable resupply option as doing so would force California's refiners to take costly imports with timing risks. Such an approach would likely hurt California consumers, not help them. WSPA strongly suggests that the CEC better understand the potential impacts of dictating spot sales.
- **85% resupply [§3401(c)(1)].** The proposed rule fails to distinguish between resupply of contract volumes versus spot volumes, which is a critical distinction. WSPA believes it is inappropriate to require refiners to resupply spot sale volumes at 85%; spot sale resupply should only be required if market conditions demand it, and even then, the spot sale resupply requirement should be the minimum amount demanded by the market. Otherwise, the rule unnecessarily burdens refiners with the business risk of bringing supplemental spot volumes into a market that does not need additional volume.
- **1.3-barrel multiplier [§3401(c)(1)(i)].** The proposed language counting each barrel of resupply obtained via imports to count as 1.3 barrels requires further clarification.
- **Market availability [§3401(c)(2)].** WSPA presumes that "same rate" means *product* and not *price*; if so, this should be appropriately clarified in the proposed regulatory text. WSPA otherwise questions whether this proposal is authorized under SB X1-2 or AB X2-1, as the meaning is unclear. Any price "cap" must adhere to strict procedural and analysis requirements under both statutes, neither of which are not legally satisfied here.
- **Penalties [§3401(e)].** WSPA has significant concerns with the CEC Executive Director's proposed authority to grant or deny a Refinery Maintenance and Turnaround Supply Plan, in whole or in part, and then assess civil penalties for a denial. The decision-making authority is not associated with any standard; that lack of specificity, especially when associated with a potential civil penalty, raises serious due process concerns.
- **Reporting intervals.** The industry supports transparency but believes additional reporting will be overly burdensome for all involved. We question the CEC's ability to manage the number of planned versus actual resupply reports – particularly given that the proposed language is also void of guidance in how the CEC or industry should manage the process for what is considered substantial updates or changes needed to resupply plans.
- **Planned exports.** Refineries may need to cancel exports of non-CARBOB optimal (higher sulfur, higher benzene) fuel blendstock to meet resupply needs during significant events. Therefore, it is recommended that the proposed language acknowledges this necessity for managing resupply.

§3402 – Request for Exemption

- WSPA strongly recommends that the CEC detail a well-defined and clearly understood exemption pathway process – this would include how it would be administered and governed in the event of any disagreement. The exemption process, as currently drafted, gives the CEC excessive discretion in determining exemption eligibility and provides insufficient certainty for refiners to comply with the rule.
- The CEC's proposal does not provide necessary flexibility for refiners to source the most readily available and affordable resupply options at the start of, or during, a planned event. Because the proposed regulation is seemingly intended to lock resupply plans in, it would

eliminate other opportunistic solutions that would likely benefit California consumers after resupply plans are approved. Eliminating such flexibility is a critical concern for industry as in-State refiners must stay economic. As the primary goal is to economically replenish lost production, the CEC should not be dictating the method by which industry does so; rather, the CEC should be providing an exemption pathway after work has commenced if an extraordinary issue arises.

- The CEC's proposal does not provide any flexibility to address material factors – which are likely to be outside of industry's control – but are reasonably close to meeting planned resupply.
- WSPA questions how the CEC would propose to address any extraordinary market conditions that may occur before a planned maintenance event. This includes any unplanned refinery maintenance activities (including those elsewhere in the California market), any significant and materials impacts affecting consumer demand, any geopolitical changes that impact imports given California's significant and growing susceptibility to the global market, and any delays associated with over-water imports.

WSPA RESPONSE TO DPMO COMMENTS

The DPMO contends that this regulation is justified and necessary to ensure that refiners adopt responsible resupply mechanisms. According to the DPMO, the current market lacks adequate incentives to address supply constraints associated with essential refinery maintenance.

Refiners already implement measures to mitigate the impact of planned outages on gasoline supply. For example, they may increase production prior to an outage, import additional supplies, or utilize inventory reserves to maintain a stable supply during maintenance periods. These proactive steps demonstrate that refiners are motivated to ensure product availability to fulfill their contractual obligations or supply the market during any planned or unplanned events involving competitors' inability to meet California market needs. Introducing further accountability measures may impose unnecessary regulatory burdens and increase costs to consumers without significantly enhancing supply reliability.

The DPMO further asserts that this regulation, as written, provides sufficient flexibility to allow refiners to remain economically viable under California market constraints. However, we remain concerned that the DPMO and CEC should be researching methods of protecting existing market incentives to replenish lost production without prescribing or locking in the specific methods that are in or out of scope for replenishment.

WSPA SUPPLEMENTAL RESPONSE TO ICF RESUPPLY COST-BENEFIT ANALYSIS

WSPA still questions ICF's cost-benefit analysis supporting the proposed regulation. It is critical to have additional transparency and time to conduct an accurate cost-benefit analysis to ensure the CEC has the data necessary, per AB X2-1, to decide whether regulations will impose more harm than good for consumers. It is believed that this analysis lacks critical sensitivities, which may underestimate costs and overestimate benefits for these proposed resupply plans or the potential of regulating inventory. In addition to consumer costs, there are interactions between CARB's policies on marine emissions and regulations aimed at supply reliability that require thorough examination.

WSPA requests detailed information regarding the assumptions in ICF's worst-case resupply costs, including: the percentage of imports or use of other mechanisms assumed to manage resupply; how resupply assumes the use of imported finished fuels versus imported blending components; whether benchmarking scenarios regarding prices accounted for the resupply costs already incorporated and performed in past planned maintenance activities; whether

operational slowdowns or other risks due to resupply plans were included; and whether any analysis was conducted on how the resupply plans may conflict with current California environmental policies for stationary and marine mobile sources.

CONCLUSION

WSPA appreciates the opportunity to provide these comments on fuel supply issues of critical importance to all California consumers – and consumers of other states dependent on California's fuel supply chain – who rely on affordable and reliable sources of transportation fuel every single day. These comments are based on WSPA's review of the materials and statements at this and the prior February 25, 2025, workshop, and we reserve the right to amend these comments or add to the docket as necessary to reflect additional materials or changes in the CEC's decisions.

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

Sincerely,

Sophie Ellinghouse,
Vice President, General Counsel & Corporate Secretary

WSPA
Jodie Muller
President & CEO

October 8, 2025

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

Uploaded to **Docket 25-OIIP-02**

RE: WSPA Comments on Petroleum Supply Stabilization Workshop – Informational Proceeding

The Western States Petroleum Association (WSPA) appreciates the opportunity to comment on the California Energy Commission's (CEC) September 24, 2025, "Petroleum Supply Stabilization" informational proceeding workshop[1] to implement Assembly Bill (AB) X2-1 (2024) and Senate Bill (SB) X1-2 (2023). WSPA appreciates the CEC's ongoing dialogue with our member companies to better understand complex refining operations, but reiterates concerns we have raised to date with efforts to micromanage fuel inventories.[2,3,4,5,6] Real-world market conditions show that California no longer has enough in-State refining assets left to meet its own demand – and announced refinery closures will only worsen this situation. We strongly discourage policies that would further burden operators, compromise competitiveness for in-State refiners, leads investors to lose confidence in California's market, and could compromise the ability to provide affordable and reliable fuels envisioned by these statutes.

Further measures are necessary to ensure continued investments in California's petroleum supply to meet current and projected consumer demand. To summarize the main points of this letter:

- **No economic consensus exists on the cost-benefit analysis of inventory mandates.** The workshop did not include operational, economic, or scientific analysis demonstrating that consumer benefits outweigh potential costs.[7] WSPA notes that an academic consensus has not been established, indicating that further examination and modeling of the operational factors affecting production and costs related to inventory and resupply mandates is warranted.
- **State policy action is needed – more California mandates are not.** WSPA reminds the CEC and the Division of Petroleum Market Oversight (DPMO) that decades of compounding State policies created this situation. As the need to provide investor confidence is a critical component of achieving the goal of stabilizing supply as set forth by this workshop, we caution against adding layers of policy that lack a firm operational basis. WSPA supports policies that limits mandates, avoids unnecessary cost increases without clear consumer benefits, sets practical timelines, and aligns investment risks with what investors are willing to accept for energy infrastructure improvements.
- **Need for realistic planning timelines.** Staff should incorporate ongoing and realistic investment needs for consumers rather than planning only for scenarios that align with California's ambitious transportation technology-forcing mandates. A longer, more complex transition is expected.[8]

[1] See CEC Workshop on Informational Proceeding - Petroleum Supply Stabilization, September 24, 2025, at: https://www.energy.ca.gov/event/workshop/2025-09/workshop-informational-proceeding-petroleum-supply-stabilization.
[2] Western States Petroleum Association Comments - WSPA Comments on SB X1-2 Implementation Process; May 17, 2024.
[3] Western States Petroleum Association Comments - WSPA Preliminary Comments on Gasoline Supply Reliability Workshop; Aug. 29, 2024.
[4] Western States Petroleum Association Comments - WSPA Response to DPMO 9-13-2024 Letter; September 19, 2024.
[5] Western States Petroleum Association Comments - WSPA Comments on AB X2-1 Resupply Framework Pre-Rulemaking Workshop; March 11, 2025.
[6] WSPA Comments on Second AB X2-1 Refinery Resupply Pre-Rulemaking Workshop; March 17, 2025.
[7] See The Brattle Group's analysis of minimum inventory requirements; August 2024 at pg. 10 Section "Summary" item 30.
[8] The California Air Resource Board (CARB) recently sought to adopt an Emergency Vehicle Emissions Regulation, in response to Federal disapprovals of three preemption waivers previously granted by the United States Environmental Protection Agency to enforce its Advanced

We remain concerned that CEC and DPMO analysis of minimum inventories may be overestimating assumed consumer benefits while underestimating anticipated compliance costs. There is great potential here for unintended consequences that can hurt consumers across California, Arizona, and Nevada – directly contrary to statutory direction that the CEC *not* adopt regulations "unless it finds that the likely benefits to consumers from avoiding price volatility outweigh the potential costs to consumers"[9] and Governor Newsom's April 21st letter to Vice Chair Siva Gunda[10] that the CEC "work closely with refiners…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..."

WSPA agrees with concerns the CEC raised in its 2024 Transportation Fuels Assessment,[11] including how a minimum inventory requirement could create artificial shortages, increase prices for refiners, and that the State itself could be criticized for requiring refiners to withhold fuel supplies from the market. We wholeheartedly agree that it would also be beneficial for stakeholder participants to operate from a common understanding of basic industry facts going forward. Commentary that misunderstands contractual fuel import and export obligations, operational and regulatory constraints related to fuel specifications, or that presupposes that industry would compromise worker safety are not helpful to reaching policies that serves our collective interests. We look forward to working with the CEC to ensure that stakeholder participants have a better understanding of these important issues, including that which is explained below.

WSPA RESPONSE TO CEC STAFF PRESENTATION

To summarize the main points of this section:

- The State must realistically plan for a range of transportation demand scenarios while ensuring fuel supplies remain reliable and affordable for all consumers over coming decades.
- The CEC must work with industry to support the fuels market, rather than raise additional barriers.
- A robust information-gathering process is required as AB X2-1 forbids the CEC from adopting a resupply or minimum inventory regulation *unless* specified conditions are met.

While WSPA appreciates staff's desire to balance fuel supply with meeting California's ambitious climate policies over the next five years, we believe the State must also plan for a lengthier transition. This is especially important now given the numerous uncertainties associated with attempting to transition California's entire transportation system to Zero-Emission Vehicles (e.g., infrastructure and permitting delays, elimination of Federal tax incentives for consumers, ongoing challenges to California's vehicle standards, etc.). WSPA recognizes the challenges California faces in meeting its emissions reduction goals and believes that the transportation sector is integral in any solution. However, we have expressed concern that California's transportation and energy policies are attempting to reduce affordable and reliable fuel supplies faster than consumers can afford. Ignoring affordability and reliability leads to volatile markets and higher prices, especially for economically disadvantaged individuals, which would only serve to compromise this "managed transition."

We agree that the State Legislature has directed the CEC to proceed carefully and deliberately. Indeed, AB X2-1 expressly forbids the CEC from adopting any such regulation "unless it finds that the likely benefits to consumers from avoiding price volatility outweigh the potential costs to consumers." WSPA reiterates here the importance of gathering a robust set of facts to legitimately support any such finding with respect to imposing a refinery resupply obligation and/or a minimum inventory requirement.

Clean Cars II and Advanced Clean Trucks, amongst other regulations. CARB argued that these waiver disapproval resolutions "introduced an unprecedented degree of uncertainty into the California market for new motor vehicles." The CEC should be adjusting timelines accordingly given ongoing, and likely lengthy, legal challenges regarding these regulations. See CARB 5-Day Public Notice and Comment Period, Emergency Amendment and Adoption of Vehicle Emissions Regulations, at 2. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2025/emergencyvehemissions/notice.pdf.

[9] See AB X2-1 at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320242AB1.

[10] See April 21, 2025, Governor Gavin Newsom letter to CEC Vice Chair Siva Gunda at: https://www.gov.ca.gov/wp-content/uploads/2025/05/Newsom-Gupta-Letter-4.21.pdf.

[11] See "Transportation Fuels Assessment: Policy Options for a Reliable Supply of Affordable and Safe Transportation Fuels in California" at: https://www.energy.ca.gov/publications/2024/transportation-fuels-assessment-policy-options-reliable-supply-affordable-and.

Resupply obligations that prevent or inhibit the free transaction of fuel on the open market will distort the market, further restrict available supply, and hurting consumers. Minimum inventory requirements may also have major drawbacks. The CEC previously identified,[12] that 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. Neither of these approaches are likely to prevent market volatility either. Please refer to The Brattle Group's analysis outline of what would be needed to assess costs and benefits in quantitative terms.[13]

We urge the CEC to continue working with WSPA and our member companies to reach a mutually beneficial framework that supports supplying fuel to the market, does not raise additional barriers for in-State refineries, and does not compromise safety while seeking to mitigate potential consumer impacts. This includes working with refiners to prevent near-term refinery closures, incentivize infrastructure improvements to allow for additional imported fuels required to balance California's gasoline market demands; and encourage in-State crude production to help lower crude oil and transportation costs.

WSPA RESPONSE TO DPMO STAFF PRESENTATION

To summarize the main points of this section:

- Market concentration will only intensify as more unique and costly California policies are introduced.
- California should now be actively working to help retain the few remaining in-State refiners.
- There is already a substantial amount of gasoline inventory, and DPMO has yet to demonstrate how maintaining even higher inventories would *not* undermine operational flexibility nor risk slowing production. Ignoring these factors may lead to more volatile and higher prices.
- A sophisticated market self-corrects for imbalances without the need for regulatory intervention.

DPMO Chief Economist Dr. Gigi Moreno continues to contend that California's highly concentrated industry, which she says presents barriers to entry and misaligns incentives towards profit maximization rather than "secondary" concerns of supply and price reliability for consumers. This is a false narrative. Market concentration in California is directly attributable to numerous State policies, approved over decades, *actively seeking to shut down the petroleum industry* and force consumers to stop using gasoline and other petroleum products. As more unique and costly California policies are introduced (e.g., minimum inventory mandates, resupply obligations), this market concentration will likely only intensify, not recede. Additionally, there is no similar precedent – domestically or internationally – demonstrating the successful management of transitioning an entire economy from a free-market transportation fuel paradigm to one driven by select policies aimed at eliminating fuel demand by consumers in a free market. Given compounding implementation barriers that negatively affect California's baseline planning scenarios to transition the entire transportation sector towards Zero-Tailpipe Emission Vehicles, and the very few refiners left in California to meet robust demand for decades to come, the State should be actively working in the best interests of all Californians to help retain those that are left – and that are operating under strict regulatory policies.

It is also a fact that California has refining capacity constraints – which have become more pronounced in recent years – to safely and reliably produce additional fuel supplies, and a finite amount of on-site tankage to store supplies at refineries needed in the gasoline production process. These gasoline tanks are used in the gasoline blending process; if one or more tanks are required for storage, the tankage available to blend gasoline will decrease, which would reduce the amount of gasoline sent to the market and likely create artificial fuel shortages. Even with recently enacted legislation,[14] it is extremely difficult to build new tanks given the myriad of environmental, permitting, and potential legal challenges unique to California. California's fuel supply chain already maintains substantial amounts of gasoline inventory; the DPMO has yet to demonstrate how maintaining higher inventories would not undermine operational flexibility and increase the risk of slowing production if the infrastructure cannot identify

[12] "Market-based Policy Concepts Overview & Issues" staff presentation to Petroleum Market Advisory Committee, August 16, 2016.
[13] See The Brattle Group's analysis of minimum inventory requirements; August 2024, at pg. 6, Cost-Benefit Analysis.
[14] See SB 237 (2025). Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB237.

viable outlets. Nor has it demonstrated how mandating additional inventory stockpiles *only at California refineries* would not come with significant additional costs for refiners, and potentially elevated prices, for consumers. Ignoring these factors may lead to more volatile and higher prices, further exacerbating California's already pronounced affordability and reliability challenges, especially for economically disadvantaged individuals who can least afford it.

California's fuel market participants actively work to address this market volatility if and when it arises. This is demonstrated in Dr. Gigi Moreno's presentation, where unplanned refinery incident reduces in-State supply and leads to an increase in the market differential spot price – in order to attract additional fuel supplies to California's market. Following the arrival of economically driven imports, prices stopped their upward trajectory and decreased in the market. A sophisticated market can self-correct for supply and demand imbalances; a higher price attracts additional product to the market, stabilizing and reducing prices for consumers. This occurs without regulatory intervention.

While DPMO supports the economic theory of how minimum inventories and/or resupply obligations could theoretically address price volatility in California, market dynamics and regulatory constraints also play critical roles in their real-world application. For example, supporting more marine imports to help reduce price volatility presumes the availability of port space, tankers, tankage, and pipeline capacity, and ignores regulatory constraints (e.g., California's unique Ocean-Going Vessels At-Berth Regulation) that can add to operational costs for these imported supplies. University of California Berkeley Professor Severin Borenstein also previously explained[15] that, on a long-run trend basis, we are not seeing a widening gap of California's spot market relative to the rest of the country, so focusing on solutions like holding more inventory may mean we end up with solutions that do not address the problem – or make the problem worse by limiting supply to the market. Finally, DPMO has also yet to confirm with any certainty that mandatory inventory thresholds would prevent price volatility in California's market as was identified in the CEC's 2024 Transportation Fuels Assessment:

- "it may artificially create shortages in downstream markets"
- "[it] could increase average prices for refiners to maintain additional storage"
- "market equilibrium may likely emerge at a higher price level"
- "potential exists for the state to be criticized for requiring refiners to withhold fuel from the market"

WSPA RESPONSE TO ICF PRESENTATION

To summarize the main points of this section:

- Refiners are already utilizing resupply plans during planned events. Any resupply requirement could result in refiners withholding fuel from the market – which could have adverse regional impacts.
- Implementing resupply requirements could necessitate uneconomic strategies that could potentially lead to higher gasoline prices.
- California has significant economic, geographic, and market differences versus other countries.

WSPA appreciates comments made by Tom O'Connor, including how the slowing ZEVs transition correlates to a more challenging pathway to dramatically reduce gasoline demand; that more needs to be done to improve California production to keep pipelines operating for refineries; the need to enhance port capacity to accommodate large import volumes of both gasoline and blendstocks; and the challenges that imposing minimum inventory obligations only on in-State refiners can present. We agree that this raises equitability concerns, and reiterate our concerns with placing undue burdens on California's few remaining refineries that further risks their competitiveness.

WSPA has commented previously on a resupply requirement for refinery turnarounds, including at an 80% (or higher) level. We continue to believe it is wrong to assume that refiners are not already utilizing resupply plans during planned events. WSPA has raised concern that any resupply requirement, if not carefully crafted, could result in refiners withholding fuel from the market – which would not only adversely impact the California market, but would harm Arizona and Nevada consumers if refineries are

[15] California State Assembly SB X1-2 implementation oversight hearing, May 15, 2024: https://autl.assembly.ca.gov/hearings/2023-24-informationaloversight-hearings.

required to withhold fuel supplies for the benefit of Californians. These types of impacts to states like Arizona and Nevada could ultimately lead to costly and time-consuming litigation. We therefore urge the CEC to further analyze whether refinery resupply requirements are indeed needed – and at what cost. Any requirement that keeps fuel from the market will require the market to increasingly resort to foreign sources.

Further, implementing resupply requirements could necessitate uneconomic strategies to secure non-spot market resupplies and additional capital to guarantee inventories that could potentially lead to higher gasoline prices. Not providing the necessary flexibility to take advantage of unique operational opportunities could result in compliance difficulties and potential conflicts with existing statutory requirements. Moreover, implementing import only-based resupply requirements would disincentivize in-State production, expose refiners to global market risks, and further strain import infrastructure. WSPA previously emphasized the need for flexibility in resupply source, quantity, and timing to minimize consumer costs and avoid unintended consequences.

We agree with ICF's assessment that there is no comparable model for California. There are significant differences with Australia,[16] which depends on imports for two-thirds of their total production demand. That nation also provided approximately $1.8 billion in direct subsidies to keep their only two remaining refineries operational until 2027, provides funds for refinery upgrades, and makes certain production payments. They are also geographically located close to major Asian refining centers. California is not.

WSPA RESPONSE TO STANFORD INSTITUTE PRESENTATION

To summarize the main points of this section:

- Maintaining high inventory levels reduces available storage and may force refineries to reduce production, this may lead to *higher* average retail gasoline prices.
- Questions how a mandate results in negligible implementation costs and zero replacement costs.
- There are significant concerns with who, and how, releasing additional inventory would be decided.

WSPA agrees with Ryan Cummings that many challenging issues are being hastened by the closure of California's few remaining refineries – including exposing Californians to price volatility. We disagree, however, that there would be minimal price impacts even if marine import capacity is expanded and in-State refining capacity decreases as part of a "managed transition." While he presumes that there is a solid economic case academically for the implementation of new minimum inventory requirements, we raise significant real-world application and cost concerns for consumers. We also challenge the presumption that refiners do not have an incentive to keep adequate inventory on hand due to their exposure to incident-driven market volatility. Supply reliability is a cornerstone of the refining industry and expert refinery employees maintain appropriate inventories to ensure said reliability within operational and economic constraints. Intermediate and finished product tanks are part of a continuous production system whereby maintaining high inventory levels reduces available storage and may force refineries to reduce production. Moreover, holding excess inventory locks up capital and directly increases operating costs for refiners.[17]

WSPA requests additional data on how Mr. Cummings arrived at the conclusion that such a requirement would result in a small, one-time, negligible cost to implement the requirements and how the marginal cost to replace additional inventories once established would be zero. We would also request additional information on which policymakers Mr. Cummings envisions would make determinations on when to release inventories – and how any associated margins would be adjusted. We would have significant concerns should releasing additional inventory supplies be tied to events or indicators not directly tied to alleviating supply constraints in the market.

DETAILED WSPA RESPONSES TO GUIDING PANELIST WORKSHOP QUESTIONS

To summarize the main points of this section:

[16] U.S. Energy Information Administration. "Australia Country Analysis." International Energy Data and Analysis, EIA.gov.
[17] See The Brattle Group's analysis of minimum inventory requirements; August 2024, pg., Item 10." Inventory holding costs.

- Any minimum inventory requirement would fundamentally conflict with operational flexibilities refiners need and would likely raise significant safety issues.
- Mandatory inventory thresholds remove supply from the market that refiners may otherwise sell.
- Any policy refinements must preserve operational integrity for refineries while avoiding any burdensome requirements.
- More must be done to "provide sufficient confidence to industry to invest in maintaining reliable and safe operations to meet continued demand" by addressing regulatory and administrative issues.

How do minimum inventory requirements align or conflict with existing refinery planning practices?
WSPA remains concerned that any "one size fits all" attempt by the CEC to micromanage in-State fuel inventories will not solve California's structural fuel supply challenges.[18,19,20,21,22,23,24,25] Especially if any minimum inventory requirement could unintentionally decrease supply and lead to *higher* average retail gasoline prices on an annualized basis for consumers. We have also raised significant questions regarding the availability of existing storage capacity at California's refineries, and whether imposing such a requirement would even act to mitigate any short-term price volatility for consumers. It may, in fact, only exacerbate transportation fuel supply challenges across California, Arizona, and Nevada.

Any minimum inventory mandate would fundamentally conflict with operational flexibilities refiners need to produce fuels and would likely raise significant worker and public safety issues. For example, having to accommodate mandatory inventories requirements during planned maintenance periods undermines expert-led decision-making regarding turnaround timing, planning, and execution, thereby shifting control away from experienced refinery engineers and operators to State regulators with limited (if any) operational expertise or refining experience. This presents a significant safety concern.

Operating a refinery while efficiently managing inventory is an extremely complex process that requires real-time adjustments based on operational constraints and market demands. Refineries typically operate with dynamic inventory levels that balance throughput optimization, blending complexity, and supply reliability. This requires operators to adjust inventory levels based on operational constraints and market needs. As such, refiners generally set inventory targets at a reasonable level that provides operational flexibility for both the refining and downstream (or pipeline and terminals) assets, while still ensuring a reasonable level of supply to weather minor delays or unplanned disruptions. Whereas, setting minimum inventory levels could potentially push a refiner out of this range and into a mode of having to respond much more quickly and steeply should an operational issue arise.

Mandatory inventory thresholds also remove supply from the market that refiners may otherwise sell. It may require refiners to make purchases to maintain mandatory inventories while meeting contractual obligations, creating an economic dynamic of driving up wholesale prices. As component and finished product tanks are part of continuous production systems, requiring refiners to maintain high inventory levels can force refineries to turn down operations, thereby reducing in-State gasoline output. This is because imposing a holding requirement would effectively act to shrink this tank capacity just to make room for additional inventory. Since operators must utilize tanks within approved safety limits, refineries may be forced to slow production rates down to accommodate keeping this extra storage on hand rather than selling otherwise available supplies to the market.

Refinery operators that ship product on third party pipelines also have less insight and control over the outlying terminal inventories than with their own inventory in refinery tanks. Trying to maintain minimum inventories in a system that a refiner does not fully control would certainly present a challenge. A

[18] Western States Petroleum Association Comments - on SB 2 Implementation; May 30, 2023.
[19] Western States Petroleum Association Comments - on Transportation Fuels Assessment Report Workshop; September 11, 2023.
[20] Western States Petroleum Association Comments - Solomon Report California Refiners' Cost and Margin Analysis, 2000-2022; November 27, 2023.
[21] Western States Petroleum Association Comments - on Nov 28 SB X1-2 Margin Cap and Penalty Workshop; December 12, 2023.
[22] Western States Petroleum Association Comments - on April 11 SB X1-2 Margin Cap and Penalty Structure Workshop; April 25, 2024.
[23] Western States Petroleum Association comments - on Gasoline Summer Outlook Workshop; June 20, 2024.
[24] Western States Petroleum Association Comments - WSPA Comments on Gasoline Supply Reliability Workshop 9-10-2024; Sept. 10, 2024.
[25] See The Brattle Group's analysis of minimum inventory requirements; August 2024, at pg. 9, "Potential Unintended Consequences."

conflict could also occur during the winter to summer Reid Vapor Pressure transition when refiners naturally need to pull inventories to lower levels to efficiently facilitate the mandatory turnover. This would be extremely difficult if a high minimum inventory level must also be accommodated and maintained.

What is the most significant cost or operational challenges posed by new mandates?
The forced holding of additional inventory creates numerous challenges. This includes locking up capital and creating artificial supply chain inefficiencies that do not exist today. Setting minimum inventories has the potential to introduce instability into California's already challenged fuel supply system in the event an operations issue arises. For example, if a refinery must maintain a high inventory level and there is an issue with a downstream asset, such as a pipeline shutdown, there would be much less "buffer space" to maintain refinery operations at the desired levels. A refinery operator would potentially have to reduce process rates very quickly because of this. It would also be challenging to balance inventory space with pipeline batch shipments. Because transportation fuels are dispatched out of the refinery on pipelines in batches, the receiving tanks must have enough space to receive these batches without overfilling. If the available space is reduced, the batches have to become smaller, which introduces significant inefficiencies in blending, certification, pumping times, etc. and could present even more challenges to providing a steady supply of product to the market. Additional complications arise where refinery operators ship fuels on third party pipelines, such as Kinder Morgan, that they do not fully control. This presents refinery operators with less insight and control over the outlying terminal inventories than with their own inventory in refinery tankage.

Another conflict could arise during the seasonal fuel specification transition period. Because refineries undertake tank maintenance activities for the winter to summer Reid Vapor Pressure transition, operators will necessarily pull inventories to low levels to efficiently facilitate this required turnover. This would be extremely difficult to do if a high minimum inventory level also needs to be maintained.

WSPA would also be concerned with any result that stifles market participants from engaging with one another to provide supplemental supplies when any refinery operations issues arise. Refiners may be less able to sell barrels to others if they are forced to artificially maintain their own inventories at a high level. Refiners are not the only market participants supplying product to meet demand – importers, traders, and integrated retailers should be treated similar to refiners. Moreover, gasoline inventory health is influenced as much by absolute volume as it is by finished and component balance characteristics. Setting a minimum mandatory inventory bypasses the expert judgement of refinery employees trained to manage gasoline inventory and may negatively affect gasoline reliability by requiring refineries to prioritize volume over blend feasibility.

There will likely be direct carrying costs too. Refiners may need to increase fuel and component inventories in excess of historic levels, which increases working capital costs and further restricts operational flexibility. Even a 20-cent per gallon inventory carrying cost could lead to billions of dollars per year in extra expenses. The physical and operational burdens to sustain unnecessary inventory may also require additional storage – and building just one new storage tank can take a decade and cost $35 million in California's challenging business environment. Forcibly increasing marine imports of gasoline above those driven by supply and demand fundamentals will further bottleneck import infrastructure and, per Vice Chair Siva Gunda's response to the governor in June,[26] "introduce new vulnerabilities by making the state more exposed to impacts of geopolitical events, external markets, and regulatory changes in other jurisdictions." These associated costs – including any price increases and resulting price volatility – would likely be passed on to consumers in California, Arizona, and Nevada.

Finally, WSPA notes, as was identified in the CEC's 2024 Transportation Fuels Assessment, that CARBOB refiners outside of California are limited. These in-State refiners also must follow California's strict labor, health, environmental, and safety laws.

[26] See CEC Vice Chair Siva Gunda's June 27, 2025, response letter to Governor Newsom at: https://www.energy.ca.gov/sites/default/files/2025-07/CEC%27s_Respone_to_Governor_Newsom%27s_Letter_June-27-2025_ada.pdf.

Are there best practices already in place that California can build on?

Any CEC policy refinements must preserve operational integrity for refineries while avoiding any burdensome requirements. WSPA encourages the CEC to work with industry stakeholders to leverage the comprehensive suite of the CEC's existing resources. For example, the SB X1-2 Transportation Fuels Assessment could be expanded to include a much more robust and transparent economic analysis of potential inventory and import impacts. SB 1322 (2022) reporting mechanisms – while duplicative and overly burdensome to comply with – already provides detailed monthly data that could be leveraged for better, more targeted guidance documents, regulations, and engagement with industry stakeholders.

The SB X1-2 maintenance reports also provide the CEC with advanced notice of planned turnaround activity that could be leveraged for targeted refiner engagement to ensure robust resupply planning, including shifts in exports and inter-state balancing (e.g., allowing resupply balancing within California across the San Francisco Bay vs. Los Angeles Basin refining regions). Notably, DPMO's September 16, 2025, "California Gasoline Market Update and Consumer Advisory"[27] commented that, "West Coast gasoline and blending component inventories are also relatively healthy" based on the U.S. Energy Information Administration's West Coast (PADD 5) Stocks data.[28] WSPA believes this demonstrates that industry has postured itself well to manage planned events for consumers without government interference. WSPA cautions the CEC against creating regulatory bottlenecks that could complicate inventory storage.

Finally, per the Vice Chair's response to Governor Newsom in June, we would encourage regulators to "provide sufficient confidence to industry to invest in maintaining reliable and safe operations to meet continued demand" by addressing identified regulatory and administrative issues – such as common-sense application of CEC's regulatory tools and CARB's Ocean-Going Vessels At-Berth Regulation. California should address permitting issues and develop incentives for refiners to invest in gasoline supply production and storage assets to improve reliability and supply resiliency, including:

- avoiding mandates – such as minimum inventory, resupply requirements, or import thresholds;
- avoiding and removing rules that increase costs;
- avoiding emission limit timelines that are infeasible to comply with (i.e., Zero-Tailpipe Emission Vehicles-only policy mandates, CARB's At-Berth Regulation);
- avoiding and removing requirements that increase turnaround costs beyond what investors are willing to assume financial risks on; and
- assuming that these investor risks are mitigated, efforts to reduce permitting thresholds and timelines for infrastructure improvements.

CONCLUSION

WSPA appreciates the opportunity to provide these comments on fuel supply issues of critical importance to all California consumers – and consumers of other states dependent on California's fuel supply chain – who rely on affordable and reliable sources of transportation fuel every single day. These comments are based on WSPA's review of the materials and statements at this workshop, and we reserve the right to amend these comments or add to the docket as necessary to reflect additional materials or changes in the CEC's decisions.

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

Sincerely,

Jodie Muller
President & CEO

[27] See DPMO California Gasoline Market Update and Consumer Advisory: https://content.govdelivery.com/accounts/CNRA/bulletins/3f2f8b5.
[28] See EIA "West Coast (PADD 5) Stocks," at: https://www.eia.gov/dnav/pet/pet_stoc_wstk_dcu_r50_w.htm.

Catherine H. Reheis-Boyd
President and CEO

September 10, 2024

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

Uploaded to Docket

WSPA Comments on Gasoline Supply Reliability Workshop [Docket #23-SB-02]

Thank you for the opportunity to comment on the California Energy Commission (CEC) and the Division of Petroleum Market Oversight's (DPMO) August 22, 2024, Senate Bill (SB) X1-2 (2023) gasoline supply reliability workshop. In responding to the information presented and comments made at the workshop, this letter incorporates by reference our prior comment letters, including preliminary comments we filed on August 29, 2024.[1,2,3,4,5,6,7,8]

To summarize the main points of this letter:

- It is troubling that industry had no opportunity to review, analyze, or provide input on the minimum gasoline supply inventory framework until it was presented at the workshop.
  - Industry input has not been appropriately considered.
  - Previous CEC studies have not been appropriately considered.
  - No analysis of cost, feasibility, operability, or safety considerations was presented.
  - The only data we have seen indicates that a minimum inventory would likely raise prices for consumers – expressly against the goals of SB X1-2.
- The exclusive focus on refinery operations and storage presents an incomplete picture of supply and distribution within California.
- International case studies are not representative of California's unique fuel market. In particular, Australia is not at all analogous with California's fuel supply system.
- WSPA is concerned that SB 950 (2024) and Assembly Bill X2-1 (2024) was/is poorly formed and will likely lead to unintended consequences for consumers in California, Arizona and Nevada.

WSPA remains concerned that this workshop was framed as an opportunity to share both the CEC and DPMO's support for the Governor's legislative framework (what became SB 950), to regulate gasoline inventory and refinery turnarounds. It is also troubling for industry to have had no opportunity to review or understand the framework until it was presented at the workshop, all the while the CEC and DPMO continued to frame the presentation as if there was significant analysis and input from industry to shape the proposal and understand the associated risks. However, without a full vetting by industry experts, the only data we have seen indicates that a minimum inventory would likely raise prices.

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[1] Western States Petroleum Association Comments - on SB 2 Implementation; May 30, 2023.
[2] Western States Petroleum Association Comments - on Transportation Fuels Assessment Report Workshop; September 11, 2023.
[3] Western States Petroleum Association Comments - Solomon Report California Refiners' Cost and Margin Analysis, 2000-2022; November 27, 2023.
[4] Western States Petroleum Association Comments - literature review on Energy Price Controls; November 27, 2023.
[5] Western States Petroleum Association Comments - on Nov 28 SB X1-2 Margin Cap and Penalty Workshop; December 12, 2023.
[6] Western States Petroleum Association Comments - on April 11 SB X1-2 Margin Cap and Penalty Structure Workshop; April 25, 2024.
[7] Western States Petroleum Association comments - on Gasoline Summer Outlook Workshop; June 20, 2024.
[8] Western States Petroleum Association Comments - WSPA Preliminary Comments on Gasoline Supply Reliability Workshop (Docket 23-SB-02); August 29, 2024

First, WSPA strongly objects to any policy proposal that would jeopardize refinery safety by allowing the CEC to dictate the timing of refinery turnarounds and maintenance. Both the workshop proposal and SB 950 stray from industry's calls to avoid compromising refinery safety at all costs. Labor had also raised similar concerns. Instead of fixing decades of poor policies that have driven supply down, these proposals hold industry's safety-first turnaround planning efforts hostage. Indeed, if passed, SB 950 would have given unlimited authority to an agency that lacks expertise in running a refinery, advised by a committee devoid of industry experts, to hold turnaround plans hostage in response to price signals – not legally binding safety and compliance needs. This endangers workers and communities. There is nothing to prevent the CEC from interfering with any existing health and safety requirements, leaving refiners to manage profoundly conflicting regulations.

Second, we must question how the CEC can legally pursue binding minimum inventory rules in advance of any presumed legislative authority to do so. To put it simply, this is putting the proverbial cart far before the horse.

Third, WSPA has, in fact, repeatedly raised warnings about the State's attempt to micromanage California's gasoline inventory supplies that have gone unheeded. We have repeatedly expressed concerns that doing so is a recipe to raise everyday California fuel costs and potentially reduce fuel supplies to Arizona and Nevada – all while minimizing the existing safety-first priority at refineries.

California's fuel supply chain already maintains substantial volumes of gasoline inventory. As a result, California has not come close to emptying its gasoline supplies; the lowest gasoline inventory recorded since 2011 was still over 425 million gallons (in 2023), representing over 12-days' worth of supply. Furthermore, mandatory stockpiles have been investigated by the CEC and shown to come with significant costs – which will likely and ultimately be borne by consumers. Minimum inventory levels would most likely create sustained gasoline price increases due to new tankage and working capital costs and would not reduce market volatility. This likely means that gasoline that could be supplied to California, Arizona, and Nevada consumers might need to be kept off the market, creating shortages and inflating costs for drivers today.

Price volatility can happen regardless of how much gasoline is in inventory. WSPA previously explained how even a massive amount of additional storage cannot correct this problem due to permitting and operational cost constraints. We have explained that what *could* help stabilize the imbalance is having sufficient local fuel manufacturing capacity, connectivity to other regional markets, and fewer policy restrictions on imports.

While in certain contexts having additional fuel inventories may be useful to address *energy security* concerns, it is not a *price-control* mechanism. Inventory supplies safeguard against the possibility of running out of fuel until additional supplies arrive or local production resumes. The resupply market works *because* higher prices attract additional gasoline supplies to balance an undersupplied market in that instance. But under the CEC/DPMO's proposal, refiners may be forced to hold inventory back as they await State authorization.

Fourth, WSPA has urged the State to focus on practical supply-driven solutions to meet California's ongoing demand for affordable gasoline per the goals of SB X1-2. We have recommended that the State prioritize practical solutions to meaningfully help address current and future supply constraints. Specifically, WSPA has exhorted the CEC to provide more robust, State-led discussions to address a patchwork of local permitting and regulatory obstacles that are already constraining the delivery of cleaner fuels – particularly for marine imports – which will be critical for meeting Californians' future fuel demands.

While WSPA would need further information to specifically address some underlying proposals presented in the CEC and DPMO staff's presentations, we offer the following initial input to help inform policymaking discussions in both the regulatory and legislative arenas.

WSPA RESPONSE TO DPMO STAFF PRESENTATION

California's Storage Infrastructure

The DPMO presentation at Slide 11 refers to "west coast capacity" for storage in the course of addressing minimum inventory in California. However, the data presented are drawn from PADD 5, not California's inventory numbers. The two are not the same. We also note that DPMO's staff separately acknowledged that it has no understanding of the State's actual storage capacity – a foundational data point for the subject proposal – instead relying on publicly-reported PADD 5 data, and stating it is "still working to understand exactly what capacity we have available here in California."[9] This is an important distinction given that California's storage is significantly capacity constrained given both the expense of such facilities (including for associated pipelines) and lengthy permitting delays – if permits can even be acquired.

The gasoline inventory data available from the CEC's Weekly Fuels Watch (WFW)[10] appears to be an under representation of the total gasoline volumes available to the industry when compared to the U.S. Energy Information Administration (EIA) aggregated gasoline inventory data provided for refiners and bulk terminals published each month. Comparing weekly CEC inventory data to selected EIA end-of-month dates for California illustrates that there has recently been between 4 and 7 million barrels of additional gasoline supplies on hand in California than WFW database contains. It is important to emphasize that the differences are not attributable to the accuracy of refiner reporting, but reporting requirements for different purposes.

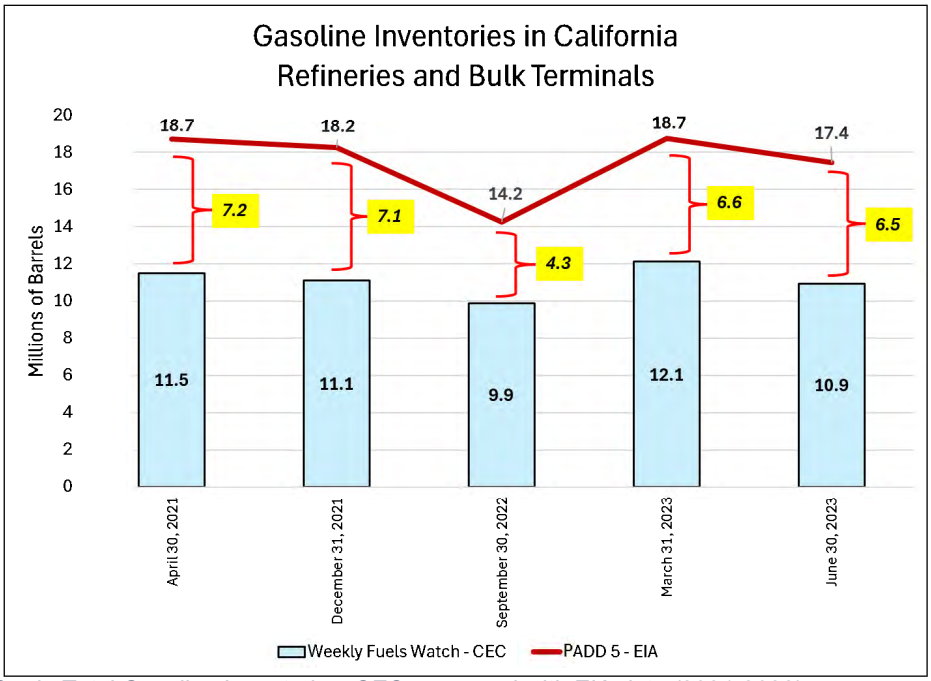

Figure 1 - California Total Gasoline Inventories: CEC compared with EIA data (2021-2023)

[9] CEC August 22, 2024, Gasoline Supply Reliability Workshop at 48:07 mark.
[10] https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch (last accessed 8/27/24).

The implications of additional gasoline volumes available at bulk terminals outside of California refineries is best illustrated by a calculation of days-of-supply (DoS). According to the CEC, average daily gasoline demand of **802,000** barrels per day = 1 DoS.[11] Based on the CEC total gasoline inventory of 10.9 million barrels on June 30, 2023, California would have had **13.6 DoS** in total inventory. However, using the EIA gasoline inventory of 17.4 million barrels held at refineries and bulk terminals on June 30, 2023, California would have had **21.7 DoS** in total inventory.

In the interest of transparency, it would be beneficial for the CEC to provide additional gasoline storage data statistics for stakeholders to review before further discussion of any potential minimum gasoline inventory requirements. Fortunately, the CEC already collects inventory information on gasoline and other petroleum products from all terminal operators on a weekly and monthly basis.[12] Although none of that aggregated gasoline inventory data has yet been made available, the CEC should take this opportunity to provide at least a near-term historical dataset back to January 2023 or earlier that will include a more accurate picture of gasoline supply availability held at all California bulk terminals before adopting regulations specifying how much gasoline California refiners should withhold from working inventory capacity.

Case Studies Presented

The DPMO presented three case studies presumably intended to illustrate the use of minimum inventory requirements to mitigate gasoline price volatility. WSPA finds the cases presented distracting and irrelevant, as well as inappropriate analogies to California's gasoline supply challenges.

Case Study 1: U.S. Strategic Petroleum Reserve (USSPR)

It is unclear why the CEC or DPMO would consider the USSPR as a useful analogue to resolving market volatility in California's gasoline supply markets. The USSPR was created as a ***crude oil*** emergency reserve following the Iran oil embargo in the 1970s. The strict rules established by the enabling statute[13] requires the President of the United States to make findings of an emergency – including catastrophic interruption of global crude oil supplies – in which release from the USSPR would temporarily relieve shortages for U.S. refiners.
While the President did authorize the release over 340 million barrels in 2022[14], over a 7-month period, in response to global crude oil market volatility following Russia's invasion of Ukraine, any parallel with California's fuel market situation is vague and misleading. Moreover, this is a government-owned storage supply – not something imposed upon industry.

Case Study 2: Northeast Gasoline Supply Reserve

Superstorm Sandy in 2012 damaged two refineries and left more than 40 fuel terminals in New York Harbor inoperable. As a temporary measure, in June 2014, U.S. Department of Energy (DOE) Secretary Ernest Moniz issued an order to negotiate storage contracts for gasoline in New York and Maine creating a million-barrel reserve.[15] Clear rules were established by DOE for storage capacity bidding and participation in the use of the reserve in order to mitigate negative market effects from government purchases of fuel and ensure complete transparency. Guardrails were established by DOE to avoid negative effects on the market as the fuel

[11] CEC Summer Outlook Webinar presentation, June 6, 2024 https://content.govdelivery.com/accounts/CNRA/bulletins/3a1209d (last accessed 8/16/2024)
[12] CEC reporting requirements include obligations for terminal operators to report weekly and monthly inventory levels for all refined products and crude oil per Petroleum Information Reporting Act (PIIRA) regulations. The relevant forms are the CEC W08 weekly California Major Petroleum Product Storer and Terminal Weekly Report and the CEC M08 monthly California Major Petroleum Product Storer and Terminal Monthly Report.
[13] Pub. L. 94–163, Dec. 22, 1975, 89 Stat. 871.
[14] *Why Have a Strategic Petroleum Reserve*, Christopher J. Neeley, Economic Research, posted March 20, 2024.
[15] As with the USSPR, the authorizing legislation was Pub. L. 94–163, Dec. 22, 1975, 89 Stat. 871. Secretary used this authorizing legislation to issue a directive to the Office of Petroleum Reserves on June 20, 2014 to purchase gasoline reserves.

infrastructure recovered from that disaster. The reserve was closed in 2024, as the market and fuel infrastructure in the Northeast was deemed to be sufficiently robust with enough redundancy to ensure resilience in the face of future disruption.

In addition, we have data as the National Petroleum Council (NPC), the federal advisory to the Secretary of Energy, investigated these concepts and reported:

> *More recent studies from [Government Accountability Office] and [Department of Energy] have conflicted about the recommendations for and against the strategic petroleum product reserve (SPPR) concept. In summary, there is not a clear record on the desirability or the feasibility of creating and maintaining an SPPR. The costs of procuring and storing the initial volume of fuel are high, especially if capital costs are incurred to build new storage facilities. Leasing of existing facilities would avoid capital costs but would result in a loss in distribution efficiency due to tankage that would not be available to manage daily inventories. To be effective at buffering supply disruptions, the stored volume of fuel would need to be much greater than the amount currently stored in the NGSR. There would need to be multiple storage locations to ensure fuel is available when and where it is needed. There are also challenges with the number and diversity of different products that are stored in the reserve. The reserve inventory must be actively managed to ensure that fuel does not degrade over time. These are some of the many challenges that have been identified with the SPPR concept.*
>
> *The SPPR concept fundamentally interferes with market signals for supply, demand, pricing, and inventory management. A preferred option over the SPPR would be to enhance supply through increased domestic production and by increasing redundancy in existing infrastructure. A robust fuel marketplace can address the challenges of supply reliability more effectively than a mandated SPPR.*[16]

Case Study 3: Australia

The DPMO staff presentation also pointed to a requirement for minimum stockholding obligations (MSO) recently adopted in Australia that should be considered as an example for California.[17] It is curious that DPMO staff are suggesting looking to the Australia MSO program for guidance when the gasoline market conditions in Australia are so dissimilar to California. Based on 2022 data, the differences appear significant, and not at all analogous with California's fuel supply system:

Policy Differences	
Australia has no vehicle standards that compare to California's stringency: • This opens import availability and reduces prices for lower-quality feedstock • Australia has no strong vehicle technology/fueling signals to incentivize a shift to ZEVs that heavily rely upon the electric grid • Australia is not limited by the Jones Act nor pending stringent emission control standards with no viable near-term solutions, such as CARB's Ocean Going At-Berth Regulation	California has adopted multiple standards, including: • The most stringent fuel specifications in the world; Australia has amongst the least stringent • Heavy-Duty Engine and Vehicle Omnibus Regulation • Zero-Emission Vehicle (ZEV) mandates, such as Advanced Clean Cars I and II, Advanced Clean Trucks, and Advanced Clean Fleets • The Ocean Going At-Berth Regulation California is also constrained by the Federal Jones Act for marine imports; Australia is not

[16] National Petroleum Council. (2023). *Petroleum Market Developments*. Retrieved Sept 2024 from at page 63: npc.org/reports/Petroleum_Market_Developments-2023-5-16.pdf; see 5.4.5 Strategic Petroleum Product Reserve

[17] Conceptual Frameworks for Resupply and Minimum Inventory Requirements, Varsha Sarveshwar, Senior Policy Advisor, Division of Petroleum Market Oversight, August 22, 2024, slide 15.

Refining

Petroleum refiners in Australia produced 36% of the gasoline to meet local demand.[18] In addition, the Australian government provided approximately $1.8 billion in funding to keep their only two remaining refineries operational until 2027, provides funds for refinery upgrades, and makes certain production for refiners who make specific types of transportation fuel when margins drop below AU $7.30 a barrel (i.e. USD ~$5/barrel).[19]	By contrast, California refiners produced 90% of the gasoline to meet domestic demand.[20] The State of California imposes multiple regulatory compliance fees on industry to meet California's demand.
Australia's gasoline demand is approximately 25% of California's; that nation depends on imports for *two-thirds* of their total production demand.	

		Gasoline (MBD)	Diesel (MBD)	Jet (MBD)	Source
Australia	Demand	278	568	158	Australian Petroleum Statistics, 2024
	Production	103	73	26	
	Imports	175	495	132	
California	Demand	874	222	276	CEC 2023 IEPR forecast
	Production	904	281	270	CEC Transportation Fuels Assessment 2024[21]
	Imports	77	65	34	

Imports

Australian consumers depend heavily on gasoline imports, accounting for 64% of total supply	California gasoline imports amounted to only 10% of statewide demand
"Stock on water" timelines to resupply Australia range between 6-14 days from Southeast Asia[22]	To resupply California, 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

Finished Product and Fuel Specifications

Australia finished gasoline ethanol content averaged 1.1% by volume	California's ethanol content averaged 10.5% by volume[23]
Australia does not have a specialized fuel specification – in fact, it notably trails European and United States fuel standards. Australia still allows leaded gasoline, high aromatics, and high sulfur. Such specifications likely mean that Australia's gasoline is cheaper and easier for refineries to produce than California's specifications, and importantly, that Australia accepts product from virtually anywhere in the world.	Most refineries outside of California *do not, and cannot,* produce fuels that meet California's strict gasoline specifications, for which no emergency exception exists. California and Australia have seasonal specifications, requiring regular turnover in inventory.

[18] Australian Petroleum Statistics 2022, Australian Department of Climate Change, Energy, the Environment and Water. 2022 monthly automotive gasoline refinery production and sales data. Automotive gasoline refinery production of 1,508 million liters divided by 4,220 million liters of automotive gasoline sales adjusted to 4,173 million liters to remove ethanol portion of finished gasoline.
[19] See refining section at https://www.eia.gov/international/analysis/country/AUS
[20] *Transportation Fuels Assessment*, Commission Report, California Energy Commission, Publication Number CEC-200-2024-003-CMF, August 2024, pages 11 and 12. CARB gasoline instate refinery production of 796 thousand barrels per day (TBD) adjusted to 723 TBD to remove ethanol portion divided by statewide gasoline sales of 885 TBD adjusted to 800 TBD to remove ethanol portion of finished gasoline demand.
[21] *Transportation Fuels Assessment*, Commission Report, California Energy Commission, Publication Number CEC-200-2024-003-CMF, August 2024, pages 11 and 12.
[22] "Maintaining supply security and reliability for liquid fuels in Australia" report, at page 9: https://www.aip.com.au/sites/default/files/download-files/2017-09/Maintaining_Supply_Security_and_Reliability_for_Liquid_Fuels_in_Australia_0.pdf
[23] California's finished gasoline ethanol concentration during 2022 exceeded 10 percent by volume due to the sales of E-85 that amounted to 103.5 million gallons during 2022 according to the California Air Resources Board's Annual E85 Volumes data.

Obligated Parties	
Australia counts inventory across the entire supply chain, including refineries, bulk terminals, and other storage facilities Australia also counts contractually obligated product that is in port or in transit between Australian ports.	California's proposal would place the primary (if not exclusive) burden on refineries for storage of minimum inventory
Fuel Prices	
In calendar year 2023, Australians paid USD $7.18/U.S. gallon; Australians are paying the same or more per gallon of gasoline than Californians are[24]	Californians paid USD 4.88/gallon in the United States[25]
Fuel quality and transit times are key factors given that Australia's imported cargo resupply transit times are 57-68% shorter than California's	It is worth repeating that California has the most stringent fuel specifications in the world, while Australia has one of the least stringent

The heavy reliance on imports to meet Australia's transportation energy demand is the primary reason that the country took steps to require sufficient inventories of gasoline and other petroleum products to cover at least 27 days-worth of *net imports*, not total demand. **These requirements are intended to improve Australia's *energy security* resilience, and not intended to protect consumers and businesses from price escalation associated with significant unplanned refinery outages.**

Further, the potential minimum gasoline inventory requirement mentioned by DPMO appears confined to gasoline inventory volumes held at refineries. The Australian MSO obligations allow obligated parties to count inventory volumes at several points along the Australian transportation energy supply and distribution chain (refineries, bulk terminals, and import terminals), as well as volumes of transportation fuels contained on marine tankers already in Australian ports or traveling between Australian ports.[26]

The minimum volumes of transportation fuels held in storage is calculated by taking the previous 12-month average of imports multiplied by the minimum number of "cover days" set by the Commonwealth Department of Climate Change, Energy, the Environment and Water (the DCCEEW) for each fuel type. Cover days for importers are now 27 days for gasoline, 32 days for diesel fuel, and 27 days for jet fuel.[27] The MSO obligations for refiners are based, in part, on their anticipated conversion of crude oil and other refinery feedstocks to gasoline, diesel, and jet fuel.

Australia's fuel security regulations include other non-MSO programs designed to: increase storage tank capacity for diesel fuel;[28] provide payments to refiners when margins drop below a specified lower threshold;[29] and capital for refinery projects to upgrade diesel fuel quality.[30] Given the energy security purposes of Australia's MSO regulations, the significant dependence on imports to meet the nation's transportation fuel demand, and government funding incentives to help the industry to construct new storage infrastructure and upgrade refineries, there is little in common with California's fuel supply system. If it is to inform the Commission's decision-making on minimum inventory, much more in-depth analytical work than has been presented would need to be done.

[24] EIA data, "California All Grades All Formulations Retail Gasoline Prices (per gallon)" at https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMM_EPM0_PTE_SCA_DPG&f=M.
[25] See national average retail fuel pricing data from the Australian Institute of Petroleum at https://www.aip.com.au/pricing.
[26] Fuel Security Act 2021, registered November 15, 2021.
[27] Minimum Stockholding Obligations, Australian Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW), revised as of July 1, 2024.
[28] Boosting Australia's Diesel Storage Program, DCCEEW.
[29] Fuel Security Services Payment (FSSP), DCCEEW.
[30] Refinery Upgrades Program, DCCEEW.

WSPA RESPONSE TO CEC STAFF PRESENTATION

"Days of Supply" (DoS) Metric

The CEC's staff presentation generally explained and promoted the use of a "days of supply" metric in California. This was reportedly developed in discussions with CEC's expert consultants and is intended to represent a measure of how long California's current gasoline and diesel inventories would last. Unfortunately, despite our request during the intervening 10 days that this workshop was noticed, industry was provided no advance opportunity to review any information presented at the workshop.

Prior to instituting any new regulations on the industry, it should be incumbent upon the regulator to afford the industry adequate time to meaningfully engage in the development process to ensure that the data being used is indeed accurate and the framework, as a result, is implementable. Industry must be afforded an opportunity to alert the agency of any flaws in the underlying analysis and/or approach that must be corrected before it is applied to California's transportation fuels market. Not doing so would constitute a failure in the CEC's responsibilities as the State's chief energy planner.

It is extremely important for legislators and the public to understand the likely unintended consequences of using this "day of supply" metric. Once the CEC establishes a DoS threshold and mechanism to release inventory, market trading behavior may drive prices up in response to the lack of market liquidity, which could occur for a number of reasons. For example, if a refiner has product on-hand sufficient to meet demand but risks going below required minimum inventory levels, then the refiner may have to first wait for additional production and/or supply to come in before making such sale, or otherwise risk being non-compliant. And because onsite refinery tankage is necessary to balance *existing* production, blending, certification, and marketing needs, a minimum inventory requirement that occupies such tank space may cause delays that, in turn, force refiners to actually *reduce* production. In other words, this proposal could ironically result in artificial supply shortages caused by compliance needs.

In addition, while industry makes concerted efforts to replenish their gasoline production during planned maintenance events, there are significantly different considerations during *unplanned* maintenance events. These include:

- whether refiners must or can hold supply to maintain their inventory for any upcoming planned maintenance events;
- whether a refiner can help replenish supplies for any unplanned events in another California region; and
- how the State's efforts to micromanage planned maintenance events impact critical safety considerations.

None of these issues were identified or addressed during the workshop.

Potential Impacts of Micromanaging California's Gasoline Inventory

WSPA has identified the following potential issues in the State's presumed attempt to micromanage California's gasoline inventory supplies.

First, California is a "fuel island." WSPA agrees with the State's conclusion of this fact in its recently approved 2024 Transportation Fuels Assessment.[31] It must be recognized that California is geographically large and topographically complex, that neighboring state populations and economic centers are far from California's, and that there are few supply- or demand-side substitution opportunities.

[31] CEC Transportation Fuels Assessment Report: https://www.energy.ca.gov/publications/2024/transportation-fuels-assessment-policy-options-reliable-supply-affordable-and.

Second, California has a unique regime of environmental policies. Yet, a minimum inventory requirement does not consider California's storage constraints under such policies. A minimum inventory requirement does not consider the storage ability constraints that are real in California, which is a key constraint for meeting the State's fuel needs today. A minimum inventory requirement also ignores the challenges with importing fuel from other regions, due to California's unique geography and existing policies (e.g., California's unique CARBOB fuel blend requirement, Ocean Going At-Berth Regulation, disproportionate marine import constraints under the Federal Jones Act).

Third, international case studies are *not* representative of California's unique fuel market. As WSPA has previously and repeatedly explained in great detail, California's unique transportation fuel market is extraordinarily complex. Therefore, any examples of purported policy "successes" in other regions do not necessarily account for the many factors affecting supply and demand, as the CEC's 2003 report identified[32] when analyzing California's conditions. Unfortunately, it is apparent that the CEC and DPMO have not undertaken a detailed analysis of California's storage and inventory challenges. There are especially significant differences with Australia, as is outlined above. That nation – which, again, depends on imports for *two-thirds* of their total production demand – provided approximately $1.8 billion in funding to keep their only two remaining refineries operational until 2027, provides funds for refinery upgrades, makes certain production payments, and has one of the least stringent fuel blend requirements worldwide, thereby making it a prime import market.

Fourth, a minimum inventory requirement may have unintended consequences. Further work must first be done to determine whether any such requirement would even be feasible in California's market – including whether such a requirement would avoid price volatility. The CEC and DPMO must thoroughly analyze what the costs to consumers will be, and other unintended consequences. Without such analysis, WSPA would otherwise question where the transparency is from CEC and DPMO on these economic costs.

Fifth, neither the CEC nor DPMO appear to have any certainty to confirm that mandated thresholds will prevent market volatility in California's market as was identified in the 2024 Transportation Fuels Assessment:

- "it may artificially create shortages in downstream markets"
- "[it] could increase average prices for refiners to maintain additional storage"
- "market equilibrium may likely emerge at a higher price level"
- "potential exists for the state to be criticized for requiring refiners to withhold fuel from the market"

Thus far, neither the CEC nor DPMO appear to have any certainty they can confirm that mandated thresholds will prevent market volatility in California's market. No analysis has been done on whether a minimum inventory requirement may actually decrease domestic gasoline production given that available onsite storage is needed to efficiently balance blending, testing and certification, and marketing activities. No analysis has been done on how refiners would store increased supply or be able to increase imports under the Ocean Going At-Berth Regulation and Federal Jones Act constraints. No consideration has been given to the likely competitive advantage provided by a minimum inventory requirement to foreign importers over domestic refiners, or how such an advantage could be alleviated. Likewise, there are other, non-refiner inventory holders in the State, yet no consideration has been given to requiring a minimum inventory across *all* inventory holders in the State. Maintenance cannot be determined based on economic interests alone, and under no circumstances should such interests prevail

[32] CEC. July 2003. "Feasibility of a Strategic Fuel Reserve in California." P600-03-013CR. https://web.archive.org/web/20060926070356/http://www.energy.ca.gov/reports/2003-07-31_600-03-013.PDF (Last accessed Sept. 9, 2024).

over or otherwise compromise safety or environmental needs – needs that are more appropriately understood and addressed by CalOSHA, industry, and labor.

Finally, the CEC and DPMO have not explained potential cost impacts. It is especially concerning that important policy decisions would be made with minimal, if any, acknowledgement and ownership about potential cost impacts to end consumers. These impacts are only compounded when layered upon other State policies. A new minimum inventory requirement will certainly create incremental costs per gallon of gasoline for California consumers – and will likely impact Nevada and Arizona consumers too. While exact costs are difficult to estimate, a worst-case scenario regulation requiring a 13-day supply could result in higher costs over an annual period than past market volatility. This policy would require refiners to build inventory when it is already uneconomic to do so. Requiring refiners to increase inventory when prices are low will come at a cost likely to be passed on to consumers.

WSPA again notes that these significant market and policy dynamics, which will constrain California's fuel supply, *are already in motion*.

TRANSPARENCY AND LEARNING FROM THE CEC'S OWN HISTORY ON STRATEGIC FUELS RESERVE (2002-2003)

The DPMO's workshop presentation made brief reference to significant work led by the CEC in 2002 and 2003 in response to an investigation of gasoline price volatility by California's then Attorney General, Bill Lockyer. The Legislature mandated through AB 2076 (2000) that "the commission shall examine the feasibility, including possible costs and benefits to consumers and impacts on fuel prices for the general public, of operating a strategic fuel reserve to insulate California consumers and businesses from substantial short-term price increases arising from refinery outages and other similar supply interruptions."[33] Over a period of two years, the CEC convened several workshops, contracted with consultants to write extensive reports, and published multiple CEC authored reports to meet the requirements of the statute. In its own final report after two years of effort, the CEC set the stage with familiar words:

> *In the last few years, California motorists have experienced significant short-term increases, or "spikes" in the price of gasoline. The state's gasoline refineries are operating at near maximum production, and when an unplanned refinery outage occurs, especially when gasoline inventories are low, the price of gasoline can spike. Outages drive the price higher because of the temporary imbalance between supply and demand. The price increase required to restore this balance can be significant due to a very low demand response—California motorists have little alternative to gasoline use in the short run.*

WSPA has identified more than 23 separate documents that are no longer available to the public on the CEC's website, but which are critical to understanding the complexities and history of proposals to establish some kind of Strategic Fuel Reserve (SFR) to mitigate price volatility in the California fuels markets. A mandate for minimum inventory would simply be another variation of an SFR, which was thoroughly examined in the course of fulfilling the requirements of AB 2076 in 2002 and 2003. We include a chronology, complete with links to internet archives, in Appendix 1. Further, for the sake of public transparency, we also submit separately to the docket – due to file size limitations – copies of several reports and workshop presentations published at the time that help to demonstrate the following:

[33] AB 2076 (Shelley, Chapter 986, Statutes of 2000)

1. Proposals to mitigate fuel price volatility in California have been seriously considered in the past. The State reached conclusions that show, at least at the time, that the solutions examined were subject to too many risks, uncertainties, and potential unintended consequences. As a matter of public record, the CEC rejected establishment of a SFR in 2003.
2. The documentation also shows that **thorough** analysis of policy options takes both time and resources, demonstrated by the depth and breadth of documentation and the more than two full years that the public, consultants, and the CEC took to thoroughly examine the options. This is a far more robust effort than the single page of pros and cons on the matter included in the 2024 Transportation Fuels Assessment recently adopted by the commission.[34]
3. Any serious engagement with industry to develop a Strategic Fuel Reserve – or other policy options to stabilize fuel supplies and mitigate gasoline price volatility – requires expertise and resources that the CEC does not currently have and is not likely to develop in the urgent time frame implied in the Governor's public messaging and his pressure on the Legislature to find immediate solutions.

Finally, the CEC's Petroleum Market Advisory Committee (PMAC) – which was formed in 2014 to advise the Commission on the transportation fuel supply system and fuels markets – considered the potential of a SFR among several policy options through a series of meetings from 2014 to 2017. In its September 13, 2017, meeting at which they delivered their final report (before the Committee was dissolved by order of the CEC) – the Committee concluded that a SFR would not be an appropriate response to the gasoline price volatility that followed the Torrance refinery event in 2015. Again, their final report concurred with conclusions previously reached by the CEC in 2003.[35]

Therefore, in the interest of transparency and thoroughness, WSPA herein submits to the docket a full record of the previous work conducted by the commission, including presentations in workshops, transcripts of those workshops, reports by consultants, and reports published by the commission itself. WSPA finds that this full record is likely to contain substantive information useful to the public and demonstrates by example the kind of serious work that is required to develop and establish energy policies of such gravity and consequence.

The documents – submitted in supplemental packages to the docket – are outlined in the chronological record of the documentation in Appendix 1 (attached). To demonstrate the breadth and scope of the work previously published by the CEC, WSPA is also submitting to the docket the entire publicly available record of those documents in separate filings.

CONCLUSION

WSPA appreciates the opportunity to provide our comments on these issues of critical importance not only to us, but to all California citizens – and citizens of other states dependent on California's fuel supply chain – who rely on affordable and reliable sources of transportation fuel every single day. These comments are based on WSPA's review of the materials and statements at the workshop, and we reserve the right to amend these comments or add to the docket as necessary to reflect additional materials or changes in the CEC's decisions.

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[34] Gee, Quentin, and Aria Berliner and Alexander Wong. 2024. 2024 Transportation Fuels Assessment. California Energy Commission. Publication Number: CEC-200-2024-003-CMF. Adopted by unanimous vote of the Commission at their regular business meeting August 14, 2024.

[35] Borenstein, Severin, Kathleen Foote, Dave Hackett, Amy Jaffe, and James Sweeney. Petroleum Market Advisory Committee, 2017. Petroleum Market Advisory Committee Final Report, December 2014 to November 2016. California Energy Commission. Publication Number: CEC-200-2017-007. Available at https://www.energy.ca.gov/data-reports/planning-and-forecasting/petroleum-market-advisory-committee. (Last accessed 8/27/2024.)

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

Sincerely,

Catherine H. Reheis-Boyd
President and CEO

Appendix 1:
Chronological Sequence of Documents Produced 2002-2003 by CEC Under AB 2076 (Shelley, Chapter 936, Statutes of 2000) – RE Strategic Fuel Reserve Options for California

Attachments under separate cover submitted to the docket:
As outlined in Appendix 1, each of the documents enumerated will be submitted under separate cover to Docket 23-SB-02.

Appendix 1: Chronological Sequence of Documents Produced 2002-2003 by CEC Under AB 2017 (Shelley, Chapter 936, Statutes of 2000) – RE Strategic Fuel Reserve Options for California

Archived CEC Strategic Reserve Documents Page Website

https://web.archive.org/web/20061005153802/http://www.energy.ca.gov/strategic_reserve/documents/

California SFR March 13, 2002 Workshop – Stillwater Draft Report
Online March 11, 2002
https://web.archive.org/web/20060926185303/http://www.energy.ca.gov/reports/2002-03-11_600-02-004CR.PDF
File Name: 2002-03-11_600-02-004CR.pdf
115 pages

California SFR March 13, 2002 Workshop – Stillwater Presentation
Online March 13, 2002
https://web.archive.org/web/20061001041709/http://www.energy.ca.gov/strategic_reserve/documents/2002-03-13_STILLWATER_PRES.PDF
File Name: 2002-03-13_STILLWATER_PRES.pdf
101 Slides

California SFR March 13, 2002 Workshop Transcript
Online March 26, 2002
https://web.archive.org/web/20061001042146/http://www.energy.ca.gov/strategic_reserve/documents/2002-03-13_TRANSCRIPT.PDF
File Name: 2002-03-13_TRANSCRIPT.pdf
175 pages

California Strategic Fuels Reserve – Revised Contractor Report
Publication Number P600-02-017D
Online July 4, 2002
https://web.archive.org/web/20060926185106/http://www.energy.ca.gov/reports/2002-07-04_600-02-017D.PDF
File Name: 2002-07-04_600-02-017D.pdf
199 pages

Economic Benefits of Mitigating Refinery Disruptions – Consultant Report
Publication Number 600-02-018D.
Online July 8, 2002
https://web.archive.org/web/20060926184643/http://www.energy.ca.gov/reports/2002-07-08_600-02-018D.PDF
File Name: 2002-07-08_600-02-018D.pdf
114 Pages

April 2003 SFR Workshop – Agenda
https://web.archive.org/web/20061001041555/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_agenda.html
File Name: 2003-04-24-25_agenda.pdf
2 Pages

Permit Streamlining for Petroleum Product Storage – Draft Consultant Report
Publication Number P600-03-006D
April 2003
Online April 15, 2003
https://web.archive.org/web/20061001042021/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-15_600-03-006D.PDF
File Name: 2003-04-15_600-03-006D.pdf
77 Pages

Government Use of the California Gasoline Forward Market – Draft Consultant Report
Publication Number P600-03-007D
April 2003
Online April 21, 2003
https://web.archive.org/web/20061001041642/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-21_600-03-007D.PDF
File Name: 2003-04-21_600-03-007D.pdf
30 Pages

California Marine Petroleum Infrastructure – Draft Consultant Report
Publication Number P600-03-008D
April 2003
Online April 21, 2003
https://web.archive.org/web/20061001041611/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-21_600-03-008D.PDF
File Name: 2003-04-21_600-03-008D.pdf
13 Pages

April 2003 SFR Workshop – Panel Questions
Online April 21, 2003
https://web.archive.org/web/20061001042204/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-21_questions.html
File Name: 2003-04-21_questions.pdf
2 Pages

April 2003 SFR Workshop – April 24 Presentation: Government Use of the California Gasoline Forward Market - Jeffrey Williams & Gregg Haggquist
Online April 24, 2003
https://web.archive.org/web/20060926032620/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-24_WILIAMS-HAGQUIST.PPT
File Name: 2003-04-24_WILIAMS-HAGQUIST.ppt
16 Slides

April 2003 SFR Workshop – April 24 Presentation: Permit Streamlining for Petroleum Product Storage – ICF Consulting
Online April 24, 2003
https://web.archive.org/web/20060926032620/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-24_ICF.PPT
File Name: 2003-04-24_ICF.ppt
42 Slides

April 2003 SFR Workshop – April 24 Presentation: California Marine Petroleum Infrastructure – Stillwater Presentation
Online April 24, 2003
https://web.archive.org/web/20061001041456/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-24_MARINE_PETROLEUM.PDF
File Name: 2003-04-24_MARINE_PETROLEUM.pdf
30 Slides

April 2003 SFR Workshop – April 24 Presentations: California Strategic Fuels Reserve – Stillwater Presentation
Online April 24, 2003
https://web.archive.org/web/20061001041955/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-24_SFR_WORKSHOP.PDF
File Name: 2003-04-24_SFR_WORKSHOP.pdf
47 Slides

April 2003 SFR Workshop – April 24 Presentations: Issues Related to the Strategic Fuels Reserve – Tony Finizza Presentation
Online April 24, 2003
https://web.archive.org/web/20061001041645/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-24_FINIZZA_TONY.PDF
File Name: 2003-04-24_FINIZZA_TONY.pdf
37 Slides

April 2003 SFR Workshop – April 25 Presentations: Selected Issues Related to Storage – Jeffrey Williams Presentation
Online April 25, 2003
https://web.archive.org/web/20060926032620/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-25_WILLIAMS.PPT
File Name: 2003-04-25_WILLIAMS.ppt
27 Slides

April 2003 SFR Workshop – April 25 Presentations: The Economic Context for the Strategic Fuels Reserve – Philip K. Verleger Presentation
Online April 25, 2003
https://web.archive.org/web/20060926032620/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-25_VERLEGER_PK.PPT
File Name: 2003-04-25_VERLEGER_PK.ppt
32 Slides

April 2003 SFR Workshop – April 25 Presentations: Comments on Strategic Fuels Reserve – Robert Hermes, Purvin & Gertz Presentation
Online April 25, 2003
https://web.archive.org/web/20060926032620/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-25_HERMES.PPT
File Name: 2003-04-25_HERMES.ppt
11 Slides

April 2003 SFR Workshop – April 25 Presentations: Strategic Fuels Reserve: The Right Strategy? – Tony Hoff, ST Services Presentation
Online April 25, 2003
https://web.archive.org/web/20060926032620/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24-25_presentations/2003-04-25_HOFF_TONY.PPT
File Name: 2003-04-25_HOFF_TONY.ppt
12 Slides

April 2003 SFR Workshop – April 24 Transcript
Online June 1, 2004
https://web.archive.org/web/20061001041739/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-24_TRANSCRIPT.PDF
File Name: 2003-04-24_TRANSCRIPT.pdf
340 Pages

April 2003 SFR Workshop – April 25 Transcript
Online June 1, 2004
https://web.archive.org/web/20061001042216/http://www.energy.ca.gov/strategic_reserve/documents/2003-04-25_TRANSCRIPT.PDF
File Name: 2003-04-25_TRANSCRIPT.pdf
282 Pages

Feasibility of a Strategic Fuels Reserve – Draft Committee Report
Publication Number P600-03-010D
July 2003
Online July 10, 2003
https://web.archive.org/web/20061001041634/http://www.energy.ca.gov/strategic_reserve/documents/2003-07-10_600-03-010D.PDF
File Name: 2003-07-10_600-03-010D.pdf
23 pages

Feasibility of a Strategic Fuels Reserve – Commission Report
Publication Number P600-03-013CR
July 2003
Online July 31, 2003
https://web.archive.org/web/20060926070356/http://www.energy.ca.gov/reports/2003-07-31_600-03-013.PDF
File Name: 2003-07-31_600-03-013.pdf
22 pages

WSPA
Catherine H. Reheis-Boyd
President and CEO

August 29, 2024

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

Uploaded to Docket

Preliminary WSPA Comments on Gasoline Supply Reliability Workshop [Docket #23-SB-02]

On behalf of the Western States Petroleum Association (WSPA), I am providing these initial comments on the California Energy Commission (CEC) and the Division of Petroleum Market Oversight's (DPMO) August 22, 2024, Senate Bill (SB) X1-2 (2023) gasoline supply reliability workshop. We are providing preliminary comments given the Governor's last-minute legislation (SB 950), proposed on August 27, that would allow the State to impose binding minimum gasoline supply inventory rules on industry.

At the August 22 workshop, DPMO staff stated that, "Governor Newsom has now proposed legislation that would give CEC this authority, and we are excited to support his proposal"[1] while simultaneously acknowledging that "we are still working to understand exactly what capacity we have available here in California."[2] The CEC then made it appear that industry had somehow helped shape the concepts, "…because industry really understands how to do this, these complex operations, and have been… doing this for decades to be able to kind of navigate the system" and "also recognizing industry, who are collaboratively working with us, and the ability to kind of do that."[3]

This is simply not true. The proposed legislation was not made available prior to its public release on August 27, and WSPA does not believe that industry was able to shape any such framework or the now pending SB 950 – upon which the authority to do so would be based. Rather, WSPA has repeatedly raised warnings that have gone unheeded. We hope the following information will help inform policymaking discussions in the State's attempt to micromanage California's gasoline inventory supplies – which **is a recipe to *raise everyday California fuel costs and potentially reduce fuel supplies to Arizona and Nevada, too – all while minimizing the existing safety-first priority***.

PROPOSALS COMPROMISE SAFE REFINERY TURNAROUNDS

The workshop proposal and SB 950 stray from industry's calls *to avoid compromising refinery safety at all costs*. Labor had raised similar concerns. Instead of fixing decades of poor policies that have driven supply down, these proposals hold industry's safety-first turnaround planning efforts hostage. SB 950 would give unlimited authority to an agency that lacks expertise in running a refinery, advised by a committee devoid of industry experts, to hold turnaround plans in response to price signals – not legally binding safety and compliance needs; this endangers workers and communities. There is nothing to prevent the CEC from interfering with any existing health and safety requirements, leaving refiners to manage profoundly conflicting regulations.

NO EVIDENCE SHOWN THAT MORE FUEL IN INVENTORY WOULD STOP PRICE SPIKES

- California's fuel supply chain already maintains substantial volumes of gasoline inventory. California has not come close to emptying its gasoline supplies; the lowest gasoline inventory recorded since 2011 was still over 425 million gallons (in 2023), representing over 12-days' worth of supply.
    - Mandatory stockpiles have been investigated by the CEC and shown to come with significant costs, which will likely and ultimately be borne by consumers.

[1] CEC August 22, 2024, Gasoline Supply Reliability Workshop at 46:29 mark: https://www.energy.ca.gov/event/workshop/2024-08/workshop-gasoline-supply-reliability
[2] CEC August 22, 2024, Gasoline Supply Reliability Workshop at 48:07 mark.
[3] CEC August 22, 2024, Gasoline Supply Reliability Workshop at 57:34 mark.

  - Minimum inventory levels would most likely create sustained gasoline price increases due to new tankage and working capital costs and would not reduce price spikes.
  - Gasoline that could be supplied to California, Arizona, and Nevada consumers might need to be kept off the market, creating shortages and inflating costs for drivers today.
- **Removes industry and labor voices from proposed Expert Advisory Committee.** Excluding CalOSHA and any recent industry consultants means the framework lacks any real-world expert advice and input.
- **Price volatility can happen regardless of how much gasoline is in inventory.** Massive additional storage cannot correct this problem due to permitting and operational cost constraints. What *could* help stabilize the imbalance is having sufficient local fuel manufacturing capacity, connectivity to other regional markets, and fewer policy restrictions on imports.
  - While having additional fuel inventories may be useful to address *energy security* concerns, it is not a *price-control* mechanism. Inventory safeguards against the possibility of running out of fuel until additional supplies arrive or local production resumes. The resupply market works because higher prices attract additional gasoline supplies to balance an undersupplied market.
  - Refiners may be forced to hold inventory back as they await State authorization.
  - Once the CEC establishes a "Days of Supply" threshold and mechanism to release inventory, market trading behavior may result to drive prices up in response to the lack of market liquidity.
  - No analysis has been done on whether a minimum inventory requirement may actually *decrease* domestic gasoline production given that available onsite storage is needed to efficiently balance blending, testing and certification, and marketing activities.
- **DPMO reference to international case studies is not representative of California's unique fuel market.** Any examples of policy successes in other regions do not necessarily account for California's unique and extraordinarily complex transportation fuel market.
  - California is a fuel island. This was acknowledged in the Transportation Fuels Assessment.[4]
    - California is geographically large and topographically complex
    - Neighboring state populations and economic centers are far from California's
    - There are few supply- or demand-side substitution opportunities
  - California has a unique regime of environmental policies
    - A minimum inventory requirement does not consider California's storage constraints
    - A minimum inventory requirement also ignores challenges with importing fuel from other regions, due to California's unique geography and existing policies (e.g., CARBOB blend requirements, Ocean Going At-Berth Regulation, disproportionate Federal Jones Act harms).
    - There are especially significant differences with Australia.[5] That nation – which depends on imports for *two-thirds* of their total production demand – provided approximately $1.8 billion in funding to keep their only two remaining refineries operational until 2027, provides funds for refinery upgrades, and makes certain production payments.
- **CEC and DPMO did not address unintended consequences of minimum inventories.** Further work must be done to determine if any such requirement is feasible in California.
  - What will be the costs to consumers and other unintended consequences?
  - Where is the transparency from CEC and DPMO on these economic costs?
  - Neither CEC nor DPMO appear to have any certainty to confirm that mandated thresholds will prevent price spikes in California's market as identified in the Transportation Fuels Assessment:

    "it may artificially create shortages in downstream markets"

    "[it] could increase average prices for refiners to maintain additional storage"

    "market equilibrium may likely emerge at a higher price level"

    "potential exists for the state to be criticized for requiring refiners to withhold fuel from the market"

[4] CEC Transportation Fuels Assessment Report: https://www.energy.ca.gov/publications/2024/transportation-fuels-assessment-policy-options-reliable-supply-affordable-and

[5] See refining section at https://www.eia.gov/international/analysis/country/AUS

- No analysis has been done on how refiners would store increased supply or be able to increase imports under the criteria pollutant summer CARBOB blend, Ocean Going At-Berth Regulation, and Federal Jones Act constraints.
- No consideration has been given to the likely competitive advantage provided by a minimum inventory requirement to foreign importers over domestic refiners, or how such an advantage could be alleviated.
- Likewise, there are other, non-refiner inventory holders in the State, yet no consideration has been given to requiring a minimum inventory across *all* inventory holders in the State.
- Maintenance cannot be determined based on economic interests alone, and under no circumstances should such interests prevail over or otherwise compromise safety or environmental needs – needs that are more appropriately understood and addressed by CalOSHA, industry, and labor.

It is especially concerning that important policy decisions would be made with minimal, if any, acknowledgement and ownership about potential cost impacts to end consumers. With no economic impact accountability – and lack of transparency at the CEC and DPMO– there is no line item to show how this proposal could increase consumer costs. The CEC and DPMO have the means to hide costs under refiners' margin data and continue to blame issues on industry. California's regulatory framework and logistical constraints already make it the most expensive refining environment in the nation. Even more regulation will only disincentivize investments and increase operating hurdles. This could lead to more refinery shutdowns, supply reductions, and even higher prices. This is only compounded when SB 950 would impose penalties of up to $1 million per day. This is not a sign of being collaborative with the industry that produces fuel California demands. It is wholly punitive – not to mention unlawful.

Sincerely,

Catherine H. Reheis-Boyd
President and CEO

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.

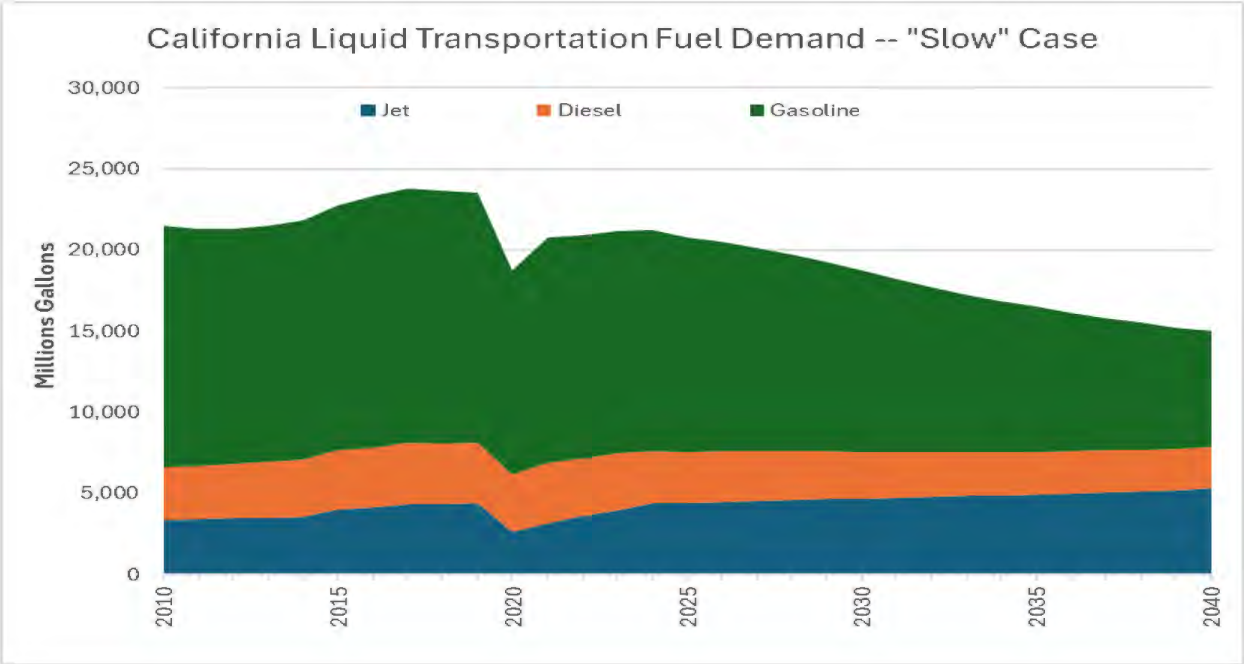
[3] Cal. Pub. Res. Code (PRC) § 25371(a)(2)

[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]

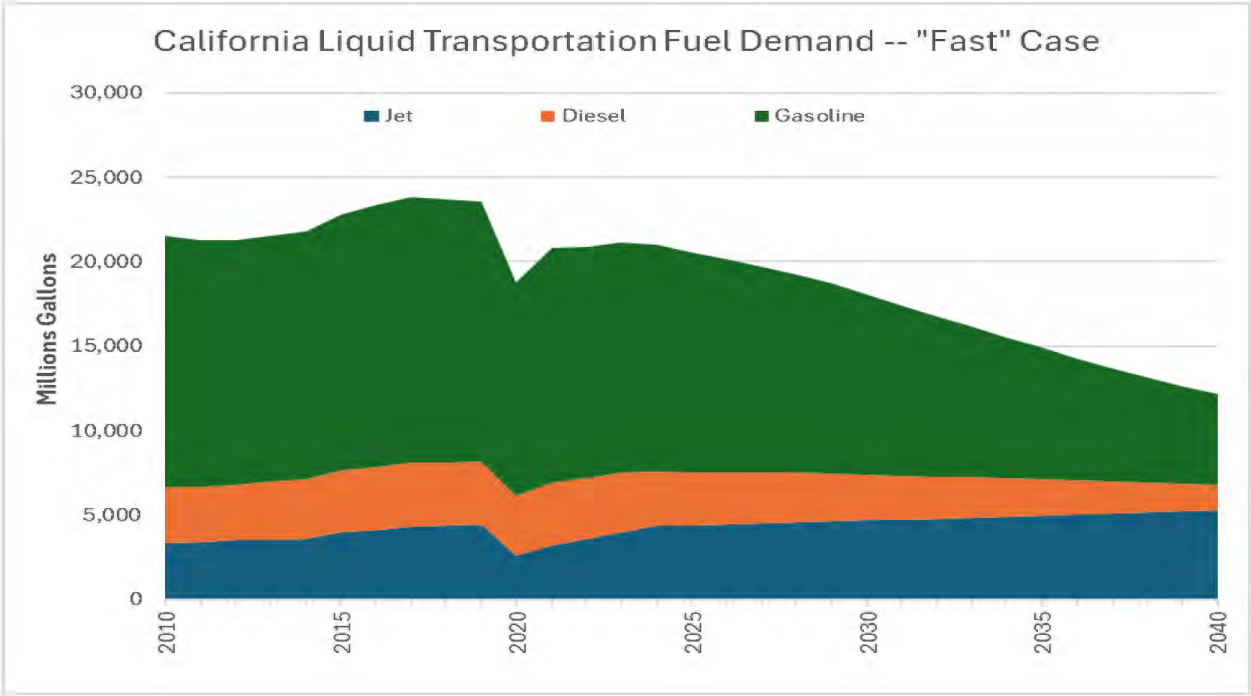
Figure 1 - CA Liquid Transportation Fuel Demand - "Slow Case"



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



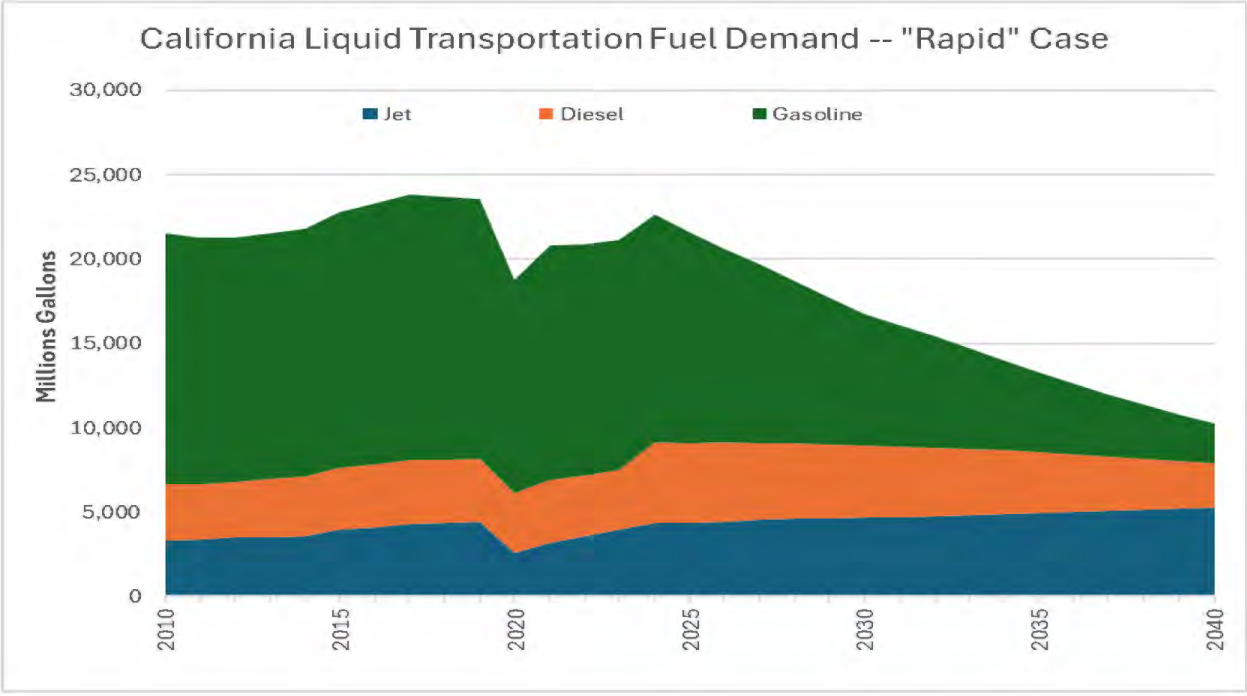


Figure 3 - "Rapid" = 2022 CARB Scoping Plan

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.

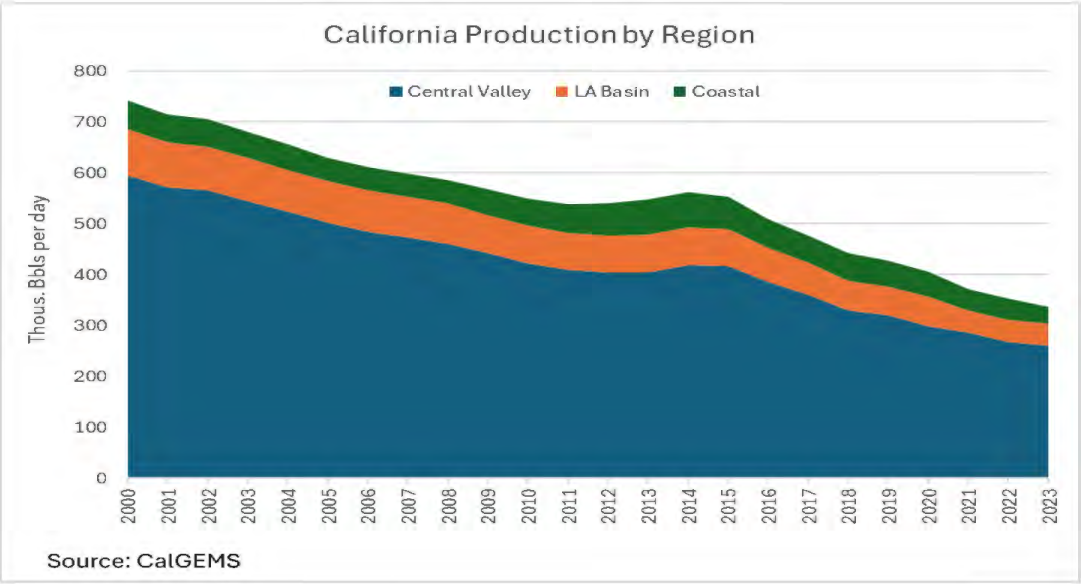
What is missing from the current Draft?

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]

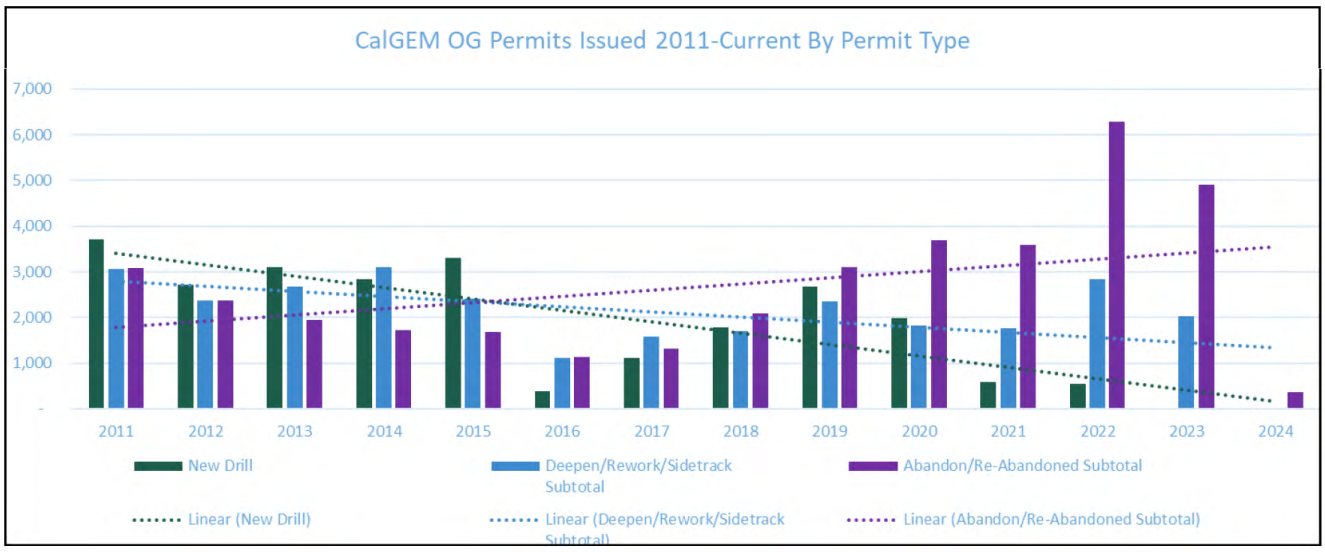
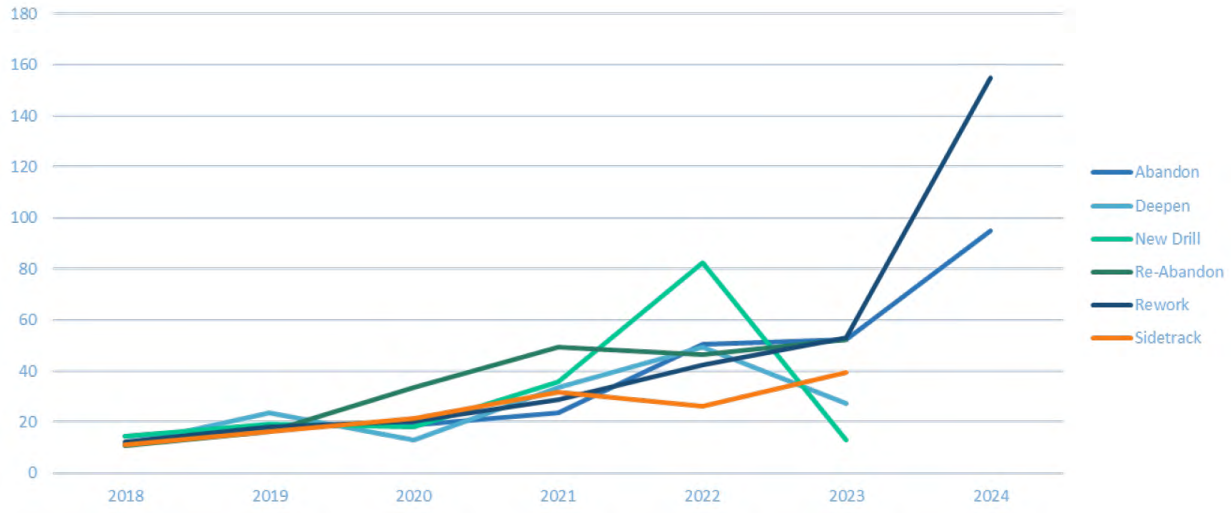


Figure 5 shows the decline in production-related permits approved since 2011. Historically, the agency has approved an average of 8,000-10,000 permits each year. Since 2019, the number of production-related permits has dropped to insignificance. The shift from production-related permitting to plugging 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.

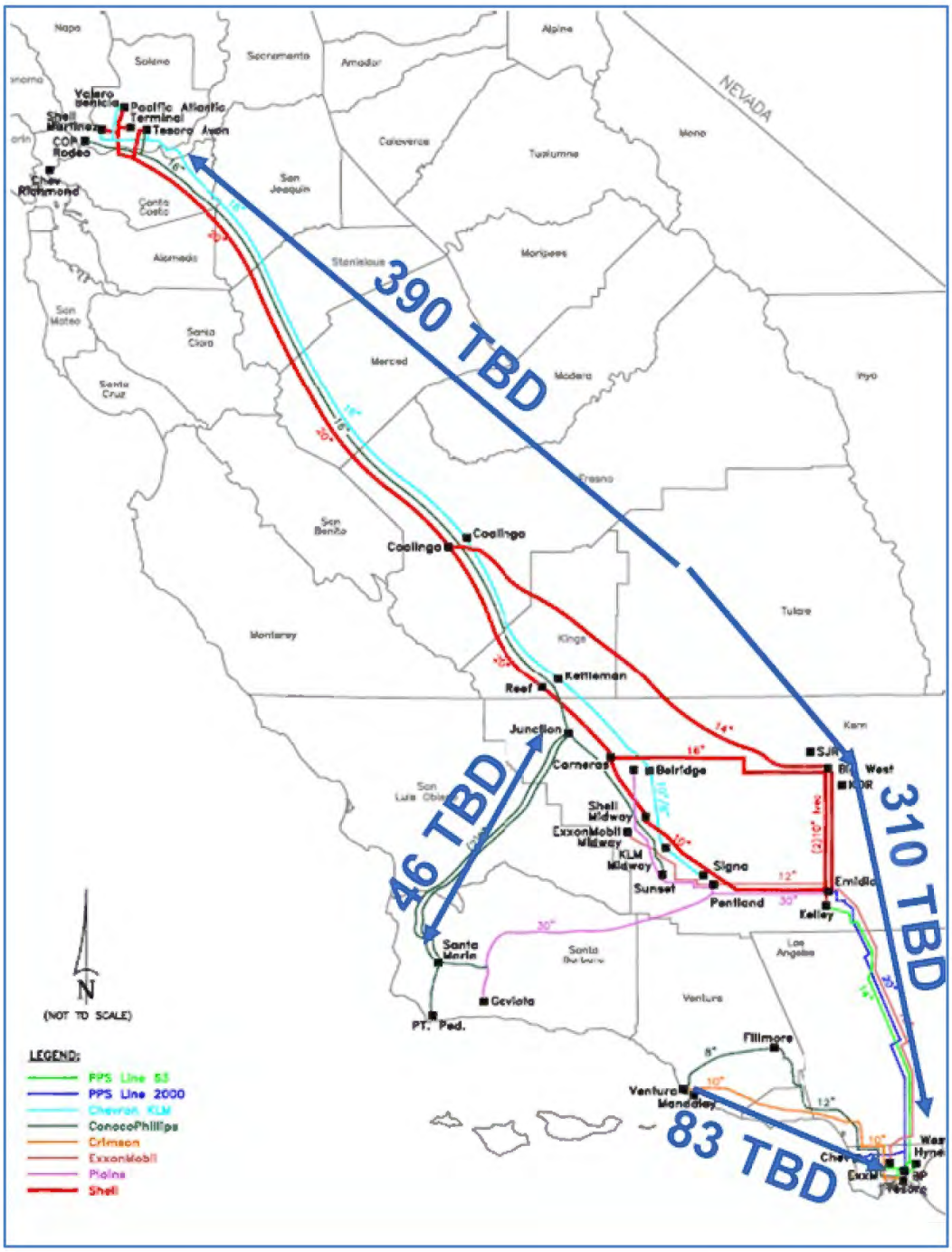
Pipeline entities play a key role in the supply chain that is critical to moving crude oil from domestic sources to the two regions (Los Angeles basin and San Francisco Bay Area) where domestic crude oil supply is essential to refinery performance. Were the CEC and/or CARB to have consulted the operators 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

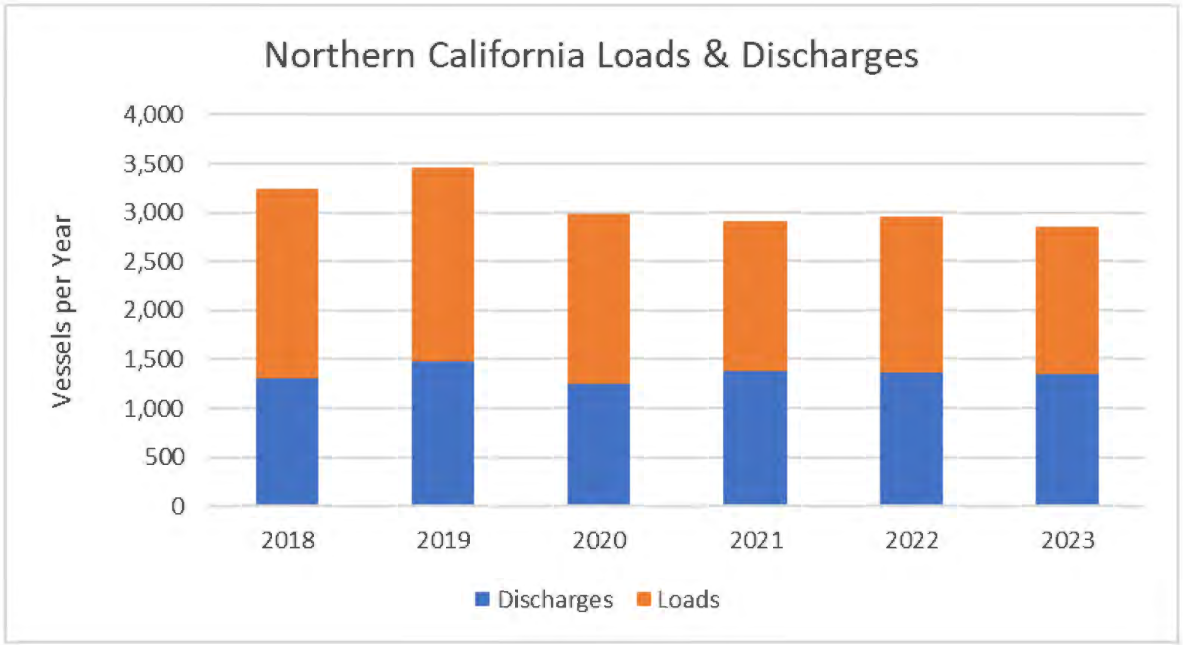
Vessel Traffic

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)



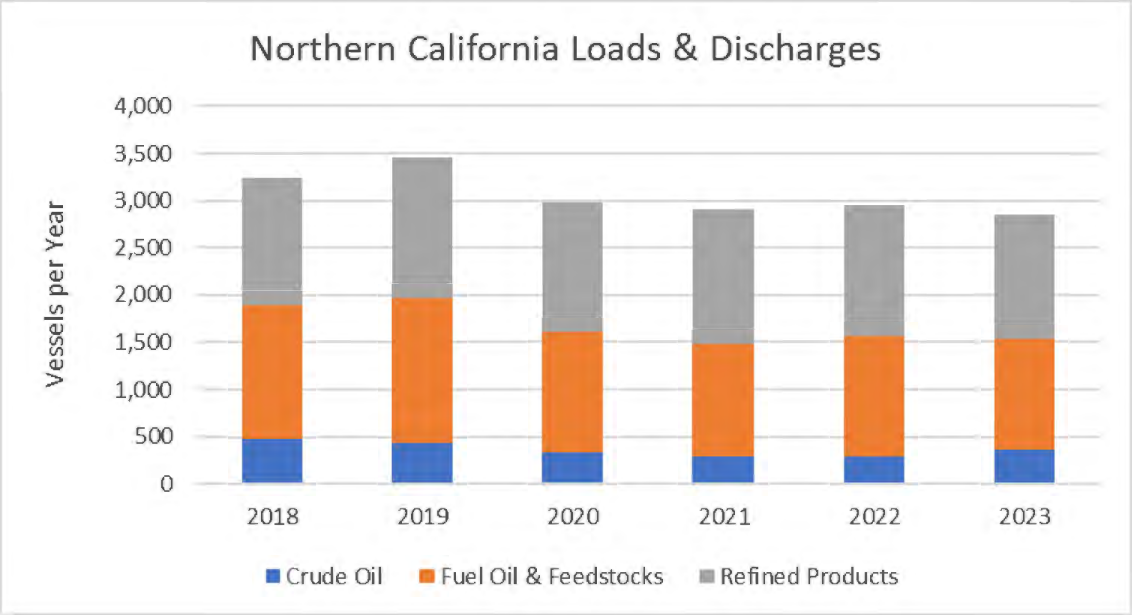
These data can also show what materials are moving across the docks. Figure 9 shows vessel movements in the North (i.e., San Francisco Bay Area) for crude oil, fuel oil and feedstocks, and refined products that consist of traditional transportation fuels (gasoline, diesel. and jet fuel) and

[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.

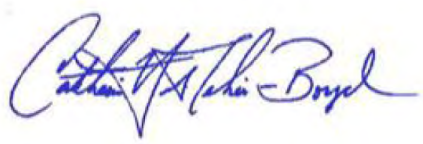
Conclusion

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

U.S. Energy Information Administration

Petroleum & Other Liquids

Containing storage capacity data for crude oil, petroleum products, and selected biofuels. The report includes tables detailing working and net available shell storage capacity by type of facility, product, and Petroleum Administration for Defense District (PAD District). Net available shell storage capacity is broken down further to show the percent for exclusive use by facility operators and the percent leased to others. Crude oil storage capacity data are also provided for Cushing, Oklahoma, an important crude oil market center. Data through 2019 were released twice each year near the end of May (data for March 31) and near the end of November (data for September 30). Beginning with 2020, only data for March will be collected and released near the end of May.

Tables

Working and Net Available Shell Storage Capacity as of March 31, 2024

containing storage capacity data for crude oil, petroleum products, and selected biofuels. The report includes tables detailing working and net available shell storage capacity by type of facility, product, and Petroleum Administration for Defense District (PAD District). Net available shell storage capacity is broken down further to show the percent for exclusive use by facility operators and the percent leased to others. Crude oil storage capacity data are also provided for Cushing, Oklahoma, an important crude oil market center. Data are released

In addition to storage capacity, the report includes stocks of crude oil, petroleum products, and selected biofuels. Storage capacity utilization rates are calculated as stocks divided by storage capacity. Storage capacity utilization

Crude oil tank farm storage capacity includes capacity of tanks and underground caverns but excludes pipeline fill capacity. Stocks reported monthly are a combination of barrels held in tank farms and pipeline fill. March reports include stocks held in tank farms without pipeline fill. Stocks held in tank farms are used for calculating the tank

Table 1. Working Storage Capacity by PAD District as of March 31, 2024

(Thousand Barrels)

Commodity	PAD Districts								U.S. Total	Ending Stocks	Utilization Rate[1]
	1				2	3	4	5			
	Total	New England	Central Atlantic	Lower Atlantic							
Refineries											
Crude Oil[2]	9,476				17,768	72,206	3,997	31,678	135,125	88,593	66%
Fuel Ethanol	285				180	1,832	75	202	2,574	1,839	71%
Hydrocarbon Gas Liquids[3]	757				8,662	13,836	469	1,710	25,434	10,644	42%
Propane/Propylene (dedicated)[4]	311				2,988	2,956	56	162	6,473	2,808	NA
Motor Gasoline (incl. Motor Gasoline Blending Components)	5,667				27,381	52,595	6,821	24,743	117,207	66,889	57%
Distillate Fuel Oil	3,097				12,344	27,665	3,288	9,090	55,484	28,711	52%
Kerosene and Kerosene-type Jet Fuel	985				4,124	11,241	708	6,973	24,031	13,152	55%
Residual Fuel Oil	2,194				2,025	10,662	430	5,377	20,688	8,203	40%
Asphalt and Road Oil	2,109				8,638	3,986	1,746	1,463	17,942	8,945	50%
All Other[5]	8,704				29,646	86,892	5,844	32,642	163,728	96,555	59%
Total[6]	33,274				110,768	280,915	23,378	113,878	562,213	323,531	58%
Bulk Terminals											
Fuel Ethanol[7]	12,679	1,633	5,885	5,161	5,472	5,624	306	3,804	27,885	16,633	60%
Natural Gas Liquids[8]	15,075	1,084	10,898	3,093	64,332	433,394	4,788	7,062	524,651	108,679	21%
Propane, Fractionated and Ready for Sale[9]	10,269	1,084	6,754	2,431	26,839	98,820	1,753	3,284	140,965	27,607	20%
Motor Gasoline (incl. Motor Gasoline Blending Components)	83,976	8,144	45,326	30,506	54,519	72,997	5,993	24,181	241,666	124,223	51%
Distillate Fuel Oil	65,730	15,580	35,655	14,495	33,927	37,483	3,506	11,837	152,483	63,833	42%
Kerosene and Kerosene-type Jet Fuel	14,706	1,852	7,177	5,677	6,574	8,561	575	11,619	42,035	18,847	45%
Residual Fuel Oil	13,556	681	10,150	2,725	835	30,942	-	3,855	49,188	21,663	44%
Asphalt and Road Oil	13,676	2,678	4,410	6,588	15,792	6,810	2,416	4,077	42,771	24,318	57%
All Other[10]	8,219	1,143	4,354	2,722	4,419	28,414	3	9,370	50,425	20,542	41%
Total	227,617	32,795	123,855	70,967	185,870	624,225	17,587	75,805	1,131,104	398,738	35%
Crude Oil Tank Farms (excludes pipeline fill)[2]											
Crude Oil (Excluding SPR)	6,368				146,954	348,573	22,786	23,942	548,623	218,659	40%
Cushing, Oklahoma	--				78,410	--	--	--	78,410	30,892	39%
Strategic Petroleum Reserve	-				-	713,500	-	-	713,500	363,324	51%

Not Available

[1] Utilization rate for refineries and bulk terminals equals stocks divided by storage capacity. Utilization rates for crude tank farms equals stocks divided by storage capacity of tanks and underground caverns. It does not include pipeline fill.

[2] See https://www.eia.gov/petroleum/storagecapacity/crudeoilstorage.xlsx for additional information on crude oil stocks and storage capacity.

[3] Includes storage capacity for ethane, ethylene, propane, propylene, normal butane, normal butylene, isobutane, isobutylene, and natural gasoline stored separately or in mixes.

[4] Dedicated Propane/Propylene storage capacity includes storage capacity for propane and propylene stored separately. It excludes capacity for storing propane and propylene as a component of mixed hydrocarbon gas liquids. Ending stocks are provided for comparison, but storage capacity utilization is not calculated because ending stocks include propane and propylene stored in mixes as well as in dedicated storage.

[5] All Other storage capacity at refineries includes biofuels (except fuel ethanol), other hydrocarbons, unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, petrochemical feedstocks, wax, and miscellaneous products.

[6] Excludes petroleum coke.

[7] Excludes storage capacity and ending stocks at fuel ethanol plants.

[8] Includes storage capacity for ethane, propane, normal butane, isobutane, and natural gasoline stored separately or in mixes.

[9] Propane, Fractionated and Ready for Sale storage capacity includes storage capacity for fractionated propane stored separately. It excludes capacity for storing propane as a component of mixed hydrocarbon gas liquids.

[10] All Other storage capacity at terminals includes biofuels (except fuel ethanol), unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, and miscellaneous products.

Source: Energy Information Administration, Form EIA-810 "Monthly Refinery Report", Form EIA-813 "Monthly Crude Oil Report", Form EIA-815 "Monthly Bulk Terminal and Blender Report"

Table 2. Net Available Shell Storage Capacity by PAD District as of March 31, 2024

(Thousand Barrels)

Commodity	PAD Districts																U.S. Total	
	1								2		3		4		5			
	Total		New England		Central Atlantic		Lower Atlantic											
	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]	In Operation	Temporarily Out of Service[1]
Refineries																		
Crude Oil[2]	11,527	1,049							22,741	372	86,327	914	4,561	66	36,309	436	161,465	2,837
Fuel Ethanol	341	-							218	-	2,176	-	89	-	227	-	3,051	-
Hydrocarbon Gas Liquids[3]	855	24							9,801	80	17,671	1,139	504	5	1,887	-	30,718	1,248
Propane/Propylene (dedicated)[4]	347	-							3,457	12	3,930	-	58	2	171	-	7,963	14
Motor Gasoline (incl. Motor Gasoline Blending Components)	6,331	2,295							32,979	394	63,134	627	7,859	97	27,907	167	138,210	3,580
Distillate Fuel Oil	4,488	192							13,911	295	31,989	599	3,588	39	10,130	272	64,106	1,397
Kerosene and Kerosene-type Jet Fuel	1,067	85							4,766	196	12,843	398	789	-	7,812	184	27,277	863
Residual Fuel Oil	2,665	-							2,488	-	12,149	309	475	6	5,999	-	23,776	315
Asphalt and Road Oil	2,392	-							9,956	621	4,745	34	1,878	139	1,569	5	20,540	799
All Other[5]	10,119	859							34,515	958	104,003	2,562	6,720	428	37,184	1,849	192,541	6,656
Total[6]	39,785	4,504							131,375	2,916	335,037	6,582	26,463	780	129,024	2,913	661,684	17,695
Bulk Terminals																		
Fuel Ethanol[7]	14,555	63	1,882	-	6,637	54	6,036	9	6,771	14	6,379	46	386	3	4,451	2	32,542	128
Natural Gas Liquids[8]	15,889	12	1,228	-	11,310	2	3,351	10	74,022	2,821	482,080	1,725	5,216	-	7,990	-	585,197	4,558
Propane, Fractionated and Ready for Sale[9]	11,162	-	1,228	-	7,293	-	2,641	-	30,410	-	111,896	-	1,906	-	3,677	-	159,051	-
Motor Gasoline (incl. Motor Gasoline Blending Components)	95,021	2,095	9,220	-	50,360	910	35,441	1,185	64,321	191	86,120	307	7,072	-	28,764	154	281,298	2,747
Distillate Fuel Oil	72,068	2,590	16,775	1,638	38,914	156	16,379	796	38,721	370	42,941	476	4,025	-	13,521	316	171,276	3,752
Kerosene and Kerosene-type Jet Fuel	16,191	146	2,022	2	7,830	71	6,339	73	7,558	-	9,994	-	681	-	12,836	12	47,260	158
Residual Fuel Oil	14,532	571	741	-	10,614	571	3,177	-	905	-	32,586	111	-	-	4,831	-	52,854	682
Asphalt and Road Oil	14,780	152	2,912	30	4,632	82	7,236	40	16,691	1	7,496	20	2,612	-	4,350	-	45,929	173
All Other[10]	9,299	25	1,203	-	5,124	19	2,972	6	4,864	12	30,958	1,777	3	-	10,547	6	55,671	1,820
Total	252,335	5,654	35,983	1,670	135,421	1,865	80,931	2,119	213,853	3,409	698,554	4,462	19,995	3	87,290	490	1,272,027	14,018
Crude Oil Tank Farms (excludes pipeline fill)[2]																		
Crude Oil (Excluding SPR)	7,852	706							181,969	8,675	406,448	2,966	28,865	998	27,993	768	653,127	14,113
Cushing, Oklahoma	--	--							94,438	3,304	--	--	--	--	--	--	94,438	3,304
Strategic Petroleum Reserve	-	-							-	-	713,500	-	-	-	-	-	713,500	-

[1] Tanks and caverns temporarily out of service are those that were not capable of being used to hold stocks on the report date, but could be placed in operation within 90 days of the report date after maintenance or repair.

[2] See https://www.eia.gov/petroleum/storagecapacity/crudeoilstorage.xlsx for additional information on crude oil stocks and storage capacity.

[3] Includes storage capacity for ethane, ethylene, propane, propylene, normal butane, butylene, isobutane, isobutylene, and natural gasoline stored separately or in mixes.

[4] Dedicated Propane/Propylene storage capacity includes storage capacity for propane and propylene stored separately. It excludes the propane component of mixed hydrocarbon gas liquids storage.

[5] All Other storage capacity at refineries includes biofuels (except fuel ethanol), other hydrocarbons, unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, petrochemical feedstocks, wax and miscellaneous products.

[6] Excludes petroleum coke.

[7] Excludes storage capacity of fuel ethanol plants.

[8] Includes storage capacity for ethane, propane, normal butane, isobutane, and natural gasoline stored separately or in mixes.

[9] Propane, Fractionated and Ready for Sale storage capacity includes storage capacity for fractionated propane stored separately. It excludes the propane component of mixed hydrocarbon gas liquids storage.

[10] All Other storage capacity at terminals includes biofuels (except fuel ethanol), unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, and miscellaneous products.

Source: Energy Information Administration, Form EIA-810 "Monthly Refinery Report", Form EIA-813 "Monthly Crude Oil Report", Form EIA-815 "Monthly Bulk Terminal and Blender Report"

EIA/Working and Net Available Shell Storage Capacity as of March 31, 2024

Table 3. Net Available Shell Storage Capacity of Terminals and Tank Farms as of March 31, 2024

(Thousand Barrels, Except Where Noted)

Commodity	PAD Districts								U.S. Total
	1				2	3	4	5	
	Total	New England	Central Atlantic	Lower Atlantic					
Crude Oil (Excluding SPR)									
Capacity In Operation	7,852				181,969	406,448	28,865	27,993	653,127
Percent Exclusive Use[2]	90%		Not Available		48%	51%	77%	77%	53%
Percent Leased to Others	10%				52%	49%	23%	23%	47%
Cushing, Oklahoma									
Capacity In Operation	--				94,438	--	--	--	94,438
Percent Exclusive Use[2]	--		Not Available		18%	--	--	--	18%
Percent Leased to Others	--				82%	--	--	--	82%
Fuel Ethanol									
Capacity In Operation	14,555	1,882	6,637	6,036	6,771	6,379	386	4,451	32,542
Percent Exclusive Use[2]	55%	80%	62%	39%	47%	42%	78%	51%	50%
Percent Leased to Others	45%	20%	38%	61%	53%	58%	22%	49%	50%
Natural Gas Liquids[3]									
Capacity In Operation	15,889	1,228	11,310	3,351	74,022	482,080	5,216	7,990	585,197
Percent Exclusive Use[2]	76%	100%	71%	83%	25%	25%	1%	64%	27%
Percent Leased to Others	24%	0%	29%	17%	75%	75%	99%	36%	73%
Propane, Fractionated and Ready for Sale[4]									
Capacity In Operation	11,162	1,228	7,293	2,641	30,410	111,896	1,906	3,677	159,051
Percent Exclusive Use[2]	80%	100%	76%	80%	28%	26%	0%	57%	31%
Percent Leased to Others	20%	0%	24%	20%	72%	74%	100%	43%	69%
Motor Gasoline (incl. Motor Gasoline Blending Components)									
Capacity In Operation	95,021	9,220	50,360	35,441	64,321	86,120	7,072	28,764	281,298
Percent Exclusive Use[2]	47%	88%	41%	45%	67%	26%	52%	44%	45%
Percent Leased to Others	53%	12%	59%	55%	33%	74%	48%	56%	55%
Distillate Fuel Oil									
Capacity In Operation	72,068	16,775	38,914	16,379	38,721	42,941	4,025	13,521	171,276
Percent Exclusive Use[2]	57%	74%	57%	39%	65%	28%	61%	43%	50%
Percent Leased to Others	43%	26%	43%	61%	35%	72%	39%	57%	50%
Kerosene and Kerosene-type Jet Fuel									
Capacity In Operation	16,191	2,022	7,830	6,339	7,558	9,994	681	12,836	47,260
Percent Exclusive Use[2]	46%	51%	52%	37%	58%	23%	31%	17%	35%
Percent Leased to Others	54%	49%	48%	63%	42%	77%	69%	83%	65%
Residual Fuel Oil									
Capacity In Operation	14,532	741	10,614	3,177	905	32,586	-	4,831	52,854
Percent Exclusive Use[2]	16%	100%	15%	1%	35%	6%	-	10%	10%
Percent Leased to Others	84%	0%	85%	99%	65%	94%	-	90%	90%
Asphalt and Road Oil									
Capacity In Operation	14,780	2,912	4,632	7,236	16,691	7,496	2,612	4,350	45,929
Percent Exclusive Use[2]	60%	84%	48%	58%	74%	53%	61%	85%	66%
Percent Leased to Others	40%	16%	52%	42%	26%	47%	39%	15%	34%
All Other[5]									
Capacity In Operation	9,299	1,203	5,124	2,972	4,864	30,958	3	10,547	55,671
Percent Exclusive Use[2]	37%	37%	47%	18%	38%	12%	33%	25%	21%
Percent Leased to Others	63%	63%	53%	82%	62%	88%	67%	75%	79%
Total									
Capacity In Operation	260,187				395,822	1,105,002	48,860	115,283	1,925,154
Percent Exclusive Use[2]	52%		Not Available		49%	34%	62%	49%	41%
Percent Leased to Others	48%				51%	66%	38%	51%	59%

[1] Includes storage capacity of terminals and tank farms. Excludes storage capacity of refineries, fuel ethanol plants, and pipelines.

[2] Percent exclusive use is that portion of capacity in operation that is for the exclusive use of the operating company.

[3] Includes storage capacity for ethane, propane, normal butane, isobutane, and natural gasoline stored separately or in mixes.

[4] Propane, Fractionated and Ready for Sale storage capacity includes storage capacity for fractionated propane stored separately. It excludes the propane component of mixed hydrocarbon gas liquids storage.

[5] All Other storage capacity at terminals includes biofuels (except fuel ethanol), unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, and miscellaneous products.

Source: Energy Information Administration, Form EIA-813 "Monthly Crude Oil Report", Form EIA-815 "Monthly Bulk Terminal and Blender Report"

MINIMUM GASOLINE INVENTORY REQUIREMENTS

Prepared for
Western States Petroleum Association

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Assignment

1. My understanding is that the California State Legislature will be considering legislation that would require petroleum refiners to maintain minimum inventories of gasoline. The Western States Petroleum Association (WSPA) has asked me to describe the economics of inventory decisions, to identify possible consequences of imposing minimum gasoline inventory requirements, and to set out the economic analysis that would be needed to assess the costs and potential benefits of such requirements.

The Gasoline Supply Chain

2. It will be helpful to have the gasoline supply chain in mind as we describe the functions and costs of petroleum inventories in the production and consumption of gasoline.

3. The gasoline supply chain starts with the extraction of crude oil from on or off-shore oil fields.[1] Crude oil is processed and refined to produce a slate of petroleum products, one of which is

[1] This description of the supply chain omits the exploration, discovery, and assessment of oil fields that precedes the drilling and completion of oil wells and the extraction of crude oil.

gasoline. Gasoline blendstocks are combined with ethanol at the "rack", where finished gasoline is transferred to distributors for sale to service stations and other retailers. The production of crude oil, the refining of crude oil to produce gasoline and other petroleum products, and the distribution and retailing of gasoline are interconnected by transportation modes that may include marine (tanker or barge) and/or rail as well as pipeline and motor freight (tanker truck). Crude oil and petroleum-product storage facilities and inventories are located at various points along the supply chain.

4. The preceding is a functional description of the supply chain. The commercial organization of these activities includes integrated petroleum companies that perform multiple functions as well as independent firms that perform a single function. Some pipelines operate as common carriers whereas others are operated solely for the benefit of the owner. Similarly, some storage tanks are available for lease by merchant storage companies whereas others are not.

5. California and the other western states of Washington, Oregon, Nevada and Arizona are often described as an "economic island" in the U.S. petroleum markets because they are not connected via pipeline to the U.S. Gulf Coast or other major production centers in the U.S. California is further separated from other U.S. gasoline markets in that the gasoline sold in California must meet unique specifications—more stringent specifications than those required in the other states. At present there are nine refineries within California that produce gasoline blendstocks that meet California gasoline standards (CARBOB).[2] This number has declined by two in the last four years with the conversions of the Marathon Martinez and Phillips 66 Rodeo facilities to production of renewable diesel fuels. The demand for gasoline in California now exceeds the production capacity of refineries located in California.

6. As a consequence of the supply-demand imbalance in California, marginal supplies of California-specification gasoline must be imported from out-of-state refiners or from refiners located overseas—in East Asia, for example. California is not connected via pipeline to out-of-state refiners, so imports must be transported over the water. The increasing reliance on remote refineries to satisfy the demand for California gasoline results in higher gasoline costs and longer delivery lead times due to the additional layer of transportation.[3] It also exposes California gasoline consumers to increased uncertainty about gasoline costs, since marine transportation rates are very volatile and because (in the case of gasoline imported from overseas) of the exposure to foreign exchange and other country risks. Prices in competitive

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[2] *Draft Transportation Fuels Assessment*, CEC, May 2024.

[3] Marine cargoes from other states are subject to the Jones Act. Cargos from overseas take three to six weeks to arrive in California, according to the *Draft Transportation Fuels Assessment*.

markets are determined by the cost of marginal supplies, so the higher and more volatile costs of imported gasoline imply higher and more volatile prices for California gasoline consumers.

7. An important link in the gasoline supply chain is hidden in the preceding description of the supply chain: California port facilities. Most of the crude oil consumed by California petroleum refiners—approximately 75 percent—is imported from out-of-state suppliers via marine ("over the water") transportation. Furthermore, although California refineries produce most of the gasoline consumed in California—approximately 90 percent—California has been importing increasing amounts of gasoline because of the aforementioned supply-demand imbalance: in-state refiners no longer have sufficient production capacity to satisfy demand. Thus the supply of refinery feedstock (crude oil) and increasingly the supply of gasoline blendstocks rely on California port facilities. As a result, the supply of gasoline that meets California specifications is also subject to physical and regulatory constraints at California ports.

8. At the end of the gasoline supply chain are owners and operators of motor vehicles, used for personal, commercial, industrial or other transportation purposes. Retail gasoline prices reflect the cost of crude oil plus the costs of transportation, storage, refining, and distribution plus several layers of federal, state, and local taxes and other levies. End users, too, hold inventories of gasoline—in motor vehicle fuel tanks.

Inventory Economics

9. *Why firms and households hold inventories*. The economics literature identifies five motives for holding inventories (also referred to as "stocks") of commodities.[4] These motives are the economic functions that inventories can serve. They are, in qualitative terms, the potential benefits of holding inventories.

   a. *To enable efficient order sizes*. Most commodities cannot be shipped and received continuously—they are delivered in discrete quantities. As a result, buyers must have sufficient storage capacity to accept agreed shipment sizes. Once in storage at the receiving end, inventories can be drawn down as needed. Efficient inventory sizes reflect tradeoffs between the purchase price of the commodity, the time and expense of arranging and placing orders, the costs to build and maintain storage facilities, and the carrying costs of commodities in inventory. For example, it is sometimes the case that the unit purchase price of a commodity is lower for a large quantity than it is for a small quantity, providing

[4] Ruth P. Mack, *Information, Expectations, and Inventory Fluctuation* (New York: Columbia University Press, 1967) is a comprehensive study of business inventories.

an incentive to purchase more rather than less in each order. Lower frequency purchases may save money on administrative costs too. But large order quantities require greater storage capacity, higher average inventory levels, and longer holding periods. The efficient inventory size reflects a tradeoff between these costs.

b. *To support time-consuming production processes*. Transforming raw materials into products typically is a time-consuming process. Transporting raw materials and finished or intermediate products is time consuming too. Moving products or raw materials in and out of storage can likewise take substantial time. In-process inventory is therefore an unavoidable aspect of many industrial businesses.

c. *To smooth predictable variations in demand and/or supply*. Many industries are characterized by systematic temporal (for example, seasonal) variations in supply or demand. Agriculture is one example. Most agricultural commodities entail an annual cycle of planting, growth, and harvest, so inventories peak at the end of the harvest and decline until the next harvest begins. Natural gas is another example. The demand for natural gas exhibits two peaks each year, one in the winter and another in the summer, the first due to space heating loads and the second to air conditioning loads. Gasoline is still another example. Gasoline consumption in the U.S. peaks during the summer months.

d. *To serve as a buffer against unexpected changes in supply and/or demand*. Carrying extra inventory over and above the amounts needed to sustain production and consumption under normal conditions can provide insurance for the possibility of supply shortfalls or spikes in demand. This could be an unplanned interruption of manufacturing due to severe weather, as just one example.

e. *To arbitrage intertemporal price spreads*. If the forward market price of a commodity exceeds the spot price by more than enough to cover the physical and financial carrying costs, storage owners can earn an arbitrage profit by simultaneously buying the commodity in the spot market, selling it in the forward market, and holding it in storage until the forward delivery date. In the absence of a forward market for the commodity, storage owners can buy the commodity spot and hold it in storage to act on a view that future spot prices will increase by more than enough to offset the costs of storage.

10. *Inventory holding costs*. It is costly to hold commodities in inventory. Storage costs, which include physical and financial components, can be classified as follows.

a. Working capital: Purchasing and holding commodities in inventory requires and ties up working capital. It therefore entails an opportunity cost of capital for the commodities held in inventory. In most cases the cost of capital, when expressed as a rate of return (usually a percent return per annum), is something in excess of the interest rate because

commodity prices are volatile, and thus expose inventory holders to the risk of capital gains and losses.

b. Facility capital costs: Storage facilities can sometimes be leased from a third party, in which case the capital investment required to build or acquire the facilities is observed as a rental rate. In many and perhaps most cases, however, the inventory holder must make a capital investment to build or purchase storage capacity. This capital investment can be expressed as an equivalent rental rate using standard methods of financial analysis.

c. Operating and maintenance costs: Firms incur handling costs when they add or withdraw stock from inventory. Firms also incur costs to maintain storage facilities.

d. Other costs: Holding inventories can entail other costs, such as insurance and, if inventories are held for a long time, deterioration or spoilage of the stored commodity.

11. *What determines the size of inventories?* The costs of holding inventories of commodities oppose the potential benefits of having the commodities in process or on hand. Costs and benefits vary as a function of inventory size. Marginal costs of inventories usually increase with inventory size and marginal benefits of inventory decline with inventory size. Inventory sizes reflect management assessments and tradeoffs of anticipated costs and benefits.

Ambiguity in Inventory Data

12. A single storage facility can hold inventories that serve multiple business purposes. It could, for example, hold stocks intended to smooth seasonal variations in demand as well as stocks intended to serve as a buffer for supply shocks. In other words, more than one motive could be at play for some inventory holders.

13. The economics of storage do not dictate the accounting for petroleum inventories—how petroleum inventories are measured and reported.[5] In some data sources, reported petroleum inventories include quantities that are not available for draw down to supplement current production. The line fill in petroleum product pipelines is a good example. So are quantities

[5] The term "inventory" is quite general, and many types of inventory are not ordinarily thought of as such. See chapter 15 of Richard B. Chase and Nicholas J. Aquilano, *Production and Operations Management* (Homewood, Illinois: Richard D. Irwin, Inc., 1981) for a discussion of this point. For example, petroleum exploration and production companies hold inventories of crude oil in the ground, but in the vernacular of the petroleum industry those are called "reserves". In-the-ground crude oil inventories are accounted for and reported as reserves, not inventories, under Generally Accepted Accounting Principles.

of petroleum products in storage tank bottoms ("tank heels")—quantities that constitute the minimum volume in storage tanks needed to sustain normal business operation. In short, reported inventories are not broken out according to the business functions they are intended to serve—how much is in process versus how much is held to enable efficient order sizes versus how much to smooth seasonal demand variation, and so on. This—the fraction of reported inventories that is actually available to serve as a buffer for supply disruptions—would be important to understand if aiming to manage private-sector inventories indirectly, via regulation.

Cost-Benefit Analysis

14. The preceding exposition identifies the costs and benefits of inventories in qualitative terms. In considering legislation to establish minimum gasoline-inventory requirements, the California Legislature will presumably choose to follow the instructions it gave to the California Energy Commission in SB X1-2 with regard to implementation of a maximum gross gasoline refining margin ("MGGRM"). That is, that California will not enact minimum-inventory requirements unless it finds that the benefits of the requirements outweigh the costs. What follows is a sketch of the analysis that would be needed to assess the costs and benefits in quantitative terms.

15. To start, the terms of the minimum gasoline-inventory requirements would need to be specified in enough detail that it is possible for a team of experts in economics, operations research, and the petroleum industry to assess the costs and potential benefits:

    a. What business entities would be subject to minimum gasoline inventory requirements? Refiners only? What about other companies in the California gasoline supply chain?

    b. How would the minimum gasoline inventory levels be determined for the target companies and what measure of inventories would be used?

    c. Would penalties be imposed for failure to satisfy minimum inventory requirements? If so, how would the penalties be structured?

    d. How much lead time would target companies have to build up inventories to satisfy the minimum inventory requirements—to acquire the storage capacity and purchase the incremental gasoline?

    e. Under what conditions would target companies be allowed to draw down inventories below the minimum levels without incurring penalties? Would drawdown conditions be specified in terms of independently observable variables like market prices or instead

determined by decree? Would the size of drawdowns be regulated too? What would be the industry's obligation to rebuild inventories following a drawdown event?

16. My understanding is that the goal of the inventory policy under consideration by the Legislature is to increase the size of California gasoline inventories. It would seek to do this not by creating a State-owned and managed petroleum reserve, but by imposing minimum gasoline-inventory requirements on California petroleum refiners. So far as I know, the terms of the minimum-inventory requirements have not yet been specified.

17. Petroleum market participants—refiners, distributors, storage companies, energy traders, and others—evidently do not expect that investments in larger gasoline inventories would be profitable. That is, they do not expect that the marginal benefits would exceed the marginal costs. If they thought investments in additional inventories would be profitable, they would expand inventories on their own initiative. Their decisions not to do so imply that requiring refiners to hold additional gasoline inventories would impose on them *net costs*. On the other hand, the fact that the California Legislature is contemplating a minimum gasoline-inventory requirement suggests that some legislators think additional gasoline inventories would create positive externalities—that is, *net external benefits*—that would offset the net private costs. Identifying the source of these external benefits would be critical in a cost-benefit analysis of minimum-inventory requirements.

18. A comprehensive cost-benefit analysis would be a major undertaking; it would require a lot of information and entail a lot of analysis. This includes projections of the size of the incremental inventories induced by the minimum gasoline-inventory requirement, assessment of the availability and cost of storage sufficient to accommodate incremental inventories, estimation of the likelihood, magnitude, and duration of possible future supply events (refinery outages, for example), development of a gasoline supply schedule that includes gasoline imported from out-of-state and overseas producers, development of a demand schedule for gasoline, and projections of incremental-inventory drawdowns. It would also require a model of the relationship between gasoline inventories and prices.

19. A minimum gasoline inventory requirement, if set higher than the minimum inventories that the target companies would maintain in the ordinary course of business, would be binding in at least some future "states of the world". In other words, there will be at least some scenarios in which firms subject to minimum-inventory requirements will decide to hold larger gasoline inventories than they would absent those requirements. The likelihood of such scenarios would depend in part on the minimum inventory levels and other terms (e.g., penalties for non-compliance) of the minimum-inventory regulations.

20. Projecting the *incremental inventories* induced by minimum gasoline inventory requirements would be one task in a cost-benefit analysis. Incremental inventories are the *additional*

quantities of gasoline that target companies would decide to hold—quantities in excess of levels they would otherwise hold—to comply with the minimum-inventory regulations or to reduce the likelihood of non-compliance to a level acceptable to company managers, given the attendant penalties. It is the size of these incremental inventories that will determine the additional working capital needed to fund larger gasoline inventories and the additional storage capacity that the industry would need to acquire to hold larger gasoline inventories.

21. The purchases of gasoline (or reductions in gasoline sales) needed to build inventories in response to minimum-inventory requirements would tend to increase market prices and reduce gasoline consumption. Inventory build would presumably be gradual, if permitted by the terms of the minimum-inventory regulations, in order to minimize market impact. Nevertheless the market impact would affect all gasoline purchases, not just purchases made to build up inventories; current gasoline consumers would pay elevated prices too. The losses in consumer surplus associated with the incremental inventory buildup should be part of a cost-benefit analysis of minimum-inventory requirements.

22. Presumably the anticipated benefits to a minimum-inventory requirement are based on the assumption that the petroleum industry would have larger gasoline inventories on hand to draw down in the event gasoline becomes more scarce than expected, and that in at least some such events the industry would draw down some of the incremental inventories, thereby supplementing supply and mitigating the price increase that would otherwise have ensued. The external benefit of the minimum-inventory regulations in such events could be expressed as a gain in consumer surplus due to the *incremental drawdown*—the *additional* drawdown attributable to the availability of the incremental inventories—and the associated market impact. The gain in consumer surplus would depend on the market price of gasoline and how much gasoline was sold *with* the minimum-inventory requirements in place versus what the market price of gasoline would have been and how much gasoline would have been sold *absent* those requirements. Contingent prices and quantities would depend on the inventory level and the size of the incremental draw down, and on the gasoline supply and demand schedules. Like the loss in consumer surplus due to the buildup of incremental inventories, the potential gain in consumer surplus due to potential drawdowns would be part of a cost-benefit analysis of minimum-inventory requirements.

23. Note that after a scarcity event resolved, target companies would again need to make additional purchases of gasoline to restore inventories to planning levels. Purchases of gasoline to restore inventories, like purchases during the inventory buildup, would tend to increase market prices and reduce gasoline consumption. The associated losses in consumer surplus should likewise be included in a cost-benefit analysis of minimum-inventory requirements.

24. A cost-benefit analysis would need to consider the possibility that minimum-inventory regulations would not work as intended. Two issues come to mind. First is the potential for

crowding out, that is, the possibility that incremental inventories held by target companies would be partly offset by reductions in inventories held by market participants who are not subject to the inventory regulations, say at the distribution, retail, or end-user stages. Second, target firms might not draw down incremental inventories when gasoline is scarce, or they might draw down substantially less than anticipated by policy makers, perhaps because they want to avoid a non-compliance penalty or because of uncertainty about the duration or magnitude of supply shortfalls. Thus, in addition to projecting the size of incremental inventories held by target companies, the cost-benefit analysis needs to anticipate how the target companies will utilize the incremental inventories. The analysis also needs to anticipate how market participants other than the target companies will respond to the incremental inventories.

25. The cost of incremental storage capacity in both the short and longer terms would be a key issue. In principle, the options for acquiring additional storage include (a) leasing storage from a merchant storage company or other third party, (b) chartering an oil tanker ("floating inventory"), and (c) building new storage facilities. If incremental inventories are small, recent lease rates may provide an adequate indication of the associated storage costs. As to floating storage, tanker freight rates are extremely volatile, so current spot rates are probably not a reliable guide for purposes of this analysis. Forward rates would be a better guide but still subject to a high degree of uncertainty. New storage facilities would take substantial time to plan, permit, and build, so would become available only after a long lead time. The costs to build new storage capacity would provide a basis for estimating long-term storage costs but not short or intermediate-term storage costs.

Potential Unintended Consequences

26. Petroleum market participants evidently do not see net benefits to holding additional inventories, otherwise they would do so on their own initiative. Therefore, even without knowing the terms of minimum gasoline-inventory requirements and conducting a cost-benefit analysis, we can identify some potential adverse consequences. Specifically, if minimum-inventory regulations actually do stimulate an increase in gasoline inventories held by target companies—then average inventories will increase, which implies that average inventory carrying costs and the cost of producing gasoline will increase.

27. Possible consequences of the increase in costs associated with meeting a minimum-inventory requirement include:

    a. *Shift in petroleum product mix*. Since minimum inventory requirements would apply only to sales of gasoline produced to meet California gasoline specifications, they will create an incentive for California refiners to reduce production of CARBOB and increase production

of gasolines and other petroleum products that are not subject to minimum inventory requirements.

b. *Decline in California refining capacity*. The increase in production costs—if not offset by shifts in the petroleum product mix—implies a reduction in refinery profitability. This means that incentives to maintain and refurbish refineries and ancillary equipment will be diminished to some degree. It suggests the possibility of an acceleration of retirements and conversions to alternative uses (for example, renewable fuels production), which would result in a decline in the in-state refining capacity capable of producing CARBOB.

c. *Diminished reliability of supply*. The increase in production costs due to minimum inventory requirements also implies a possible reduction in incentives to maintain capacity, with diminished reliability of these resources—a higher frequency of unplanned outages, for example—a possibility.

28. Forecasts of product switching, the timing of refinery retirements, conversions to produce low-carbon fuels, or other refinery redeployments would be difficult for outsiders; they would require access to business-confidential information for the incumbent refineries, including the amount and timing of capital expenditures required to maintain and refurbish facilities, the options and costs to revise the mix of petroleum products, and the options and costs for redeployment. Nevertheless, the possibilities of these outcomes ought to be considered in a cost-benefit analysis.

Summary

29. It is unclear at this point how or whether a minimum gasoline-inventory requirement would induce larger gasoline inventories. If we assume for sake of argument that it would, it is clear that inventory carrying costs and thus petroleum refining costs would increase, but it is not at all clear how or whether an increase in inventories would generate external benefits to offset the net costs to the refining industry. We don't know how the target companies would utilize the assumed additional inventories, nor do we know how other market participants would respond to additional inventories. Perhaps most important, the source of external benefits, which would be the basis for a minimum gasoline-inventory requirement, has not been identified.

30. It is possible that a minimum gasoline inventory requirement would induce the California petroleum industry to hold larger gasoline inventories and that the incremental inventories would yield benefits to California consumers. Much analysis would be needed reach that conclusion with confidence, however. In the meantime, it is clear that the private returns to investments in additional gasoline inventories do not justify the costs, as revealed by the fact that market participants are not undertaking those inventory investments on their own

initiative. The costs and potential benefits of additional gasoline inventories need to be thought through and evaluated carefully before reaching the conclusion that the benefits of a minimum gasoline-inventory requirement would outweigh the costs.