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ENERGY COMMISSION**



California Energy Commission

STAFF REPORT

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California Energy Commission

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ABSTRACT

California Public Resources Code Section 25358 requires the California Energy Commission (CEC) to prepare a report every quarter that summarizes and analyzes petroleum industry supply, production, transportation, delivery and distribution, demand, and prices. This report looks at information collected by the CEC through its Petroleum Industry Information Reporting Act regulations for analyzing trends in liquid fuel production, storage, and distribution. CEC staff developed new metrics using data collected by this regulation to help better inform the California public on the operations of the liquid transportation fuels supply chain. In addition, staff analyzed several other data sources to provide a more comprehensive discussion of California’s liquid transportation fuel issues.

Topics included in this report:

- California, United States, and world crude oil prices
- Inventories of crude oil at California refineries
- Quantity of crude oil processed at California refineries
- Production of liquid transportation fuels
- Inventories of liquid transportation fuels
- Prices of liquid transportation fuels
- Import and export volumes of liquid transportation fuels for California

Keywords: California Energy Commission, transportation, gasoline, petroleum, diesel, liquid fuels

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EXECUTIVE SUMMARY

This report describes the trends and relevant issues faced by California's liquid transportation fuels market. Using information from its Petroleum Industry Information Reporting Act data collection regulations, as well as from public and proprietary sources, California Energy Commission (CEC) staff details the flows of liquid fuels and volumes of the product that is being moved and produced in California. The following report is organized into five chapters with selected findings listed by chapter.

Chapter 1: Crude Oil — Discusses crude oil prices, inventories of crude oil at California refineries, volume of crude oil stored at refineries, volume of crude oil used at refineries, referred to as "inputs," and the movement of crude oil.

Chapter 2: Gasoline – Discusses the volume of California Reformulated (California Air Resources Board [CARB]) gasoline produced at California refineries, inventories of CARB gasoline and blendstocks, gasoline prices, and movement of gasoline.

Chapter 3: Diesel – Discusses the volume of CARB diesel produced at California refineries, inventories of CARB diesel, diesel prices, and movements of diesel.

Chapter 4: Annual Data – Discusses crude oil and petroleum product storage capacities, transportation methods, pipeline capacities, and thermally enhanced oil recovery at oil fields.

Chapter 5: Senate Bill X1-2 – Discusses new data collected under this legislation, including refining margins, daily spot contracts, refining maintenance and turnarounds, and 96-hour imports.

CHAPTER 1:

Crude Oil

This chapter discusses:

- Crude oil prices.
- Monthly production reports from the State Oil and Gas Supervisor as directed under Public Resources Code 25357.
- Volume of crude oil stored at refineries using data collected under Public Resources Code 25354 (a).
- Volume of crude oil used at refineries, referred to as "inputs," using data collected under Public Resources Code 25354 (a).
- Volume of crude oil imported to refineries using data collected under Public Resources Code 25354 (a).
- Crude oil movements by rail using data collected under Public Resources Code 25354 (f).

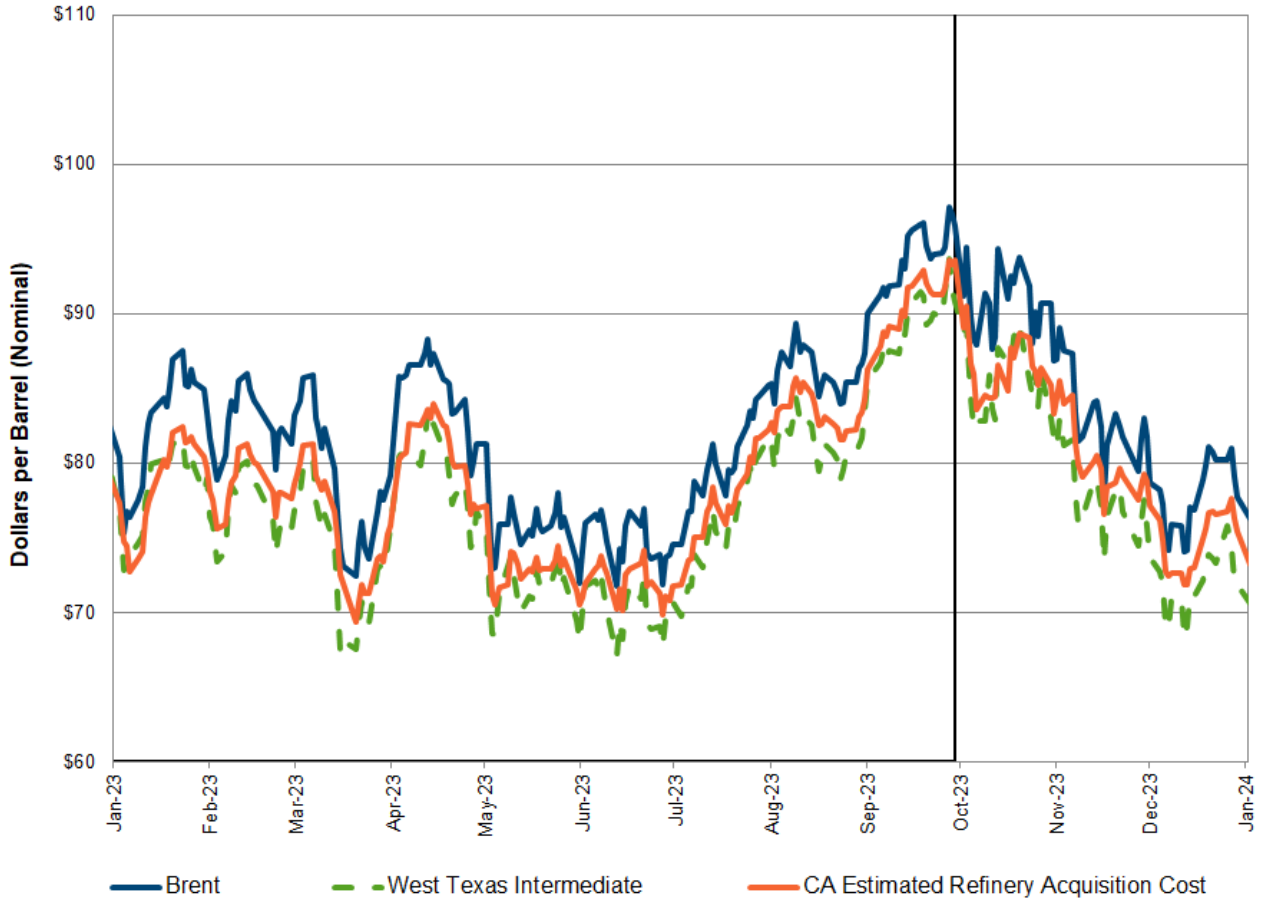
Prices

Figure 1 shows the daily West Coast spot crude oil prices for Brent North Sea (Brent), West Texas Intermediate (WTI), and the California estimated refinery acquisition cost (CA-RAC). Brent crude oil, an international benchmark, is currently the best surrogate price for foreign sources of crude oil processed at California refineries. WTI is included as it is the domestic benchmark. The CA-RAC is a weighted average of the prices of California (San Joaquin Valley) crude, Alaskan crude, and foreign crude.

For the fourth quarter of 2023:

- The Brent price peaked on October 3 at \$94.46. The monthly average price for December 2023 was \$77.76, a 4 percent decrease compared to December 2022.
- The WTI price peaked on October 19 at \$89.35. The monthly average price for December 2023 was \$71.90, a 6 percent decrease compared to December 2022.
- The CA-RAC price peaked on October 3 at \$90.52. The monthly average price for December 2023 was \$74.74, a 4 percent decrease compared to December 2022.

Figure 1: Daily Spot Crude Oil Prices



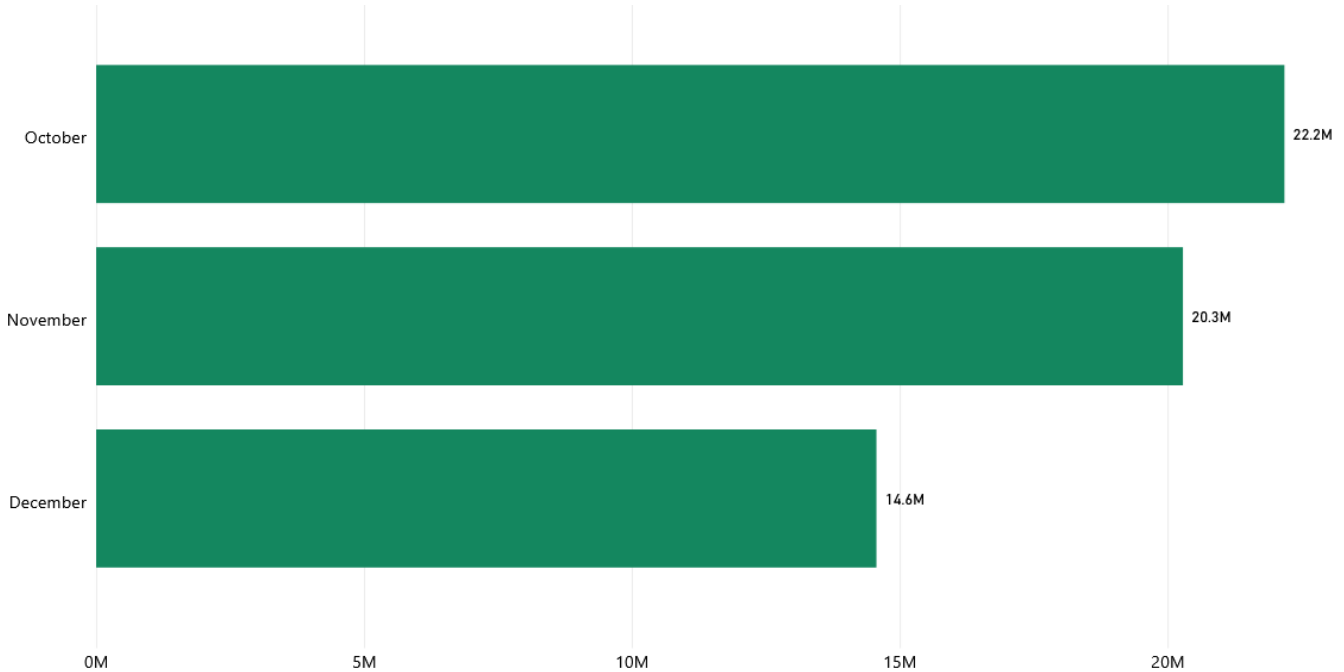
Note: Black vertical line on graphs indicates end of previous quarter's data. Areas to the right indicate new data since last quarter.

Source: U.S. Energy Information Administration (EIA), Oil Price Information Service (OPIS)

Monthly Production

Figure 2 shows the monthly crude oil production report as reported by the State Oil and Gas Supervisor. Monthly production for October, November, and December was 22.2 million, 20.3 million, and 14.6 million barrels, respectively.

Figure 2: Monthly Production Report



Source: [California Geologic Energy Management Division \(CalGEM\) WellSTAR data dashboard](https://www.conservation.ca.gov/calgem/Online_Data/Pages/WellSTAR-Data-Dashboard.aspx) (https://www.conservation.ca.gov/calgem/Online_Data/Pages/WellSTAR-Data-Dashboard.aspx)

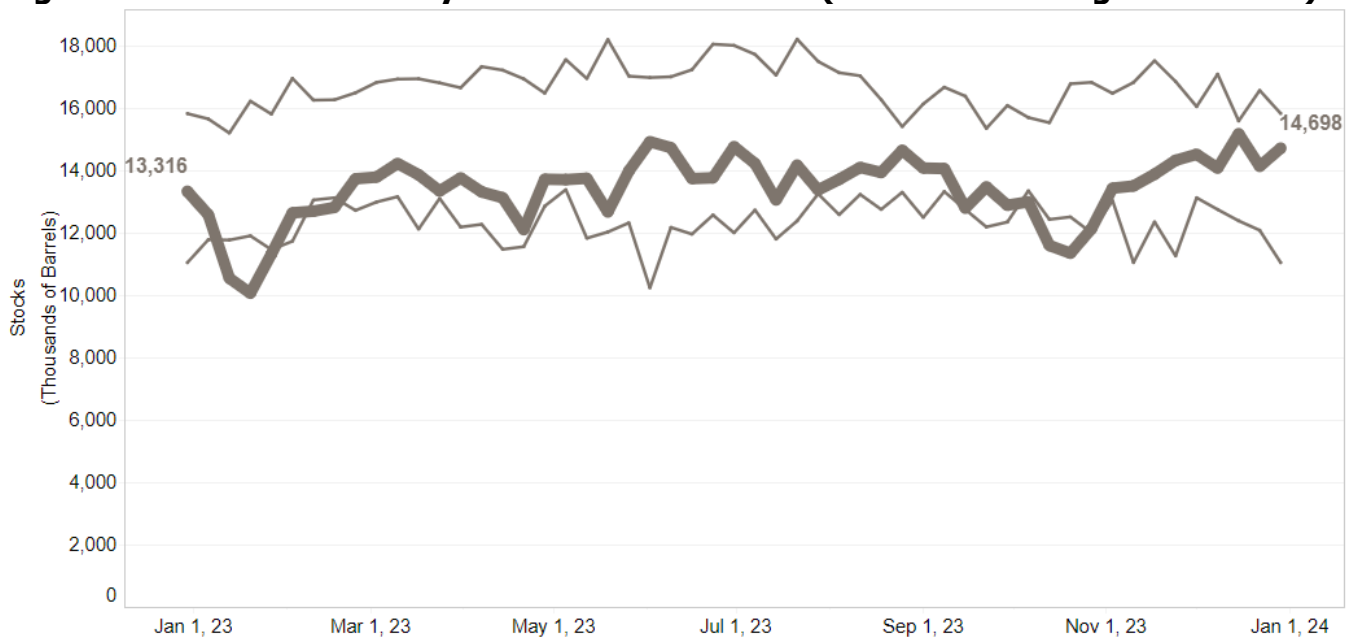
Inventory

Figure 3 shows the volume of crude oil inventories at California refineries. In the fourth quarter of 2023, crude oil inventories started the period below the 10-year low. Inventories were above the 10-year low throughout most of the quarter, reaching a quarterly high of 15.2 million barrels on December 15, roughly 2.8 million barrels higher than the historical low for that same period.

For the fourth quarter of 2023:

- Crude stocks started the quarter at 13.0 million barrels, 2.7 percent lower than the previous year.
- Crude stocks ended the quarter at 14.7 million barrels, 10.4 percent higher than the previous year.

Figure 3: California Refinery Crude Oil Inventories (With 10-Year High-Low Band)



Note: Inventory, input, and production charts include 10-year high-low bands. These bands provide a rolling average of the highs and lows and allow comparison of the current inventory, input, or production to the highs and lows of the historical trends.

Source: CEC PIIRA data – [Weekly Fuels Watch](https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-stocks), available at <https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-stocks>

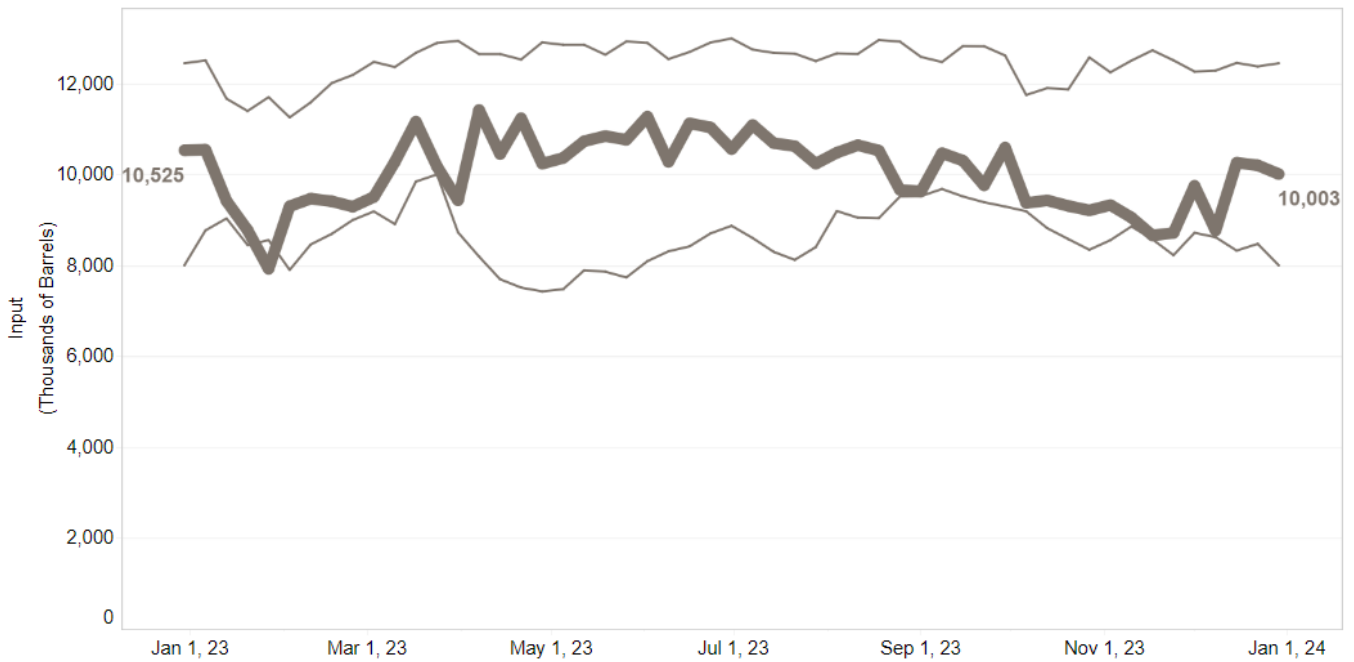
Inputs

Figure 4 shows the volume of crude oil used at refineries, referred to as “inputs.” Crude oil inputs started the quarter closer to the 10-year low, reaching the quarterly low of 8.7 million barrels on November 17.

For the fourth quarter of 2023:

- Inputs started the quarter at 9.4 million barrels, 3.6 percent lower than the previous year.
- Inputs ended the quarter at 10.0 million barrels, 5.0 percent lower compared to the same quarter of the previous year (10.5 million barrels).
- Average weekly input for the quarter was 9.4 million barrels, 8.5 percent lower compared to last year’s quarterly average of 10.3 million barrels per week.

Figure 4: California Refinery Crude Oil Inputs (With 10-Year High-Low Band)



Source: CEC PIIRA data – [Weekly Fuels Watch](https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-inputs-and-production), available at <https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-inputs-and-production>.

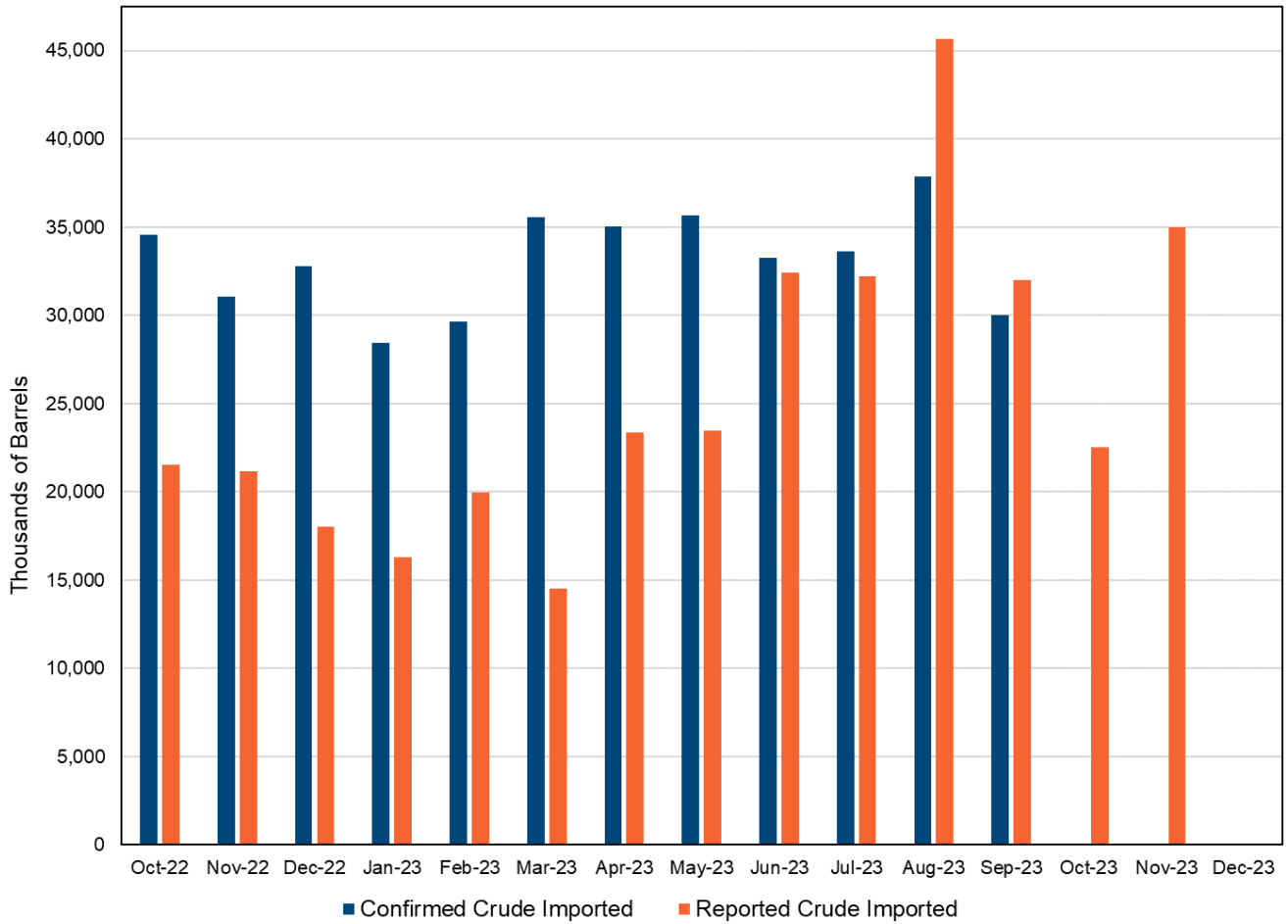
Imports

Figure 5 shows crude oil imports to California refineries. Imports include domestic and foreign sources received by marine and rail.

For the fourth quarter of 2023:

- Reported crude oil imports were roughly 22.5 million barrels in October and 35 million barrels in November.
- Reported imports in October 2023 were close to the October 2022 amount of roughly 21.5 million barrels, only 1 million barrels more.
- Reported imports in November were nearly 14 million barrels more in 2023 versus November 2022, representing a 40 percent increase.

Figure 5: Crude Oil Imports



Note: "Reported Crude Oil Imported" data are reported directly to the CEC through Form 700. "Confirmed Crude Oil Imported" is Form 700 data that are confirmed with Port Import/Export Reporting Service (PIERS), California State Lands Commission (SLC), and Energy Information Administration (EIA) data through September 30, 2023.

Source: CEC PIIRA data – California Imports, Exports, and Intrastate Movements Weekly Report, Form 700

Figure 6 shows the routes used to import crude oil into California by rail car. Crude-by-rail imports are driven by refinery orders, and the refineries that have recently ordered crude oil by rail are in Southern California. Crude oil is transferred from rail car to pipeline in Bakersfield to complete the journey to Southern California refineries. These rail lines are not exclusive to crude oil transport but are used to transport all commodities and ferry passengers.

Figure 6: Crude Rail Lines of Southern California



Source: California State Parks, Esri (Environmental Systems Research Institute), HERE Technologies, Garmin, SafeGraph, FAO (Food and Agriculture Organization), METI (Ministry of Economy, Trade, and Industry)/NASA (United States National Aeronautics and Space Administration), USGS (United States Geological Survey), Bureau of Land Management, EPA (Environmental Protection Agency), and NPS (National Parks Service)

Table 1 shows the amount of crude oil imported into California by rail by route. A single rail tank car carries about 700 barrels. Since the beginning of 2023, crude oil by rail came exclusively from Arizona as crude traveling from Nevada dropped to zero.

Table 1: Crude Oil Imports by Rail Lines of Southern California

Date	Needles to Barstow (Barrels)	Las Vegas to Barstow (Barrels)	Barstow to Bakersfield (Barrels)
Sep-22	50,853	11,596	62,449
Oct-22	52,530	11,920	64,450
Nov-22	55,483	16,279	71,762
Dec-22	53,906	11,458	65,364
Jan-23	53,942	0	53,942
Feb-23	54,614	0	54,614
Mar-23	115,038	0	115,038
Apr-23	52,871	0	52,871
May-23	56,357	0	56,357
Jun-23	0	0	0
Jul-23	56,357	0	56,357
Aug-23	58,681	0	58,681
Sep-23	53,943	0	53,943
Oct-23	53,943	0	53,943
Nov-23	53,943	0	53,943

Source: CEC PIIRA data – California Imports, Exports, and Intrastate Movements Monthly Report, Form M700

CHAPTER 2:

Gasoline

This chapter discusses:

- Volume of CARB gasoline produced at California refineries using data collected under Public Resources Code 25354 (a).
- Inventories of CARB gasoline and blendstocks using data collected under Public Resources Code 25354 (a).
- Gasoline prices using data collected under Public Resources Code 25354 (h).
- Imports and exports of gasoline using data collected under Public Resources Code 25354 (a) and (i).

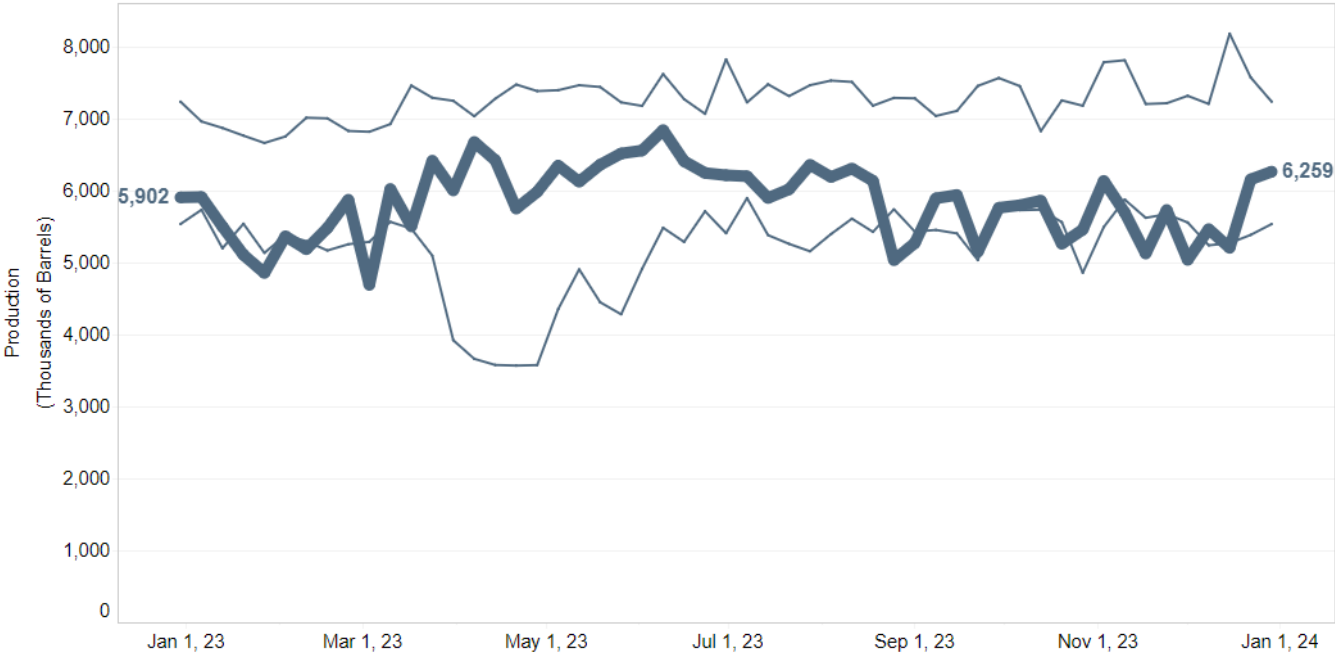
Production

Figure 7 shows California reformulated (CARB) gasoline production for the previous year with the 10-year high-low band. CARB gasoline production fluctuated throughout the quarter, ending higher than it started, with peaks on November 3 and December 28 and lows on November 17 and December 1. Part of the reason for these lows is the permanent idling of the Marathon Martinez refinery in August 2020, which reduced refining capacity and lowered overall gasoline production.

For the fourth quarter of 2023:

- CARB gasoline production peaked for the quarter at 6.3 million barrels the week ending December 29.
- The quarterly low of 5.0 million barrels occurred the week ending December 1.
- CARB gasoline production began the quarter at 5.8 million barrels, 10.4 percent lower compared to the previous year's fourth quarter start of 6.5 million barrels.
- CARB gasoline production ended the quarter at 6.3 million barrels, a 6.0 percent increase from the previous year's third quarter close of 5.9 million barrels.

Figure 7: California CARB Gasoline Production (With 10-Year High-Low Band)



Source: CEC PIIRA data – [Weekly Fuels Watch](https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-inputs-and-production) available at <https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-inputs-and-production>

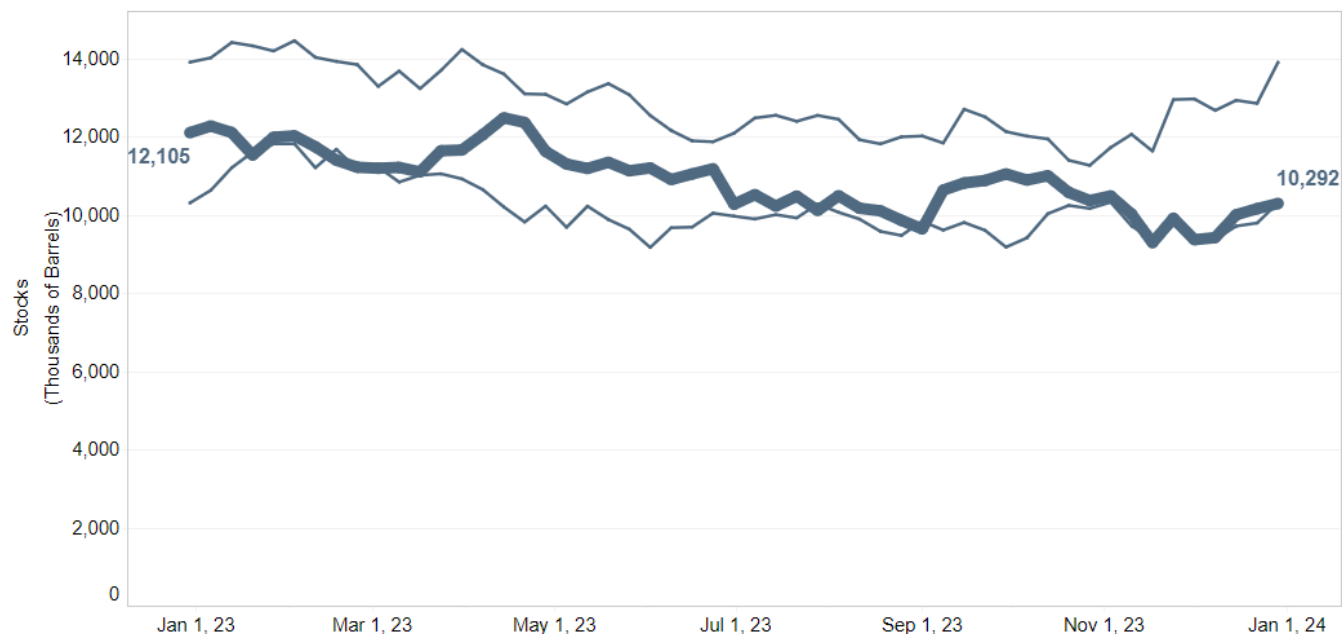
Inventory

Figure 8 shows the CARB gasoline and blendstock inventories for the previous year with the 10-year high-low band. At the start of the quarter, CARB gasoline and blendstock inventories were above the 10-year low. Inventories fell to a quarterly low of 9.3 million barrels November 17 and subsequently rose to 10.3 million barrels by the end of the quarter.

For the fourth quarter of 2023:

- CARB gasoline and blendstock inventories experienced moderate fluctuations during the quarter.
- CARB gasoline and blendstock inventories ended the quarter lower (10.3 million barrels) than they began (10.9 million barrels).
- CARB gasoline and blendstock inventories were roughly 1.8 million barrels lower than they were a year ago (12.1 million barrels).

**Figure 8: California CARB Gasoline and Blendstock Inventories
(With Ten-Year High-Low Band)**



Source: CEC PIIRA data – [Weekly Fuels Watch](https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-stocks), available at <https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-stocks>.

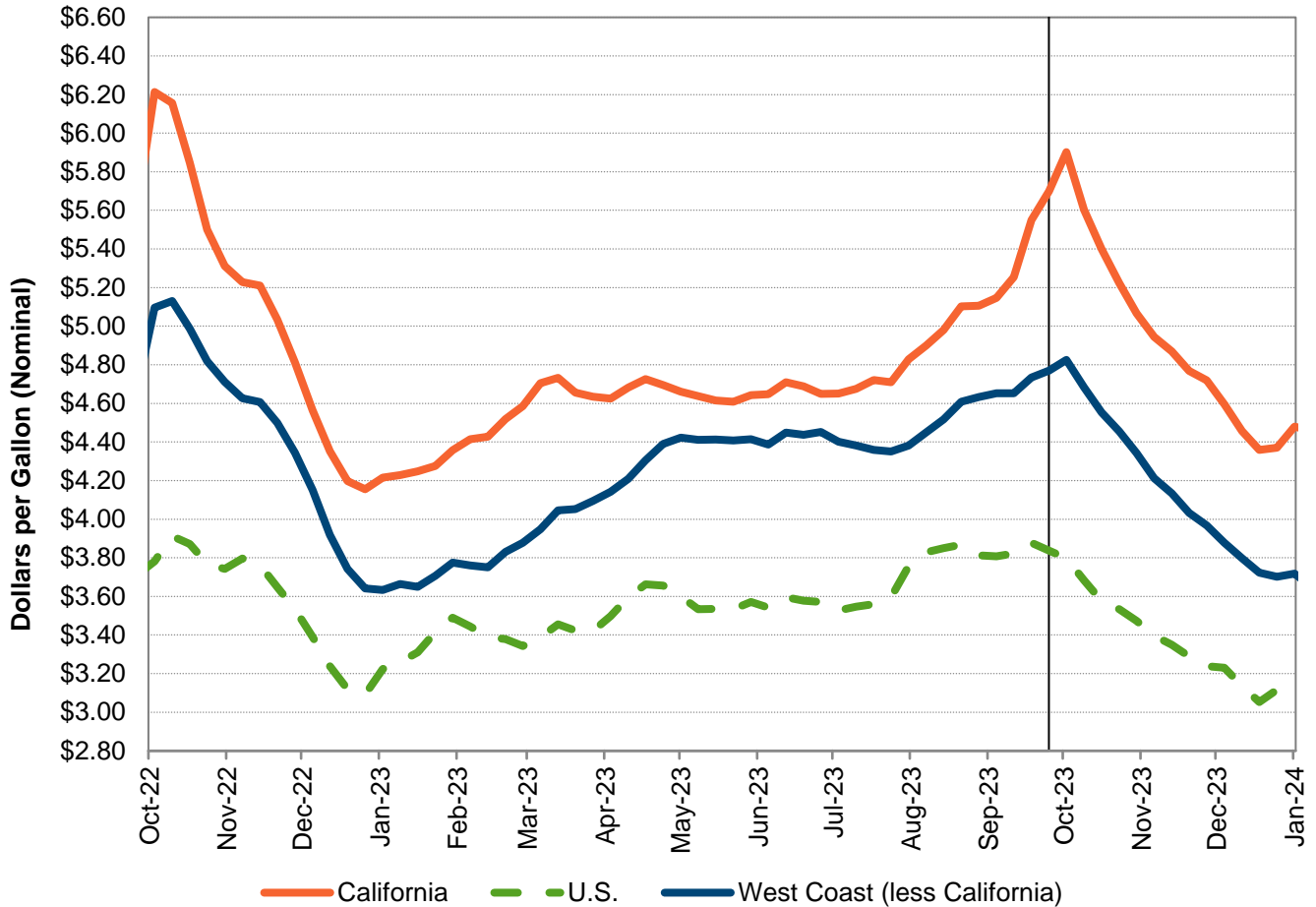
Prices

Figure 9 shows regular grade gasoline retail prices through third quarter. Gasoline prices decreased through most of the fourth quarter in all regions. The U.S. price was at lowest for 2023 during the fourth quarter. The California price was at the highest for 2023 during the beginning of the fourth quarter. West Coast (less California) prices trended similarly to California during this quarter.

For the fourth quarter of 2023:

- As prices decreased during the fourth quarter, the price gap between California and the United States decreased by \$0.85, from \$2.10 on October 2 to \$1.26 on December 25.
- The California price averaged \$4.94 during the quarter, going from a high of \$5.90 on October 2 to a low of \$4.37 on December 25. This average is \$0.08 lower than the previous quarter's average and \$0.18 lower than the 2022 fourth quarter average.
- West Coast (less California) retail prices trended downward, decreasing \$1.53 from \$5.90 on October 2 to \$4.37 on December 25.

Figure 9: Regular Grade Gasoline Retail Prices, California vs. West Coast vs. United States



Source: U.S. EIA

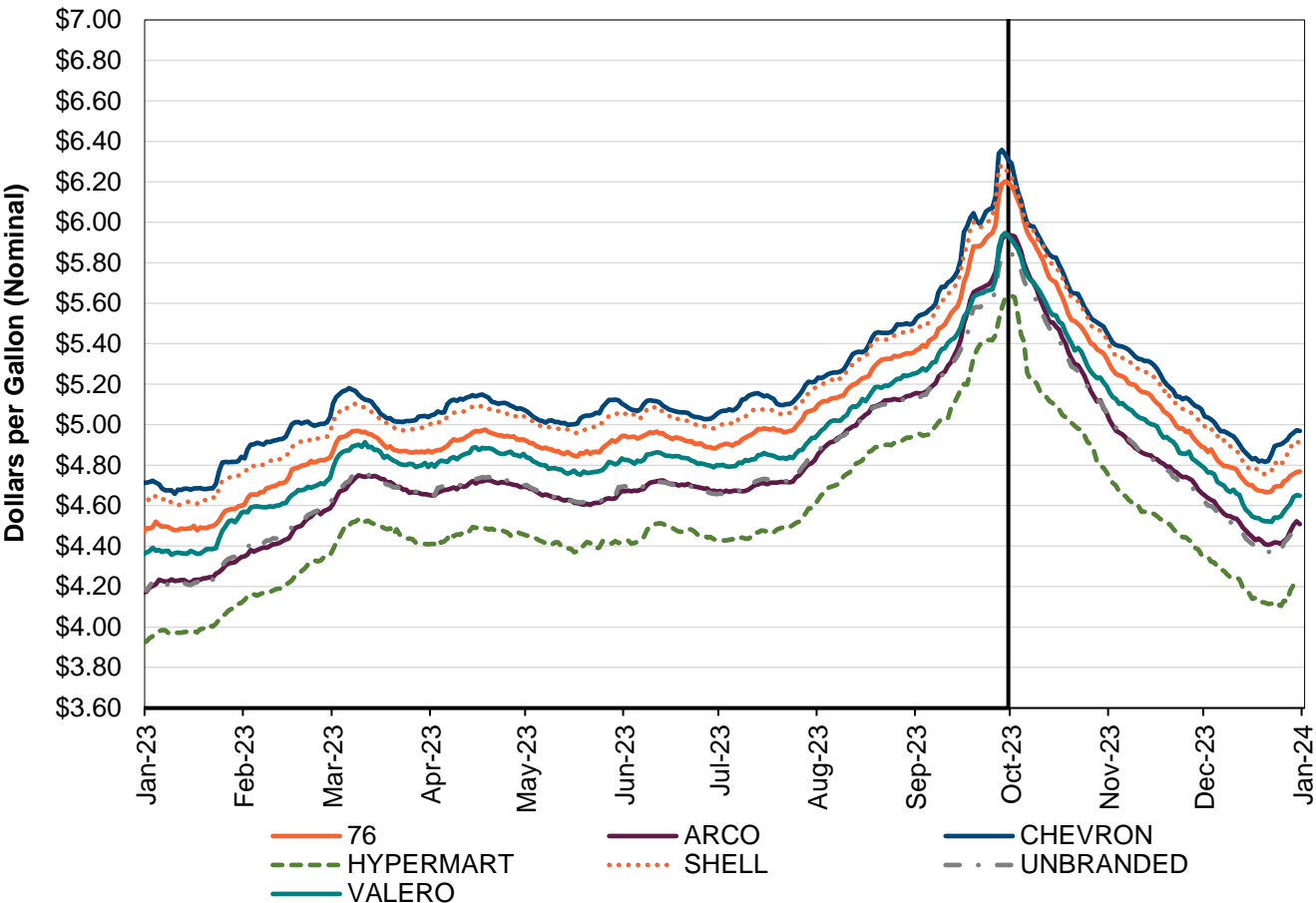
Figure 10 shows California gasoline retail prices by brand. Chevron continues to be the highest priced brand and Shell the second highest. Hypermarts continue to offer the lowest prices, followed by ARCO and unbranded stations. A hypermart station (Costco, Safeway, and so forth) is defined as a station that is a company-owned or -operated supermarket or wholesale chain store that sells its own fuel at the same location.

For the fourth quarter of 2023:

- The highest average price during the fourth quarter was \$6.29 at Chevron on October 1, 2023. The lowest average price during the fourth quarter for Chevron was \$4.82 on December 20, 2023.
- The lowest average price during the fourth quarter was \$4.10 at hypermarts on December 25, 2023. The highest average price during the fourth quarter for hypermarts was \$5.64 on October 1, 2023.
- Price difference among various brands ranged from \$0.59 and \$0.80. (The difference does not include hypermarts and unbranded stations.)

- The difference of monthly average price between Chevron and hypermarts started the fourth quarter at \$0.69 and ended the fourth quarter at \$0.71.

Figure 10: California Gasoline Retail Prices by Brand



Source: CEC analysis of OPIS data

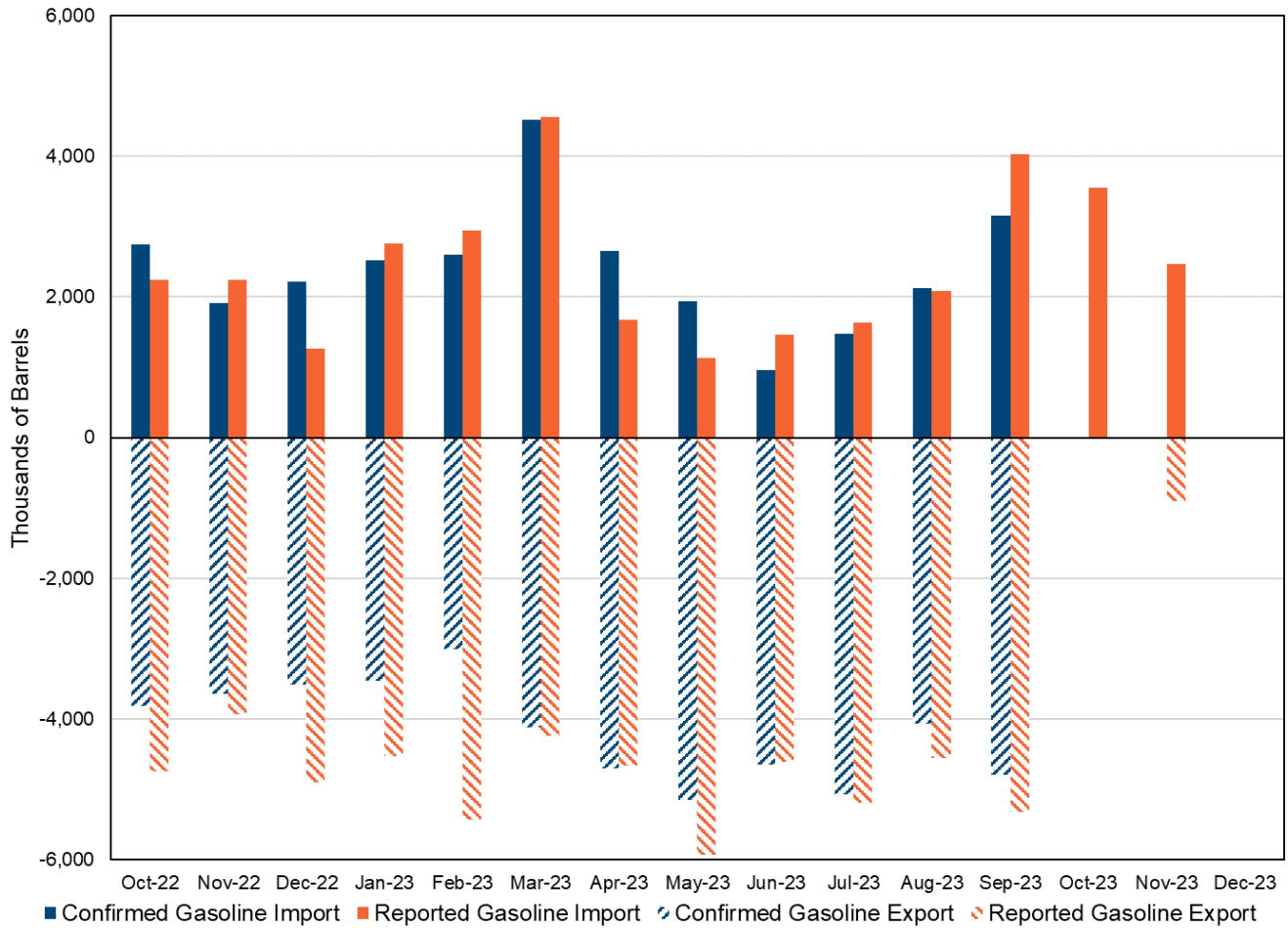
Imports and Exports

Figure 11 shows gasoline imports and exports from October 2022 through November 2023. Gasoline imports decreased in October and November from the third quarter peak in September. Gasoline exports in September were 4.0 million barrels.

For the fourth quarter of 2023:

- Gasoline imports in October 2023 was 2.5 million barrels, 1.3 million barrels higher than the previous October.
- Gasoline imports continued declining in November to 2.5 million barrels, which was only 0.2 million barrels less than the previous November.
- Gasoline export reports were only 1,000 barrels in October before rebounding to 0.9 million barrels in November.

Figure 11: California Gasoline Imports and Exports



Note: "Reported Gasoline" data are reported directly to the CEC through Form 700. "Confirmed Gasoline" is Form 700 data that are confirmed with Port Import/Export Reporting Service (PIERS), California State Lands Commission (SLC), and Energy Information Administration (EIA) data through February 28, 2023.

Source: CEC PIIRA data – California Imports, Exports, and Intrastate Movements Weekly Report, Form 700

CHAPTER 3:

Diesel

This chapter discusses:

- Volume of CARB diesel produced at California refineries using data collected under Public Resources Code 25354 (a).
- Inventories of CARB diesel using data collected under Public Resources Code 25354 (a).
- Diesel prices using data collected under Public Resources Code 25354 (h).
- Imports and exports of CARB diesel using data collected under Public Resources Code 25354 (a) and (i).

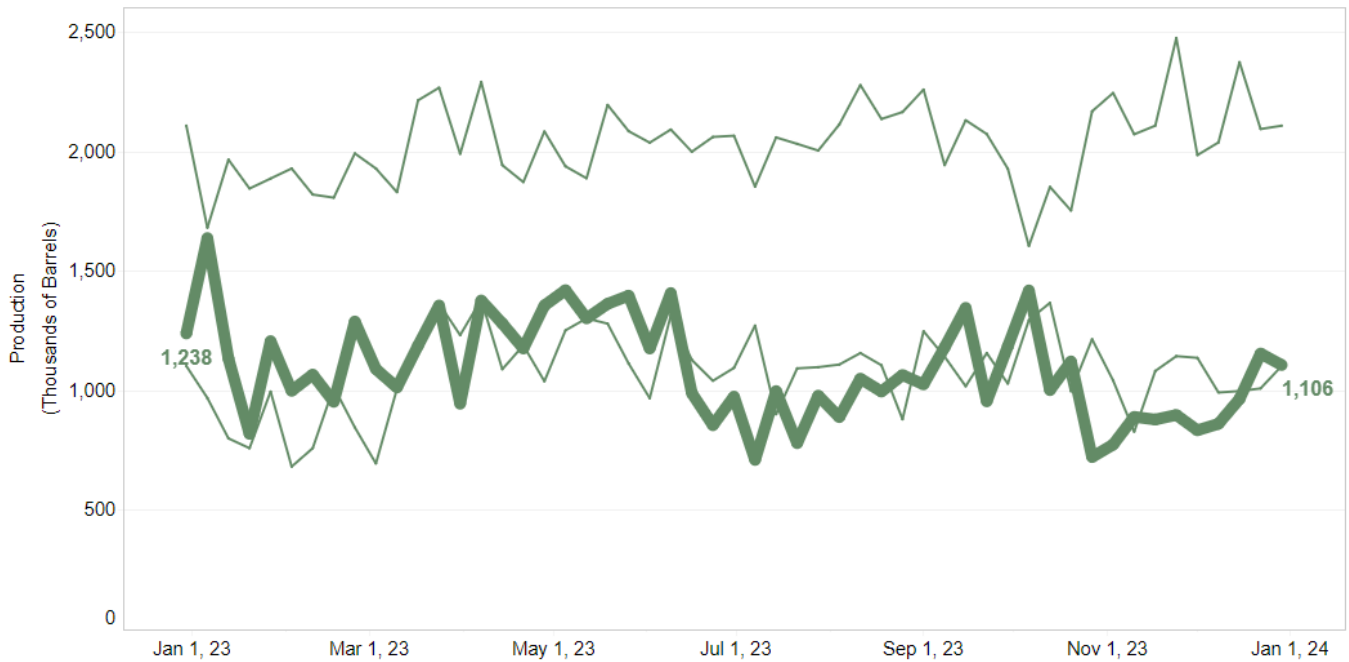
Production

Figure 12 shows California CARB diesel production for the previous year with the 10-year high-low band. CARB diesel production started the quarter above the 10-year low at 1.4 million barrels. Production fluctuated throughout the fourth quarter, ending at 1.1 million barrels, a decrease of about 312,000 barrels from the quarter's start. The permanent idling of the Marathon Martinez in August 2020 reduced refining capacity and lowered overall diesel production.

For the fourth quarter of 2023:

- California specification diesel production peaked at 1.4 million barrels on October 6, fell to a low of 721,000 barrels the week of October 27, and closed the quarter at 1.1 million barrels.
- Diesel production at the end of the quarter was 1.1 million barrels, a 10.7 percent decrease compared to the end of the same quarter last year (1.2 million barrels).

Figure 12: California CARB Diesel Production (With 10-Year High-Low Band)



Source: CEC PIIRA data – [Weekly Fuels Watch](https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-inputs-and-production) available at <https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-inputs-and-production>

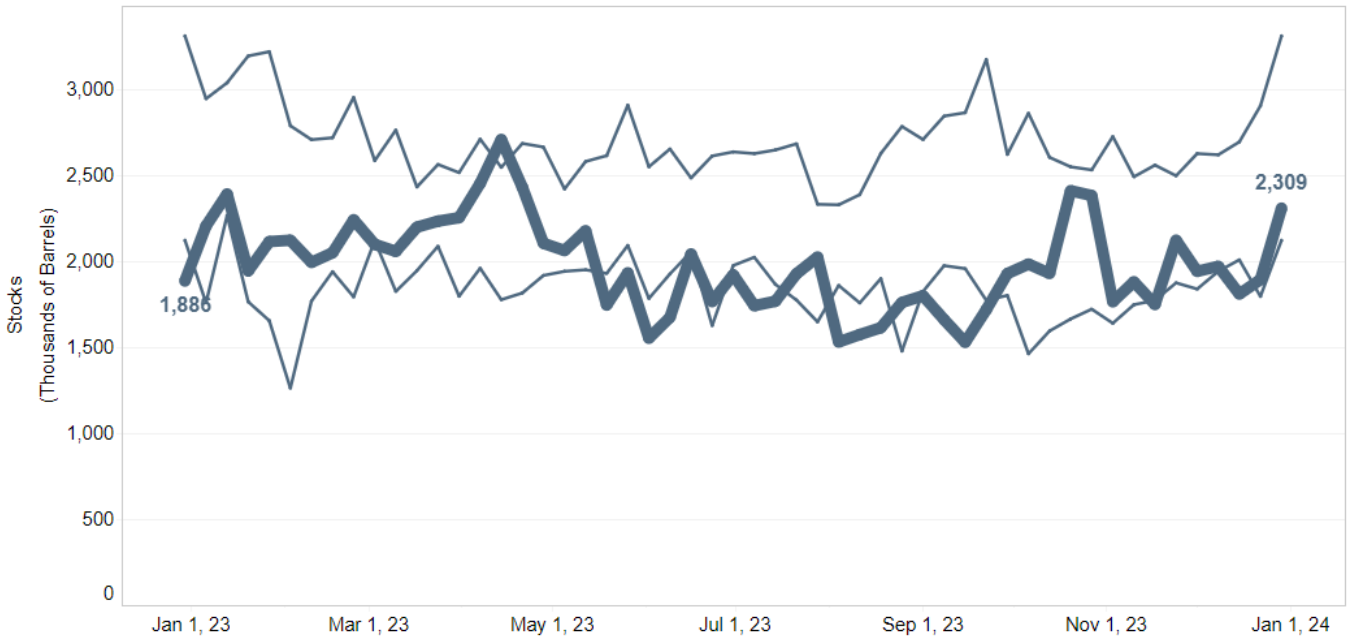
Inventory

Figure 13 shows California diesel inventories for the previous year with the 10-year high-low band. At the start of the quarter, diesel inventories were above the 10-year low at 2.0 million barrels. Inventories experienced significant fluctuations throughout the quarter, ending at 2.3 million barrels, up by 325,000 barrels from the quarter's start (2.0 million barrels).

For the fourth quarter of 2023:

- Diesel inventories spent most of the quarter above the 10-year low.
- October 20 marked the fourth quarter high at 2.4 million barrels, while November 17 marked the low at 1.7 million barrels.
- At the end of the quarter, diesel inventories stood at 2.3 million barrels, an increase of roughly 423,000 barrels compared to the same time last year (1.9 million barrels).

Figure 13: California Diesel Inventories (With 10-Year High-Low Band)



Source: CEC PIIRA data – [Weekly Fuels Watch](https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-stocks), available at <https://www.energy.ca.gov/data-reports/reports/weekly-fuels-watch/refinery-stocks>

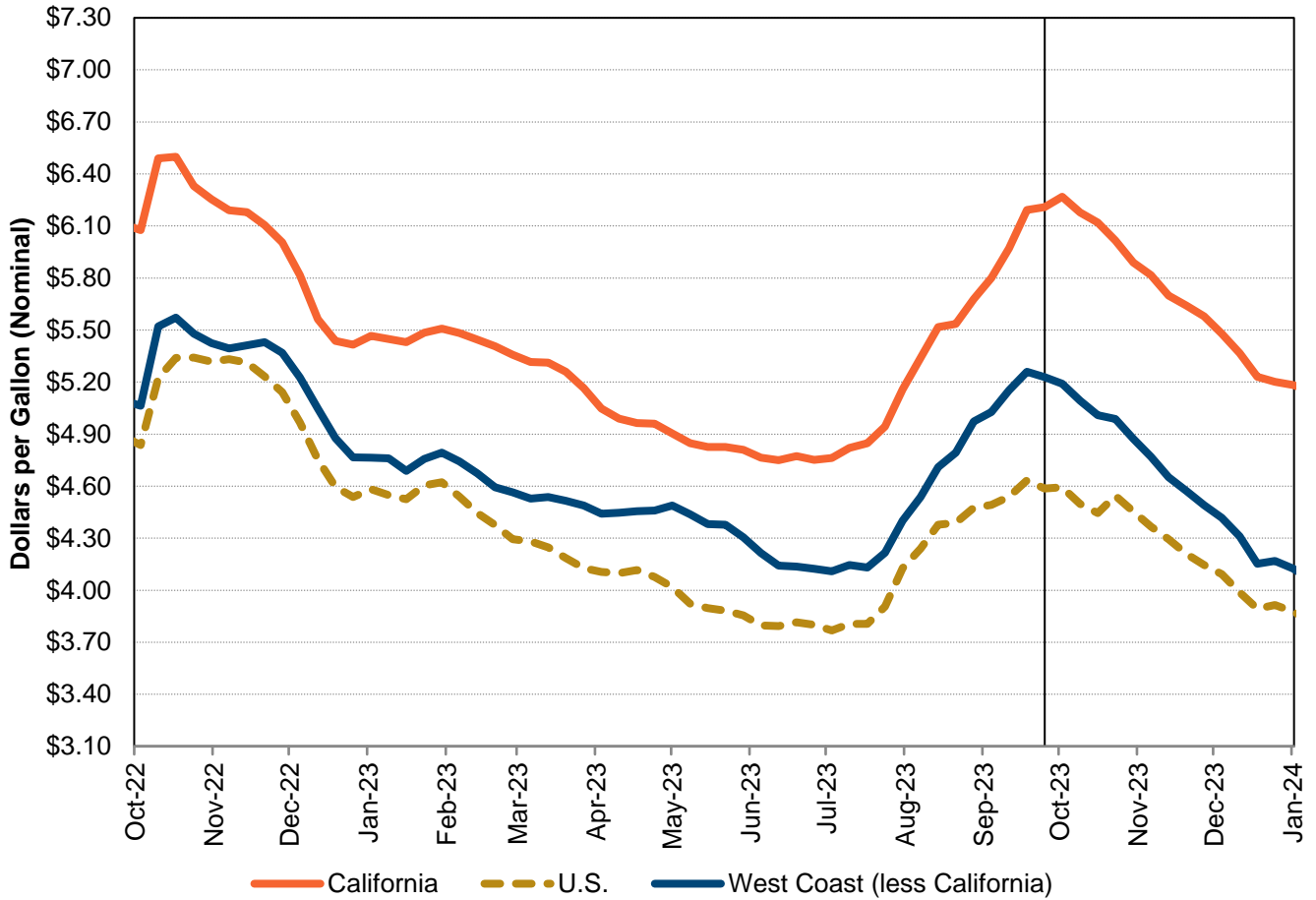
Prices

Figure 14 shows No. 2 diesel ultra-low-sulfur retail prices. Diesel prices decreased during the fourth quarter, similar to the fourth quarter of 2022. The quarter ended at a lower price than the beginning of the year.

For the fourth quarter of 2023:

- California diesel prices decreased by \$1.07 from start of the quarter of \$6.27 on October 2 to \$5.20 on December 25.
- California diesel prices averaged \$1.47 more than the U.S. price during the fourth quarter.
- U.S. and West Coast (less California) prices decreased during the fourth quarter by \$0.68 and \$1.02, respectively.
- Prices in all regions slow down at the end of December like the beginning of January 2023, where the U.S. price was \$3.91, and the West Coast (less California) price was \$4.17.

Figure 14: No. 2 Diesel Ultra-Low-Sulfur Retail Prices, California vs. West Coast vs. United States



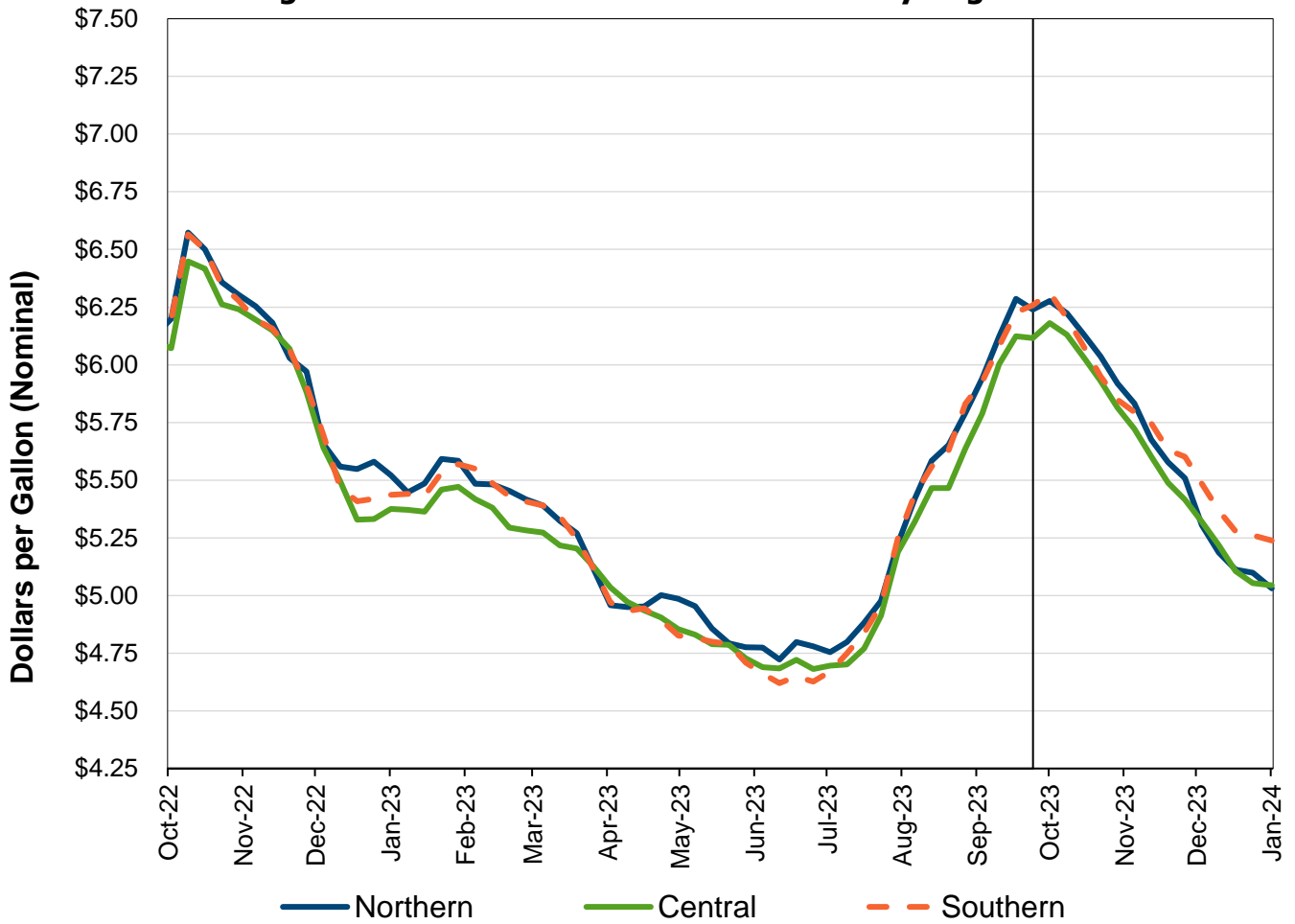
Source: U.S. EIA

Figure 15 shows California diesel retail prices by region. Diesel prices decreased through most of the fourth quarter of 2023. Southern diesel price ended the year at a higher price than northern and central California. Retail diesel prices trend to increase to high during third quarter and decrease during fourth quarter.

For the fourth quarter of 2023:

- The Northern California price averaged \$5.68 during the fourth quarter. Prices decreased during the fourth quarter by \$1.18, from \$6.28 on October 1 to \$5.10 on December 24.
- For most of 2023, the Central California region was where diesel price is the lowest. Central California price, at \$5.05, was \$0.21 less than Southern California, at \$5.26.
- The Southern California diesel price decreased during the fourth quarter but ended the quarter \$0.16 higher than the other regions.

Figure 15: California Diesel Retail Prices by Region



Source: CEC analysis of OPIS data

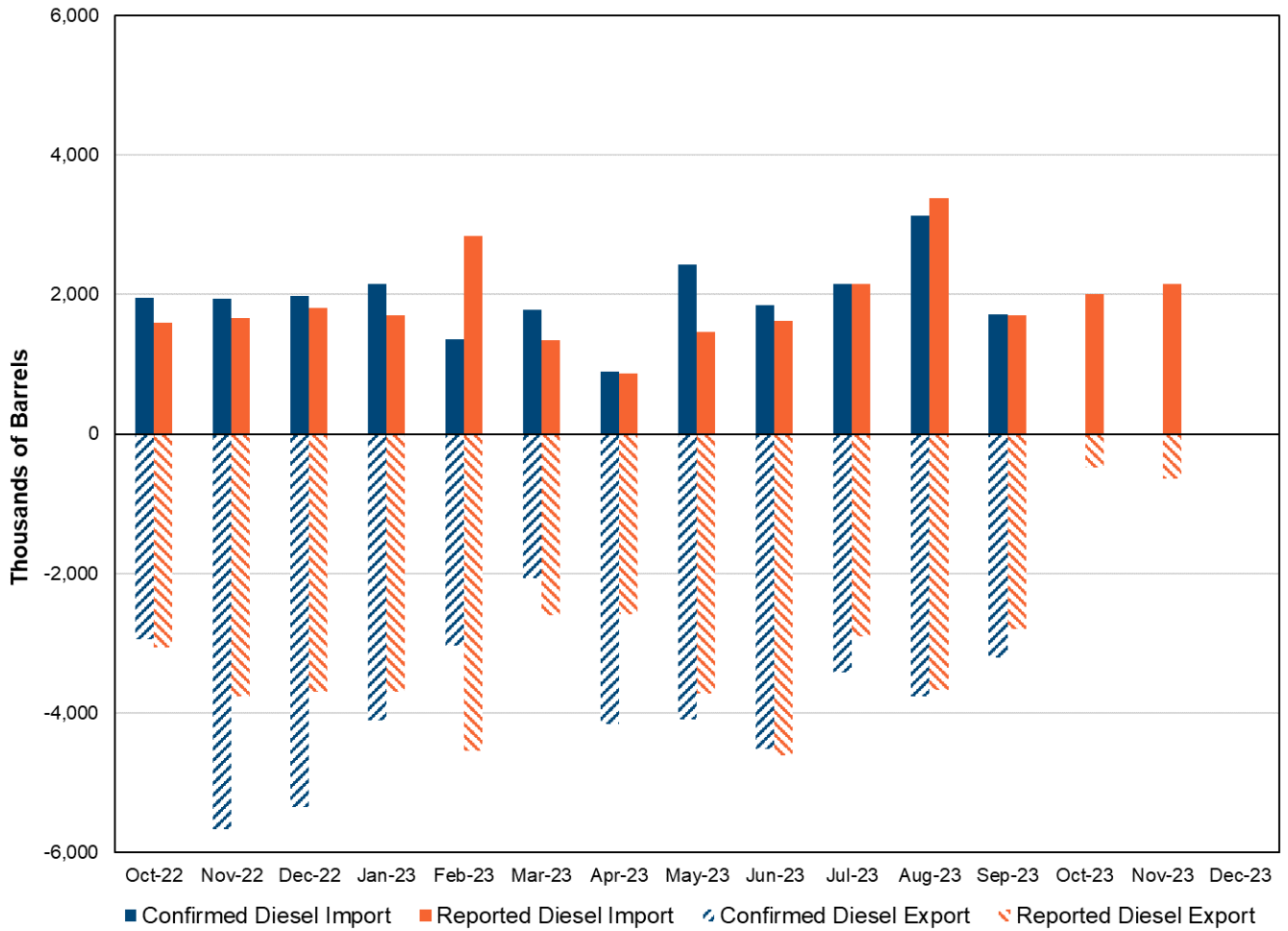
Imports and Exports

Figure 16 shows California diesel imports and exports. Diesel imports increased at the start of the third quarter, with September being the lowest importing month during the quarter.

For the fourth quarter of 2023:

- Diesel imports for October and November were higher than the previous year, reaching 2.0 million barrels and 2.15 million barrels, respectively.
- Diesel exports were lower than the previous year, totaling 483,000 barrels in October and 634,000 barrels in November.

Figure 16: California Diesel Imports and Exports



Note: "Reported Diesel" data are reported directly to the CEC through Form 700. "Confirmed Diesel" is Form 700 data that are confirmed with Port Import/Export Reporting Service (PIERS), California State Lands Commission (SLC), and Energy Information Administration (EIA) data through February 28, 2023.

Source: CEC PIIRA data – California Imports, Exports, and Intrastate Movements Weekly Report, Form 700

CHAPTER 4:

Annual Data

This chapter discusses:

- Crude oil pipeline systems using data collected under Public Resources Code 25354 (b).
- Petroleum product transportation methods used to ship petroleum products using data collected under Public Resources Code 25354 (b).
- Petroleum product pipeline systems using data collected under Public Resources Code 25354 (b).
- Characteristics and capacities of crude oil and petroleum product storage tanks using data collected under Public Resources Code 25354 (b).
- Thermally enhanced oil recovery in oil fields using data collected under Public Resources Code 25354 (b).

Since this chapter covers data that are reported annually, there are no new data available, thus, no new updates. This chapter will be updated in the first quarterly report of 2024.

Crude Oil Pipeline Systems

Crude oil pipeline systems are those related to pipeline usage from wellhead areas directly to refiners, processing facilities, or terminals. This information is specific to individual refiners and is confidential.

Petroleum Product Transportation

Table 2 shows the count of refiners that use a particular transportation method by product type. More than one transportation method may be used by a refiner for the same product.

Table 2: Count of Refiner Methods of Petroleum Product Movement

Fuel Type	Pipeline	Tanker	Barge	Truck	Railroad
Aviation Fuels (including kerosene-type jet fuel)	6	1	1	1	0
Distillates (excluding kerosene-type jet fuel)	6	2	4	3	0
Gasoline (including blending components)	9	3	5	5	2
Residual Fuel Oil and Unfinished Oils	8	4	7	4	1

Source: CEC PIIRA data – California Refiner Annual Report, CEC Form A04

Petroleum Product Pipeline Systems

Petroleum pipeline systems are those related to the transportation and storage of petroleum products leaving the refinery, being stored at pipeline storage facilities and at terminals, and flowing through the system. This information is specific to individual pipelines and confidential.

Petroleum Product Storage Tanks

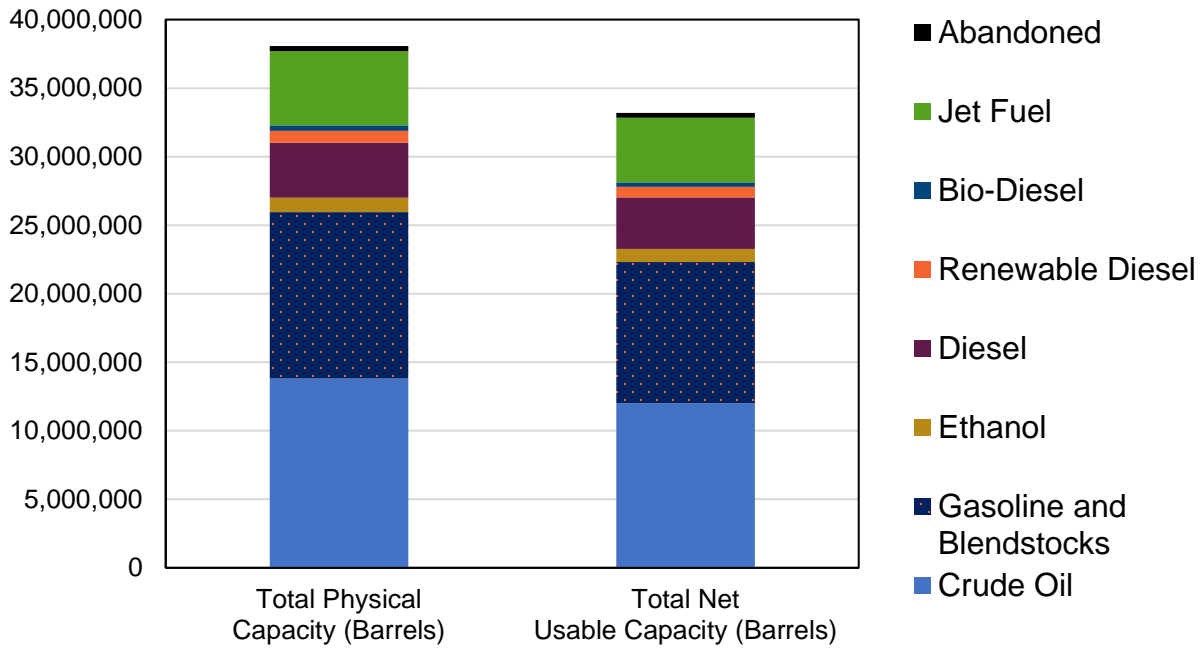
Petroleum product storage tanks are tanks that store crude oil or finished petroleum products. Capacity is reported as total capacity and net usable capacity. **Table 3** lists and **Figure 17** shows the total physical capacity and total net usable capacity of storage tanks by petroleum product in California.

Table 3: Petroleum Product Storage Tank Capacity

Product	Total Physical Capacity (Barrels)	Total Net Usable Capacity (Barrels)
Crude Oil	13,818,828	12,014,726
Gasoline and Blendstocks	12,145,324	10,291,899
Ethanol	1,043,243	966,716
Diesel	4,018,496	3,746,441
Renewable Diesel	858,624	769,545
Biodiesel	398,882	333,912
Jet Fuel	5,409,791	4,716,869
Abandoned	380,335	354,093

Source: CEC PIIRA data – California Refiner Annual Report, Form A08

Figure 17: Petroleum Product Storage Tank Capacity



Source: CEC PIIRA data – California Refiner Annual Report, Form A08

Thermally Enhanced Oil Recovery

Thermally enhanced oil recovery is a process of injecting pressurized steam into oil reservoirs to lower the viscosity of, or thin, heavy oil to increase the flow and the amount of recoverable crude oil. In 2022, the total amount of steam injected from cogeneration plants was 17,142,118 million British thermal units, while the total amount of natural gas used as fuel in boilers to create steam for oil field injection was 68,761,202 million cubic feet.

CHAPTER 5:

Senate Bill X1-2

This chapter discusses new data collected under Senate Bill X1-2 (Skinner, Chapter 1, Statutes of 2023–24 First Extraordinary Session).¹ These data include:

- Monthly Refining Margin Report (CEC M1322) collected under Public Resources Code 25355.
- Daily Spot Contract Report (CEC Form D354_I) collected under Public Resources Code 25354 (l).
- California Refinery Planned and Unplanned Maintenance and Turn Around Reports, Initial and Final (CEC Form EDR_m1, CEC Form EDR_m4A, and CEC Form EDR_m4B) collected under Public Resources Code 25354 (m).
- 96-Hour Planned Import Report (CEC W700_96j) collected under 25354 (j).

Monthly Refining Margin

Senate Bill (SB) 1322 (Allen, Chapter 374, Statutes of 2022) requires all refiners of gasoline products in the state to provide monthly data about various price and volume information. The CEC must publish aggregated, volume-weighted reports of these data within 45 days of the end of each calendar month.

This information is published [online](https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/california-oil-refinery-cost-disclosure) at <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/california-oil-refinery-cost-disclosure>.

The gross volume-weighted gasoline refining margin for October, November, and December was \$0.79, \$0.76, and \$0.64, respectively. The total profit estimate does not include spot pipeline transaction sales and may be considered a conservative estimate as a result.

Daily Spot Contracts

This data set is under review by the Division of Petroleum Market Oversight. In October, an average of 16 companies reported each week, averaging 11 reports and 641 transactions daily. In November, an average of 17 companies reported each week, averaging 11 reports and 431 transactions daily. In December, an average of 15 companies reported each week,

¹ <https://www.energy.ca.gov/proceeding/senate-bill-x1-2-implementation>.

averaging 13 reports and 422 transactions daily. In the fourth quarter, 20 companies filed a total of 699 reports containing 105,771 transactions.

California Refinery Planned and Unplanned Maintenance

Refiners conduct maintenance to maintain the safety and reliability of their crude oil processing units. Planned maintenance usually occurs during the spring and fall when refineries switch from winter to summer blend or vice versa. This information is specific to individual refiners and is confidential.

96-Hour Planned Imports

The CEC was already collecting imports in its Form 700, California Imports, Exports, and Intrastate Movements Weekly Report. Senate Bill X1-2 authorized the collection of this information prospectively and on a smaller time interval. This prospective reporting provides visibility into near-term imports before they occur. These data can also be used as a comparison to data reported after the imports have occurred. However, when used retrospectively, such as in this quarterly report, this does not provide sufficiently different data to what is reported in other chapters. For imports of crude oil, gasoline, and diesel, see Chapters 1, 2, and 3, respectively.

APPENDIX A:

Glossary

Term	Definition
Blendstocks	Any material that is blended in an oil refinery to make a product, especially for making gasoline.
Brent North Sea (Brent)	A blended crude stream produced in the North Sea region that serves as a reference or "marker" for pricing a number of other crude streams.
California Air Resources Board (CARB)	The "clean air agency" in California government. CARB's main goals include attaining and maintaining healthy air quality, protecting the public from exposure to toxic air contaminants, and providing innovative approaches for complying with air pollution rules and regulations.
California Energy Commission (CEC)	<p>The state agency established by the Warren-Alquist State Energy Resources Conservation and Development Act in 1974 (Public Resources Code, Sections 25000 et seq.) responsible for energy policy. The Energy Commission's seven major areas of responsibilities are:</p> <ul style="list-style-type: none"> • Forecasting statewide energy demand. • Licensing of power plants and transmission lines sufficient to meet those needs. • Promoting energy conservation and efficiency measures. • Promoting the development of renewable energy. • Promoting the transition to clean transportation fuels. • Investing in energy innovation. • Planning for and supporting the state's response to energy emergencies.

Term	Definition
	Funding for the Commission's activities comes from the Energy Resources Program Account, Federal Petroleum Violation Escrow Account, and other sources.
California Estimated Refinery Acquisition Cost (CA-RAC)	A weighted average of the prices of California (San Joaquin Valley) crude, Alaskan crude, and foreign crude.
California State Lands Commission (SLC)	The state agency that provides the people of California with stewardship of the lands, waterways, and resources entrusted to its care based on the principles of equity, sustainability, and resiliency, through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.
Hypermart	A station that is a company-owned or -operated supermarket or wholesale chain store that sells its own fuel at the same location
Oil Price Information Service (OPIS)	A company that provides crude oil and petroleum pricing data.
Petroleum Industry Information Reporting Act (PIIRA)	Legislation enacted in 1980 that enables a complete response to possible shortages of fuel or other disruptions. The information also helps develop and administer energy policies in the interest of the state's economy and the public's well-being.
Port Import/Export Reporting Service (PIERS)	A company that provides import and export data at the bill-of-lading level.
United States Energy Information Administration (EIA)	An independent agency within the U.S. Department of Energy that develops surveys, collects energy data, and analyzes and models energy issues. The agency must meet the requests of Congress, other elements within the Department of Energy, Federal Energy Regulatory Commission, the Executive Branch, its own independent needs, and assist the public, or other interest groups, without taking a policy position. See more information about EIA at http://www.eia.gov/about/
West Texas Intermediate (WTI)	A crude stream produced in Texas and southern Oklahoma that serves as a reference or "marker" for pricing several other crude streams and which is traded in

Term	Definition
	the domestic spot market at Cushing, Oklahoma.