



PETROLEUM WATCH

California Energy Commission

February 2017

Recent Petroleum News and Outside Analyses

Prices

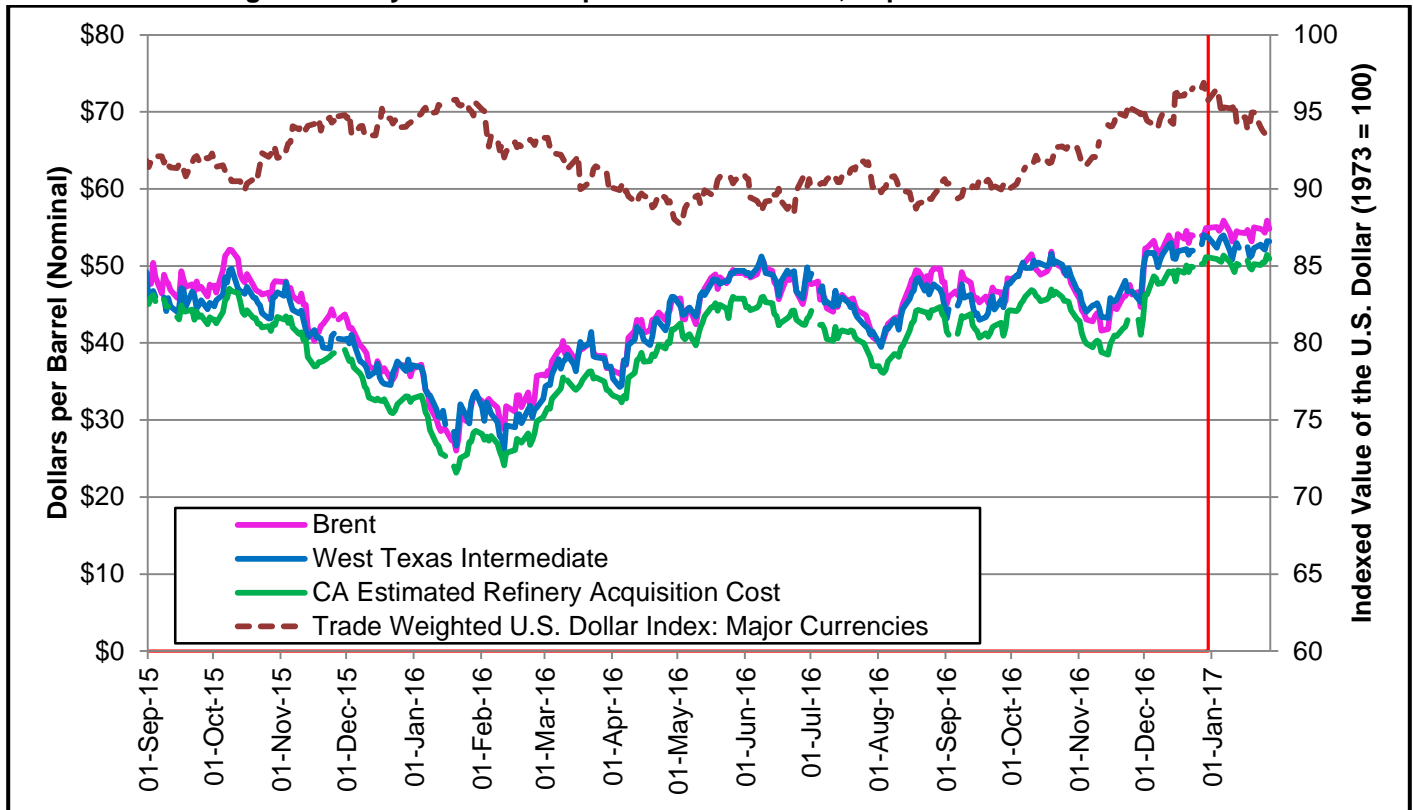
- **Crude Oil Prices:** Brent and West Texas Intermediate (WTI) crude prices closed at \$54.80 and \$53.18 on January 27, respectively (**page 2**).
- **California Retail Gasoline Prices:** On January 30, prices increased to \$2.79, a gain of \$0.08 since the end of December. Through January, California prices averaged \$0.44 higher than the national average (**Page 4**).
- **California Retail Diesel Prices:** On January 30, prices reached \$2.93, an increase of \$0.05 from the end of December. Through January, California prices averaged \$0.35 higher than the national average (**page 5**).

Refining News

- **Valero Benicia:** In January, the 149,000-barrel-per-day refinery started major planned maintenance, shutting down crude, hydrotreater, and coker units. Production of all products (diesel, gasoline, jet fuel) will be affected by these shutdowns.
- **PBF Torrance:** On January 7, the 155,000-barrel-per-day refinery restarted a crude unit after a minor restart event.
- **Phillips 66 Wilmington:** On January 5, the 133,000-barrel-per-day refinery experienced a shutdown due to a power outage.
- **Southern California Pipeline System:** The Kinder Morgan pipeline system transitions to delivering summer-blend gasoline on the second week of February. Summer-blend gasoline uses a more limited pool of inputs to meet air quality standards for Southern California.

Crude Oil Prices

Figure 1: Daily West Coast Spot Crude Oil Prices, September 2015 to Present



Source: U.S. Energy Information Administration (U.S. EIA), Oil Price Information Service (OPIS), and Federal Reserve Bank of St. Louis. Note: Red lines on all graphs indicate end of previous *Petroleum Watch* data. Areas to the right indicate new data since last month.

Crude oil prices have increased since late December (**Figure 1**). WTI moved from \$52.82 on December 27 to \$53.18 on January 27, an increase of 0.7 percent. Brent prices moved up from \$53.93 to \$54.80 over the same period, an increase of 2 percent. At the same time, the California Estimated Refiner Acquisition Cost (CA-RAC) of crude oil rose from \$50.24 on December 27 to \$50.95 on January 27.¹

Prices for all grades of crude oil remain above year-ago levels by 66 percent or higher. Throughout January, Brent and WTI were respectively \$21 and \$23 higher than in January 2016. The increase of crude prices can be attributed to the Organization of Petroleum Exporting Countries' (OPEC) agreement to cut production by 1.8 million barrels per day (BPD) in 2017. The participants in the agreement have achieved 82 percent compliance in promised production cuts for the month, as reported by Reuters.²

Crude Oil Prices

January 2017 vs 2016 (Percent Change)

Brent	77% higher
WTI	66% higher
CA-RAC	85% higher

January 2017 Averages

Brent	\$54.53
WTI	\$52.48
CA-RAC	\$50.40

January 27, 2017

Brent	\$54.80
WTI	\$53.18
CA-RAC	\$50.95

1 California estimated refiner acquisition cost is a weighted average of the prices of California (San Joaquin Valley) crude, Alaskan crude, and foreign crude.

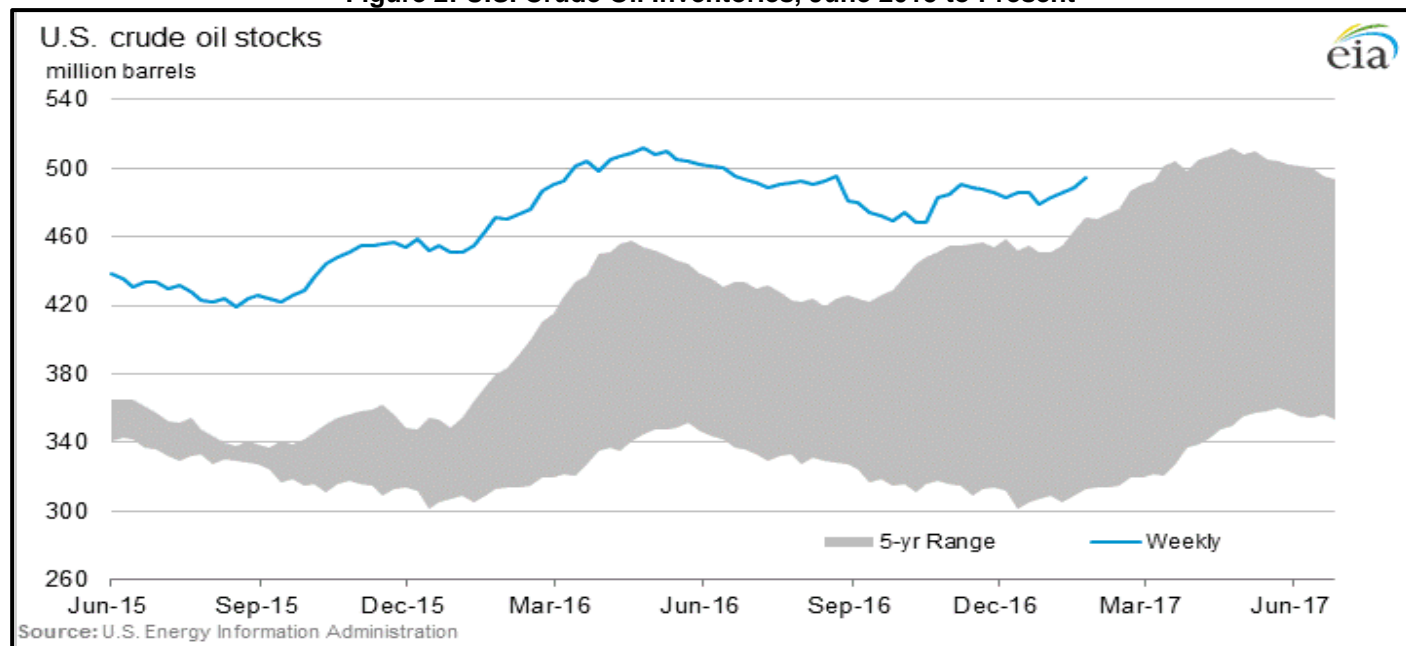
2 Reuters UK, <http://uk.reuters.com/article/uk-global-oil-idUKKBN15F04M>.

Crude Oil Production and Storage

U.S. crude oil inventories have risen since January's *Petroleum Watch* (Figure 2). Domestic crude oil production, crude oil imports, and refinery inputs rose as refineries across the United States completed planned maintenance, leading to little change in inventories.

- U.S. crude oil production for January is estimated by the U.S. Energy Information Administration (EIA) at 8.9 million bpd, a slight 240,000 bpd increase over December levels. This is a 300,000 bpd decline from year-ago production levels of 9.2 million bpd. Imports continued to rise in January to an estimated 8.4 million bpd, up from 7.8 million bpd in December. When compared to import levels from January 2016, this is an increase of 425,000 bpd.
- U.S. crude oil refinery inputs decreased by 110,000 barrels per day from December input levels, finishing January at 16.4 million bpd. Refinery inputs are still 425,000 bpd higher than year-ago levels.
- Crude oil inventories in the United States increased by 8.7 million barrels during January to 494.8 million barrels. The gap between year-ago (a previous five-year high) and current inventories remains at 23.5 million barrels. The combination of increased production and imports with lower refinery inputs has allowed inventories to rise.

Figure 2: U.S. Crude Oil Inventories, June 2015 to Present



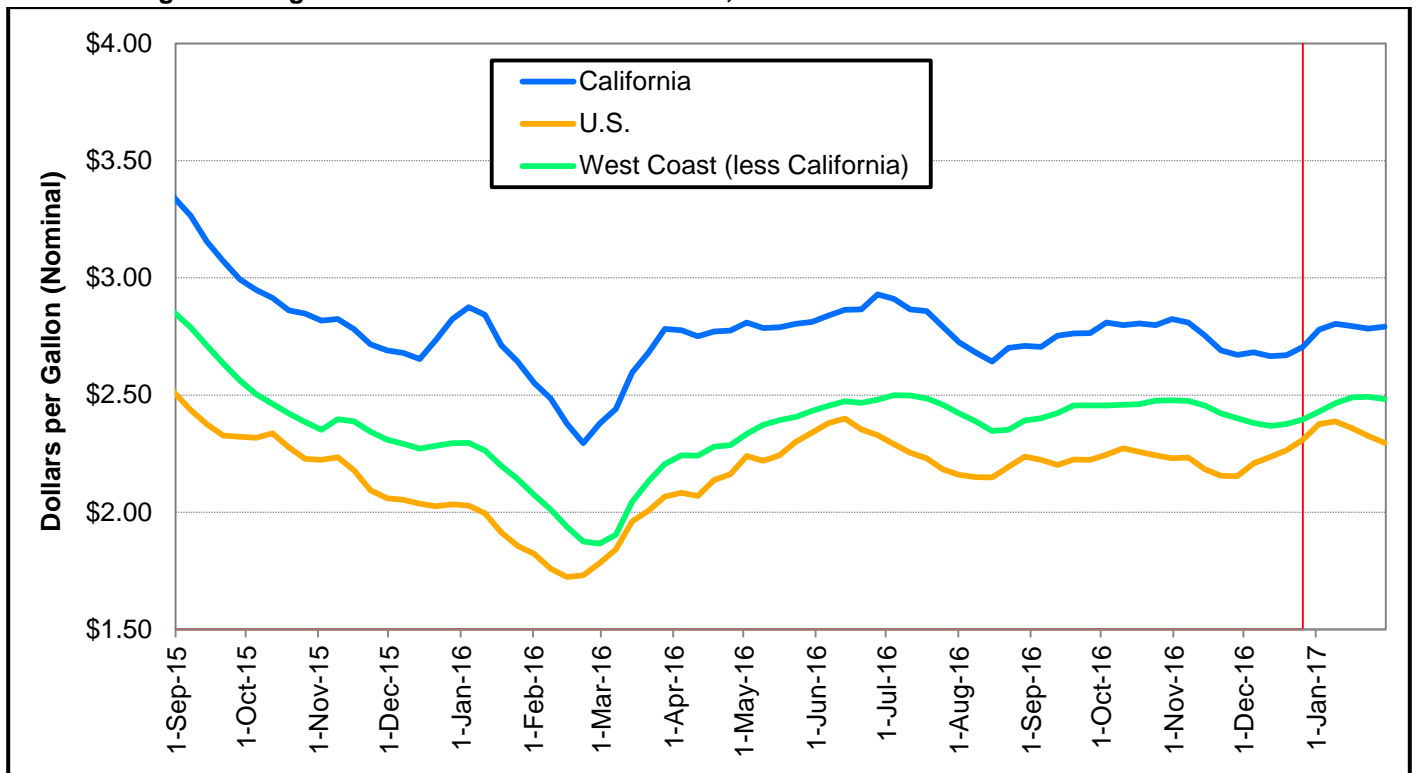
Source: U.S. EIA

- According to OPEC's January Monthly Oil Report, total December OPEC production decreased by 221,000 bpd to 33.08 million bpd. Crude oil output increased the most in Iraq, Angola, and Libya, while Saudi Arabia, Nigeria, and Venezuela experienced the largest decline in production. Even with the 82 percent compliance with the OPEC cuts, OPEC total production remains over a half a million bpd over their production cut target of 32.5 million bpd.³

³ Bloomberg Markets: <https://www.bloomberg.com/news/articles/2016-11-30/opec-said-to-agree-oil-production-cuts-as-saudis-soften-on-iran>.

Gasoline and Diesel Retail Prices

Figure 3: Regular Grade Gasoline Retail Prices, California vs. West Coast vs. United States



Source: U.S. EIA

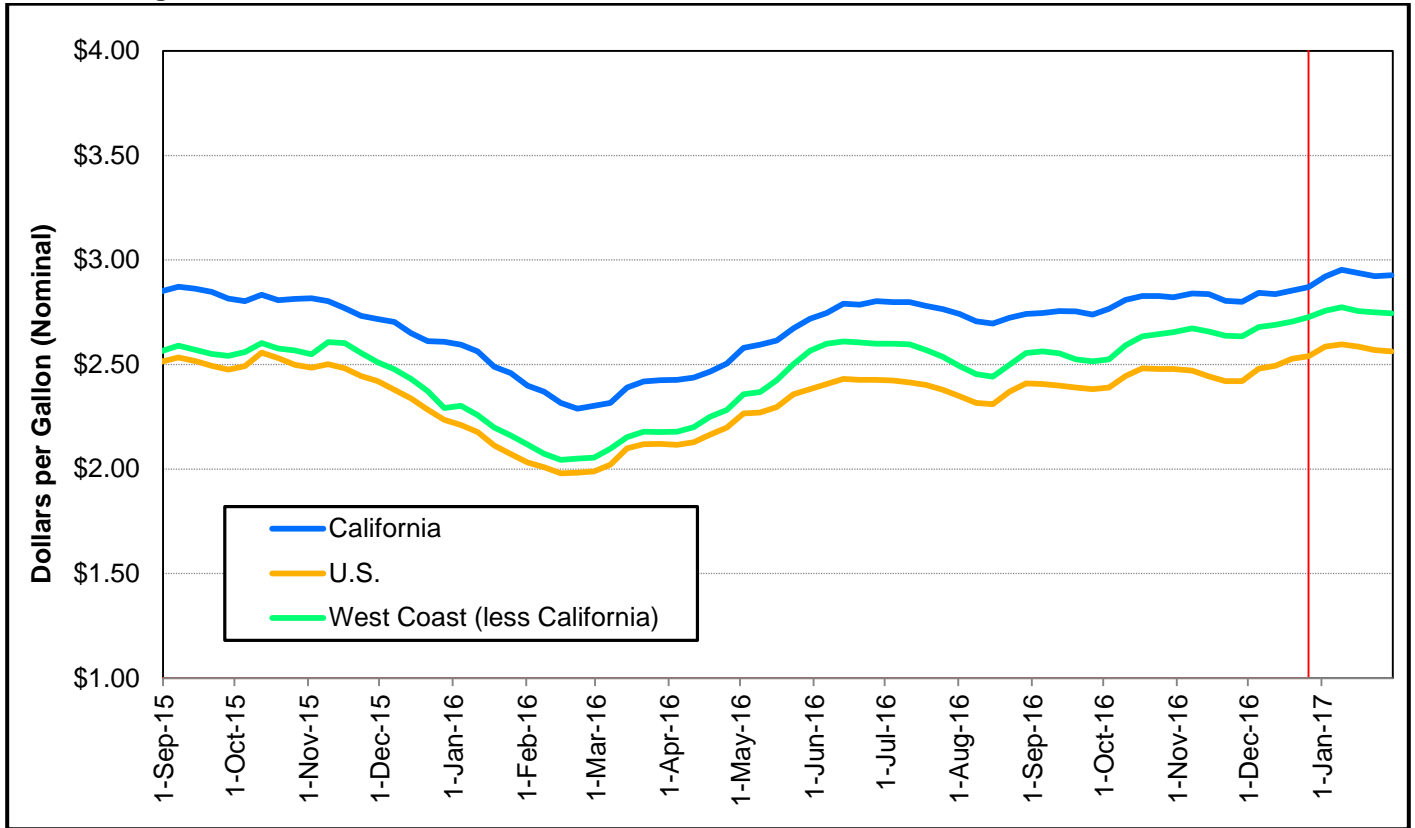
After decreasing in November 2016, California retail gasoline prices returned to October 2016 values in January 2017 (Figure 3). From the week of December 26, 2016, to the first week in January 2017, California prices went from \$2.71 to \$2.78. Prices rose again the following week, but only by \$0.02, and have since maintained the \$2.78 to \$2.80 level throughout the month.

This increase in retail gasoline prices was matched by U.S. gasoline prices at the beginning of the month. For the nation, gasoline prices began to rise in early December 2016 and peaked on the second week of January 2017 at \$2.39. Over the rest of January, U.S. gasoline prices fell \$0.09 to \$2.30. The last week of December 2016 and the first week of January 2017 mark the lowest weekly differential between U.S. and California gasoline prices since the February 2015 Torrance Refinery accident (\$0.40). The rise in California and U.S. gasoline prices appears to be a result of higher crude oil prices (Figure 1), which rose in November and December on word of the OPEC and Russian crude oil supply reduction agreement.

West Coast retail gasoline prices (minus California) followed the same general pattern as California prices but did not rise as quickly in the beginning of January. California retail prices were \$0.35 higher in early January, but by the fourth week, the difference had decreased to \$0.29.

Gasoline Prices	
January 2017 vs 2016	
(Percent Change)	
California	1% higher
U.S.	21% higher
West Coast	11% higher
January 2017 Averages	
California	\$2.78
U.S.	\$2.35
West Coast	\$2.47
Week of January 30, 2017	
California	\$2.79
U.S.	\$2.30
West Coast	\$2.48

Figure 4: No. 2 Diesel Ultra-Low-Sulfur Retail Prices, California vs. PADD5 vs. United States



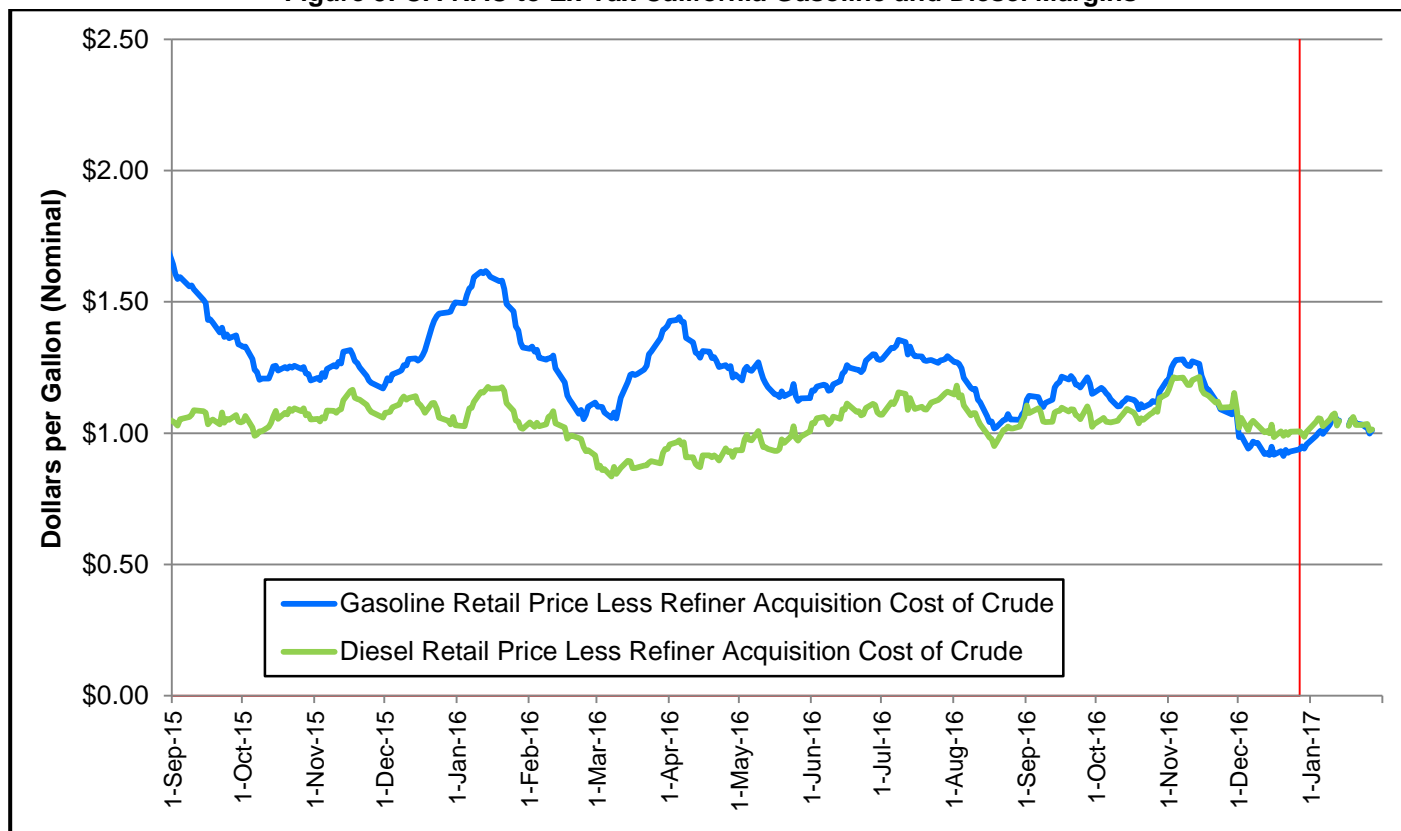
Source: U.S. EIA

California diesel prices increased in January reaching \$2.93 on January 30 (Figure 4), an increase of \$0.06 compared to the last week in December. U.S. prices rose at similar rates, increasing \$0.02 to end January at \$2.54. California prices averaged \$0.36 higher than U.S. prices throughout January. California has consistently averaged \$0.32 to \$0.36 over U.S. retail prices for the past 21 months.

The outlook for diesel prices in the upcoming months indicates they should rise. California's diesel supply tends to be stable throughout the year as most refineries have excess production capacity. Diesel prices have risen in accordance with the slow rise in crude prices (page 2). Diesel demand often rises as diesel fuel use for farm equipment increases during the upcoming planting season. This bump in demand should pull prices upward, but a large enough drop in crude prices could negate any gains.

<u>Diesel Prices</u>	
<u>January 2017 vs 2016</u>	
(Percent Change)	
California	11% higher
U.S.	12% higher
West Coast	15% higher
<u>January 2017 Averages</u>	
California	\$2.93
U.S.	\$2.58
West Coast	\$2.76
<u>Week of January 30, 2017</u>	
California	\$2.93
U.S.	\$2.56
West Coast	\$2.74

Figure 5: CA-RAC to Ex-Tax California Gasoline and Diesel Margins



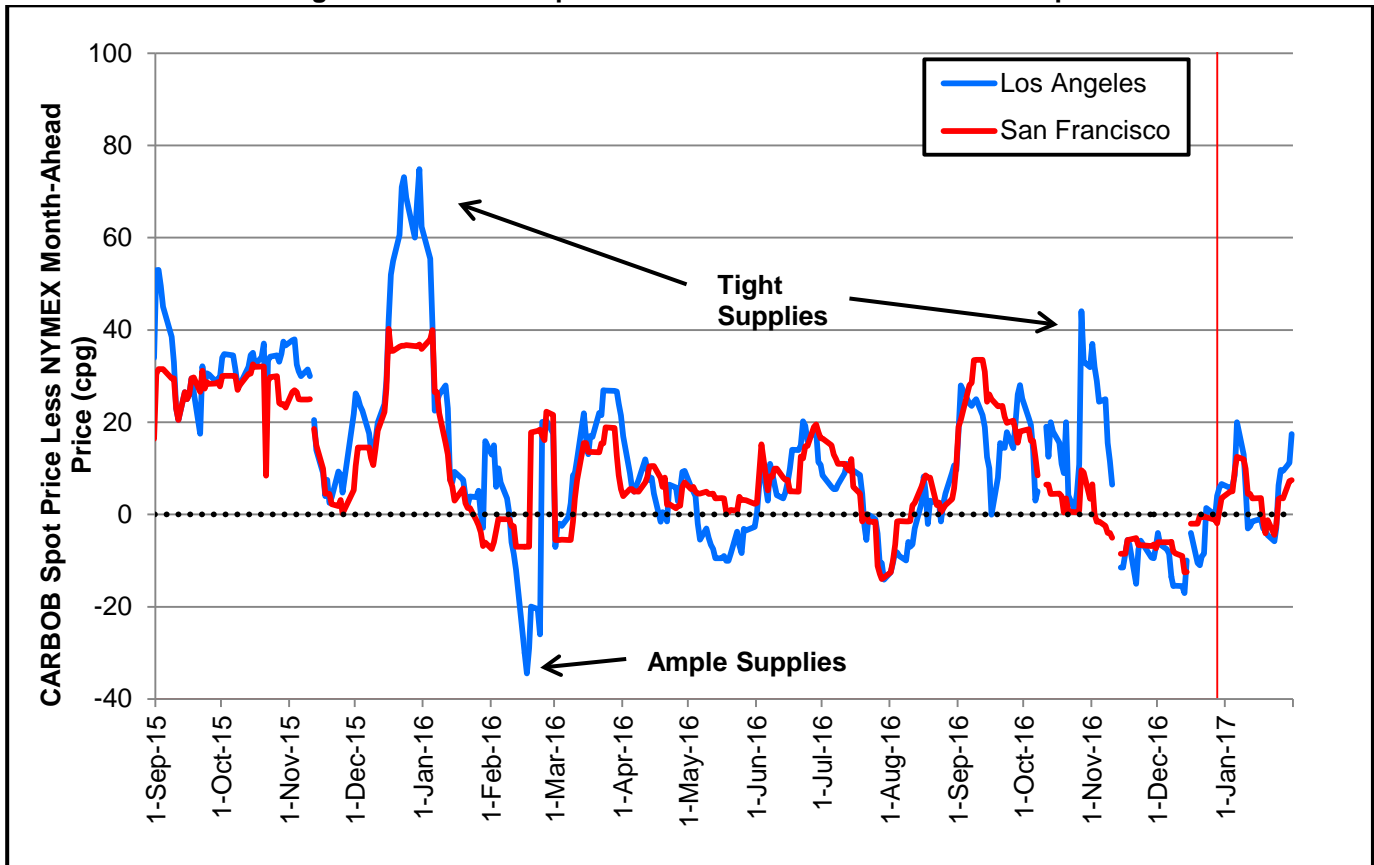
Source: U.S. EIA and OPIS

The CA-RAC-to-ex-tax retail gasoline margin increased \$0.08 to \$1.01 on January 27. Diesel margins in California stayed stable, rising \$0.08 to a mid-January peak of \$1.08 before falling back to \$1.01 on January 27 (Figure 5). This marks a rare moment where gasoline and diesel margins are equal or within mere cents of each other since July 2014. Both gasoline and diesel margins have decreased since the same month last year, 32 percent and 6 percent lower, respectively.

Two factors are likely to raise gasoline margins in the near future. As early as March, gasoline sold in California will transition to a stricter and more difficult-to-produce summer blend standard. California refineries will start maintenance in preparation for the more stringent production standard in February. The constrained supply situation will push prices and margins higher as refineries go offline for these major overhauls.

<u>Crude to Retail Margins</u>	
January 2017 vs 2016	
(Percent Change)	
Gasoline	32% lower
Diesel	6% lower
January 2017 Averages	
Gasoline	\$1.03
Diesel	\$1.04
January 27, 2017	
Gasoline	\$1.01
Diesel	\$1.01

Figure 6: California Spot Gasoline to NYMEX Futures Price Spread



Source: U.S. EIA and OPIS

Both Los Angeles (LA) and San Francisco (SF)-less-New York Mercantile Exchange (NYMEX) spot gasoline price differentials were moderately volatile in January 2017 (Figure 6). After trading at a discount for most of December 2016, both differentials rebounded by the end of December in anticipation of the holiday demand. This trend continued into the first week of 2017. The LA spot gasoline premium increased by \$0.12 on January 6 alone due to two Southern California refineries shutting down (page 1), but both were quickly repaired. With all refineries up and running, gasoline inventories steadily increased in mid-January (Figure 8), and travel deterrents like very heavy rains likely caused a drop in fuel demand. Both LA and SF spot gasoline differentials plummeted to -\$0.06 and -\$0.04, respectively, on January 23 before rising in the following weeks.

Major planned maintenance at the Benicia refinery drove refiners to buy in the wholesale market, causing the SF-less-NYMEX to reach a premium of \$0.07 by January 31. At the same time, since Southern California warms up earlier than Northern California, the LA spot gasoline market was preparing to shift from winter-blend gasoline to the more stringent summer-blend gasoline to reduce evaporative emissions during the warmer months. This likely pushed the LA spot price back up to \$0.17 over NYMEX in the final weeks of January.

Gasoline Spot-Futures Spread

January 2017 vs 2016

Los Angeles	11¢ lower
San Francisco	6¢ lower

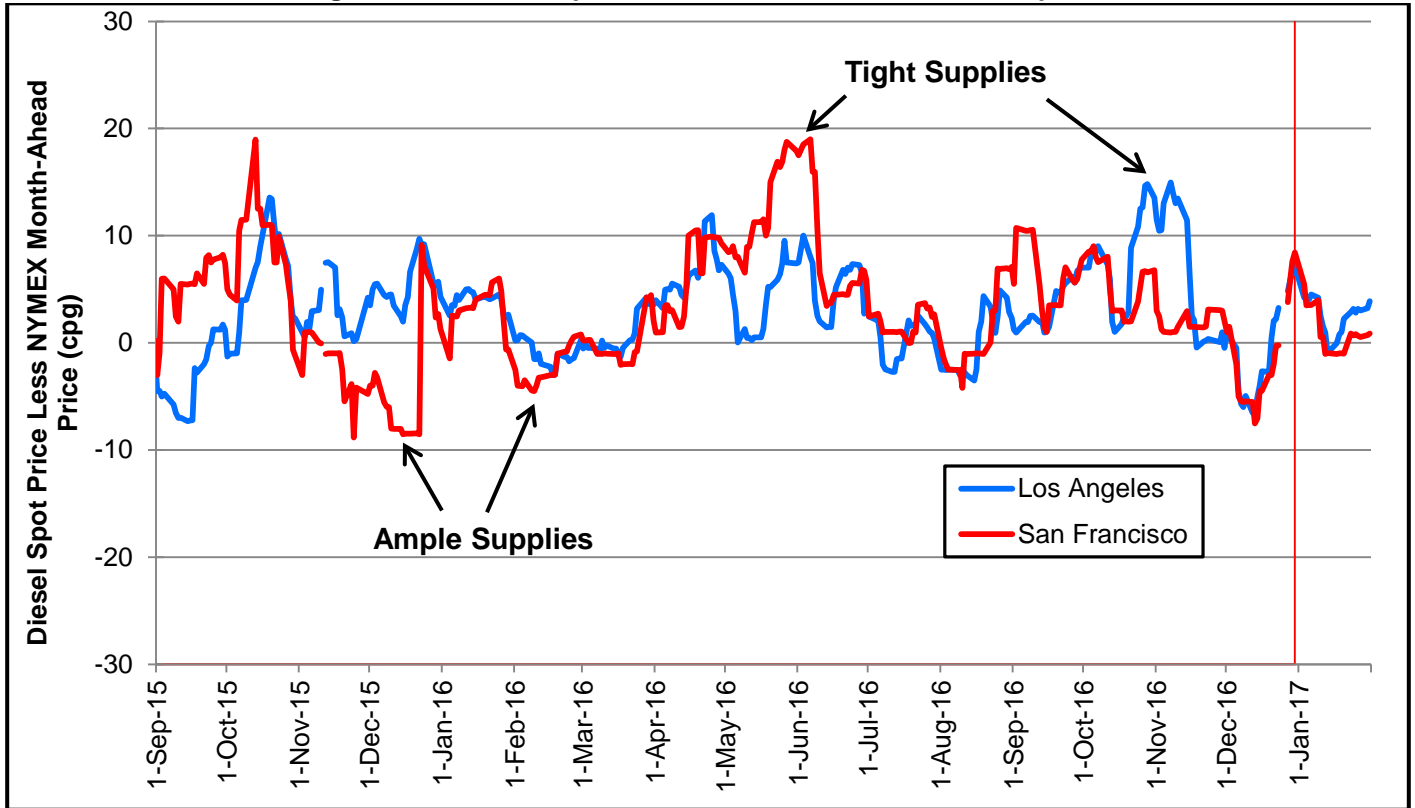
January 2017 Averages

Los Angeles	4¢
San Francisco	4¢

January 31, 2017

Los Angeles	17¢
San Francisco	7¢

Figure 7: California Spot Diesel to NYMEX Futures Price Spread



Source: U.S. EIA and OPIS

The California diesel spot market began the first half of January 2017 in decline after the LA-less-NYMEX and SF-less-NYMEX diesel spot market differentials peaked on December 30, 2016, at a spread of \$0.07 and \$0.08 (Figure 7). The decline is due to refineries coming out of fall/winter maintenance, returning California refinery utilization rates to normal according to the EIA, and California diesel inventories to healthier levels (Figure 9).

In the second half of January, the declining differentials reversed. On January 13, both LA and SF differentials were at -\$0.01 below NYMEX before prices slowly climbed to \$0.04 and \$0.01 on January 31, respectively. It is around this period that California diesel production levels began to decline due to maintenance on hydrocracker and hydrotreater equipment for Phillips66 Rodeo and Valero Benicia refineries (page 1).

The January averages for LA-less-NYMEX and SF-less-NYMEX differentials were positive at \$0.03 and \$0.01 respectively, which is still \$0.01 and \$0.02 lower than averages a year ago.

Diesel Spot-Futures Spread

January 2017 vs 2016

Los Angeles 1¢ lower
San Francisco 2¢ higher

January 2017 Averages

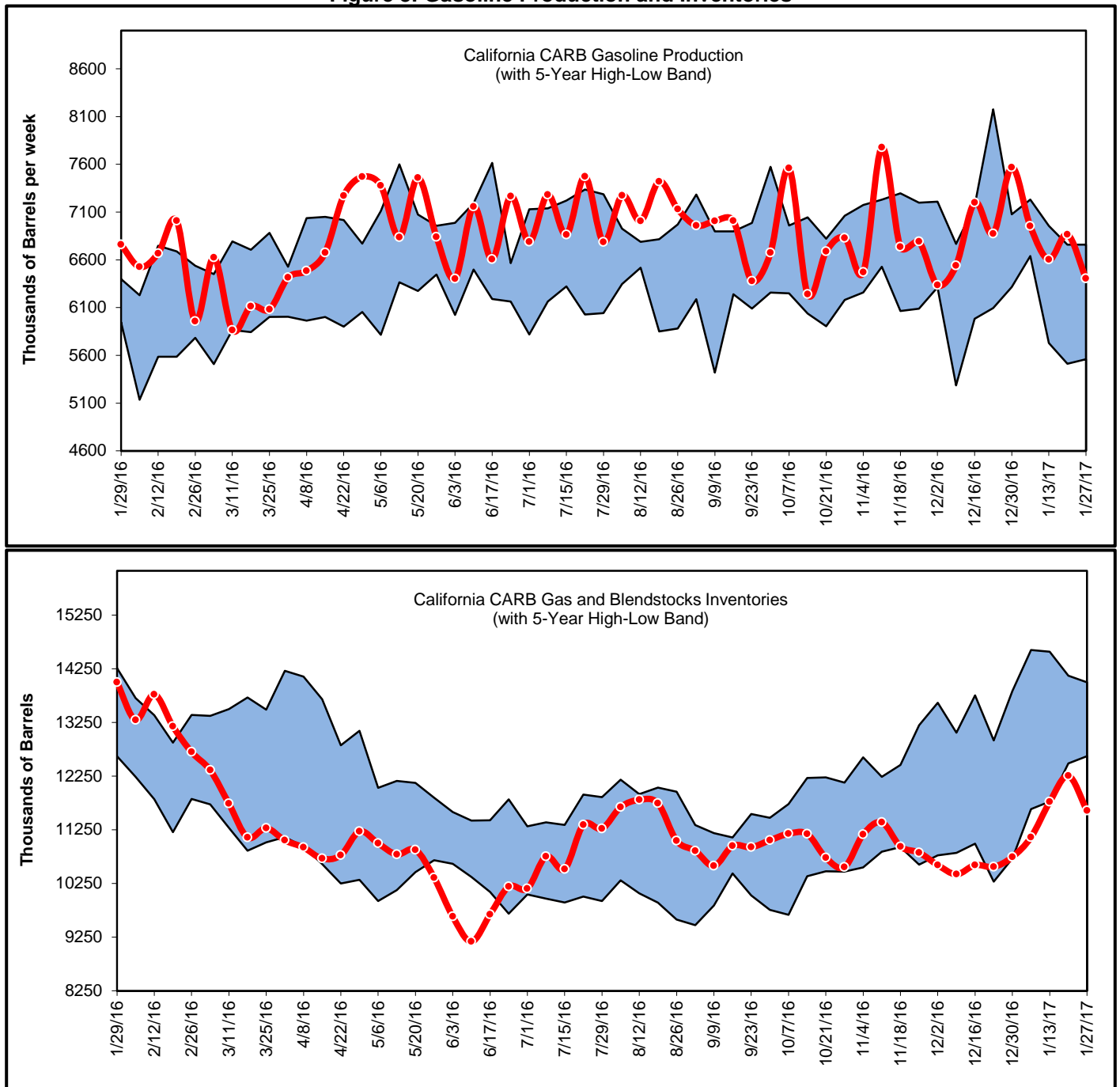
Los Angeles 3¢
San Francisco 1¢

January 31, 2017

Los Angeles 7¢
San Francisco 8¢

California Gasoline and Diesel Production and Inventories

Figure 8: Gasoline Production and Inventories

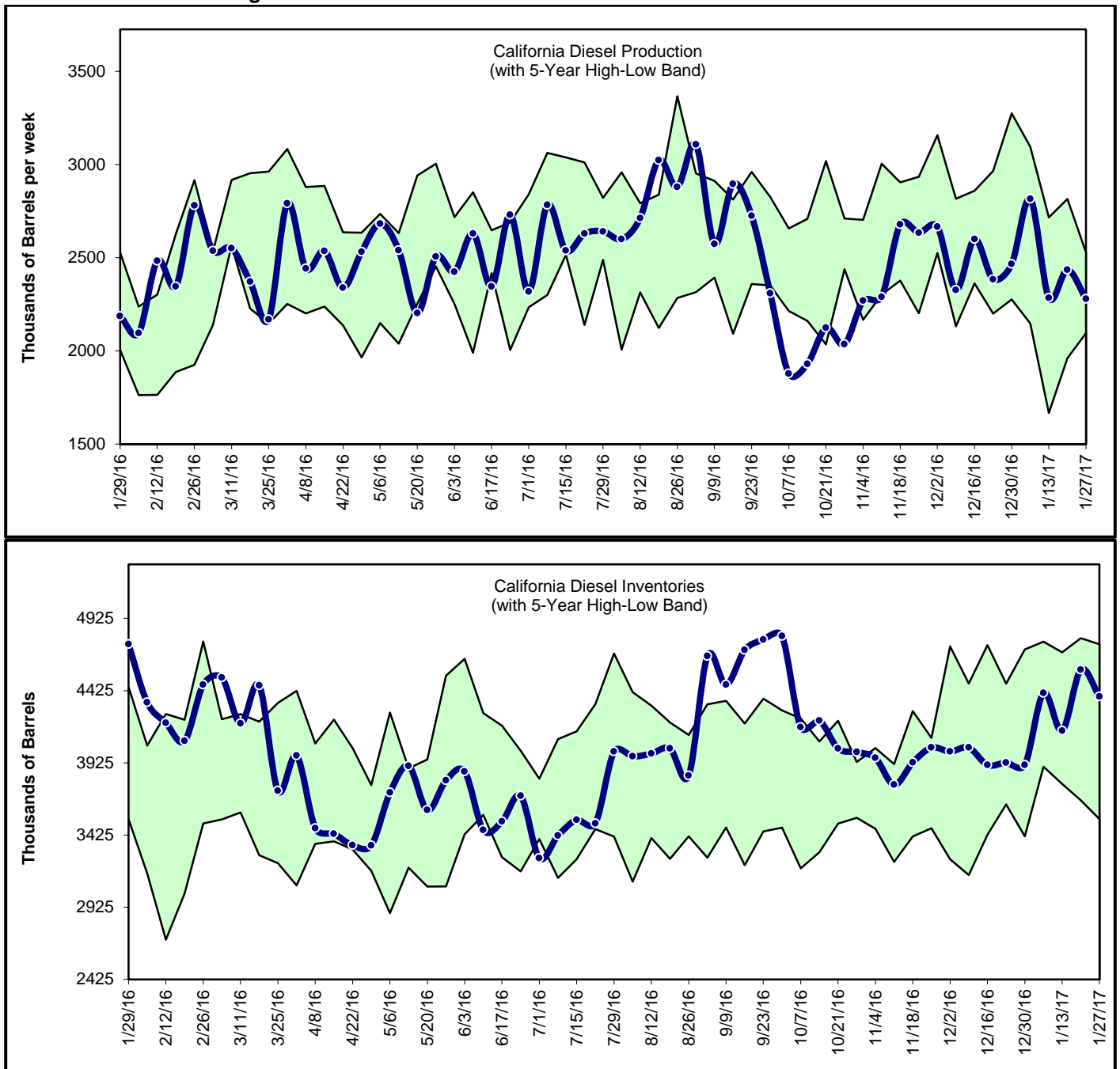


Source: PIIRA data

From December 30 to January 27, California gasoline production dropped 1.2 million barrels from 7.6 million barrels per week (bpw) to 6.4 million bpw. Even with the drop, gasoline production remained high compared to the five-year band, averaging 6.7 million bpw through January (**Figure 8**).

Gasoline inventories increased an average of 0.4 million bpw since December 30, from 11.1 million barrels to 12.2 million barrels on January 20, and remained underneath the five-year band. Overall, January's inventory averaged 0.7 million barrels lower compared to same time last year.

Figure 9: Northern California Gasoline Production and Inventories



Source: PIIRA data

Diesel production remained within the five-year band from December 30 to January 27, averaging 2.4 million bpw. During the beginning of the year, California’s refineries were experiencing outages. The following week, diesel production dropped 0.5 million barrels to 2.3 million bpw on January 13 from 2.8 million bpw on January 6 (Figure 9).

Since the January *Petroleum Watch*, California diesel inventory has been well-supplied, averaging 4.4 million barrels, 0.7 million barrels above the five-year band.