

PETROLEUM WATCH

CALIFORNIA ENERGY COMMISSION

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PETROLEUM NEWS

PRICES

- **Crude Oil Prices:** On February 28, Brent and West Texas Intermediate (WTI) crude prices closed at \$65.03 and \$57.21, respectively. The Brent crude price is \$1.05 lower than one year ago and the WTI price is \$4.22 lower (**page 2**).
- **California Retail Gasoline Prices:** On February 25, prices reached \$3.18, an increase of \$0.05 since the end of January. Through February, California prices averaged \$0.85 higher than the national average (**page 4**).
- **California Retail Diesel Prices:** On February 25, prices reached \$3.77. This was an increase of \$0.05 from the end of January. Through February, California prices averaged \$0.74 higher than the national average (**page 5**).

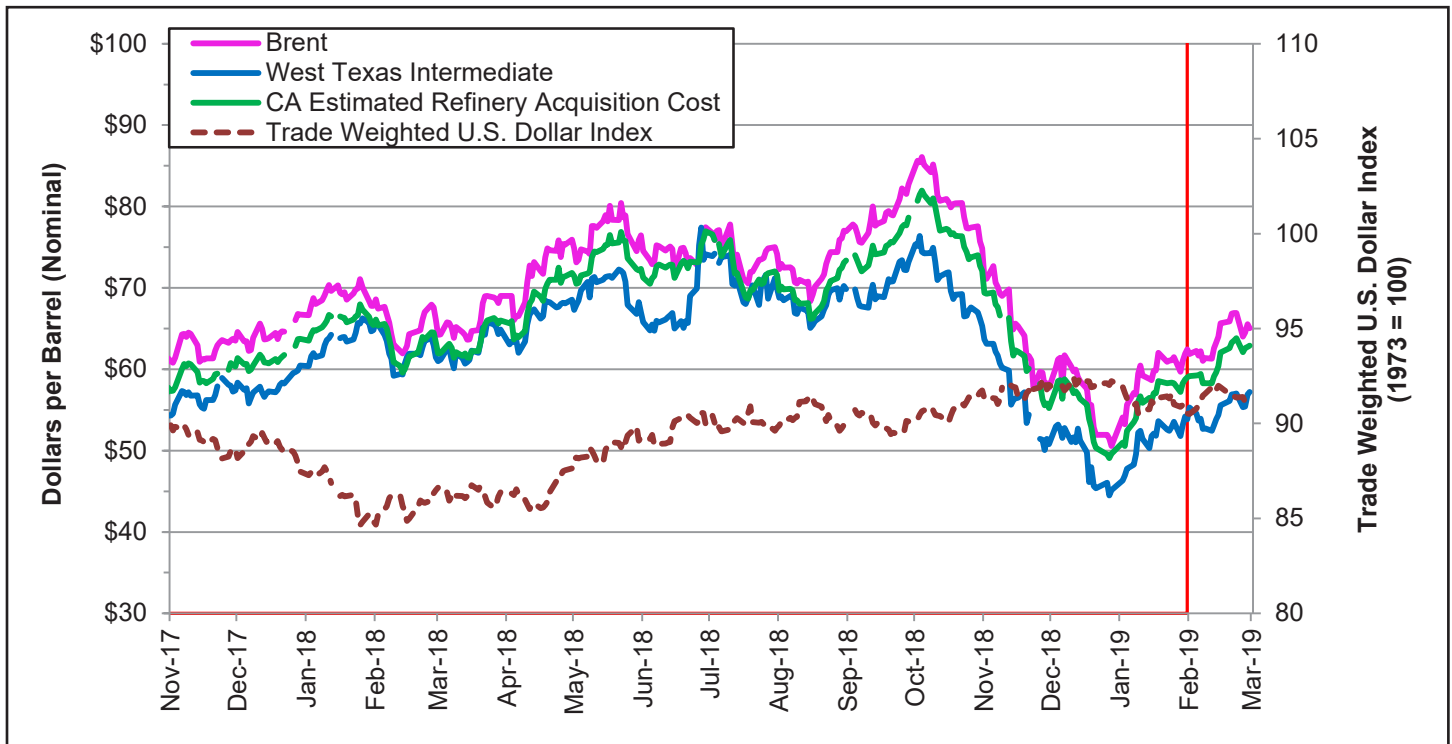
REFINING NEWS

- **Chevron Richmond Refinery:** On February 2, the refinery experienced a power outage that shut down operations. The refinery was back on-line by February 5.
- **PBF Torrance Refinery:** On February 28, the refinery completed planned maintenance on its delayed coker, sulfur recovery, hydrofluoric acid alkylation, and hydrocracker units.
- **Phillips 66 Wilmington:** On February 9, the refinery began unplanned maintenance on an unspecified unit.
- **Valero Benicia Refinery:** On February 5, the refinery began planned maintenance on an unspecified unit.



CRUDE OIL PRICES

Figure 1: Daily West Coast Spot Crude Oil Prices



Source: U.S. Energy Information Administration (EIA), Oil Price Information Service (OPIS) and Federal Reserve Bank of St. Louis.

CRUDE OIL PRICES

February 2019 vs 2018

(Percentage Change)

Brent	2% lower
WTI	12% lower
CA-RAC	3% lower

February 2019 Averages

Brent	\$63.83
WTI	\$54.95
CA-RAC	\$60.87

February 28, 2018

Brent	\$65.03
WTI	\$57.21
CA-RAC	\$62.90

Upward price momentum from January carried into February's crude oil spot prices, with Brent increasing its monthly average by 8 percent, WTI by 7 percent, and California Refinery Acquisition Cost (CA-RAC) by 8 percent.¹ On February 22, WTI and CA-RAC reached their respective monthly peaks of \$66.91 and \$63.81 while WTI peaked on February 28 at \$57.21. Prices appear to be holding past resistance levels that began in December 2018: \$62.00 for Brent, \$53.00 for WTI, and \$59.00 for CA-RAC (Figure 1). Prices briefly dipped in the last week but picked up again moving into March.

The average for the Brent-WTI differential increased to \$8.88, \$1.01 higher than the average for January. Spreads between the two prices have not been this wide since October of last year when it averaged

\$10.28. The price difference started the month at \$6.57 (the lowest for February), then steadily widened to a peak of \$10.07 on February 15 before narrowing closer.

Movement for Brent was steeper than WTI, resulting in a wider spread. Factors contributing to the wider differential could be the Organization of Petroleum Exporting Countries (OPEC) production curbs, the United States' continuing rise in production, and policy impacts in the international market. U.S. sanctions on Iran and Venezuela tightened global supply even further amid the cuts in OPEC production.² Trade negotiations between China and the United States did not meet the imposed March 1 deadline but the delay in the \$200 billion tariffs on Chinese goods suggests progress.³ WTI has seen consistent increases since the beginning of 2019, implying that the threat of losing the large crude importer has died down.

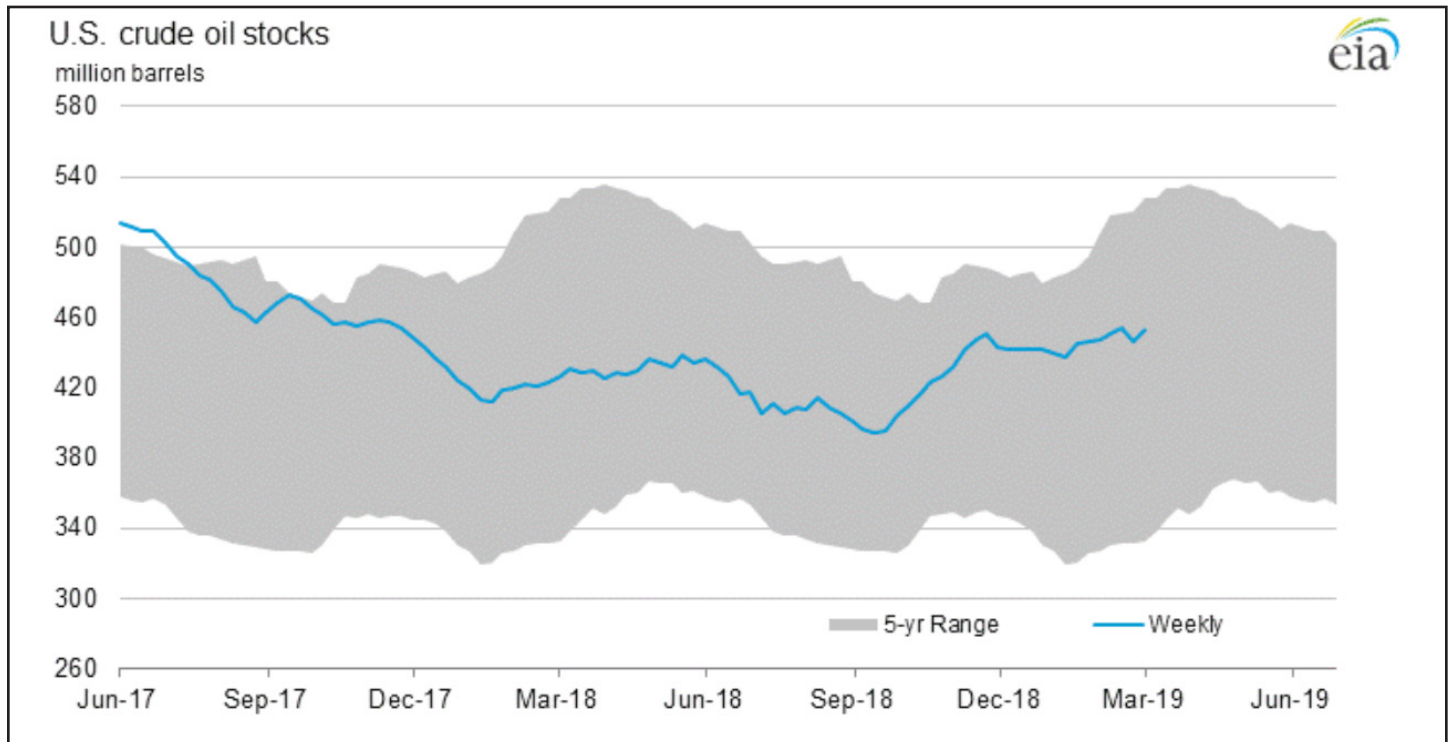
1 CA-RAC is a weighted average of the prices of California (San Joaquin Valley) crude, Alaskan crude, and foreign crude.

2 "US crude rises 2.2% to 3-month high, settling at \$55.59, boosted by OPEC output cuts," CNBC, February 14, 2019, <https://www.cnbc.com/2019/02/15/oil-markets-us-sanctions-on-venezuela-and-iran-opec-in-focus.html>.

3 "U.S. and China said to appear close to deal to roll back tariffs," Reuters, March 3 2019, <https://www.reuters.com/article/us-usa-china-trade/u-s-and-china-said-to-appear-close-to-deal-to-roll-back-tariffs-idUSKCN1QKOSW>.

CRUDE OIL PRODUCTION & STORAGE

Figure 2: U.S. Crude Oil Inventories



Source: U.S. Energy Information Administration

- U.S. crude oil production for February averaged 11.97 million barrels per day (bpd). This amount is 120,000 bpd higher than the January average of 11.65 million bpd. This is a 1.7 million bpd increase from February 2018, when production averaged 10.27 million bpd.
- Crude oil imports decreased from January's average by 960,000 bpd to 6.70 million bpd in February. Compared to February 2018 imports, this number is a decrease of 822,000 bpd.
- U.S. crude oil refinery inputs decreased by 1.075 million bpd since January, finishing February at a four-week average of 16.0 million bpd. Refinery inputs are barely higher than a year ago by 8,000 bpd.

- U.S. crude oil inventory in February remained at January's level of 446 million barrels. Current inventories are 22.4 million barrels higher than February 2018 inventories.
- According to OPEC's February Monthly Oil Market Report, total January OPEC production decreased by 797,000 bpd to 30.81 million bpd.⁴ OPEC decreased its demand forecast for 2019 by 80,000 bpd to 100 million bpd.

Crude imports were lower on monthly and annual levels, suggesting that demand has dropped for the moment. A greater indicator of short-term demand dropping is the 1.075 million bpd decrease in refinery inputs. Moreover, the Bureau of Economic Analysis has released fourth quarter reports, which indicate a 0.8 percentage point decrease from the third quarter (3.4 to 2.6). Economic growth

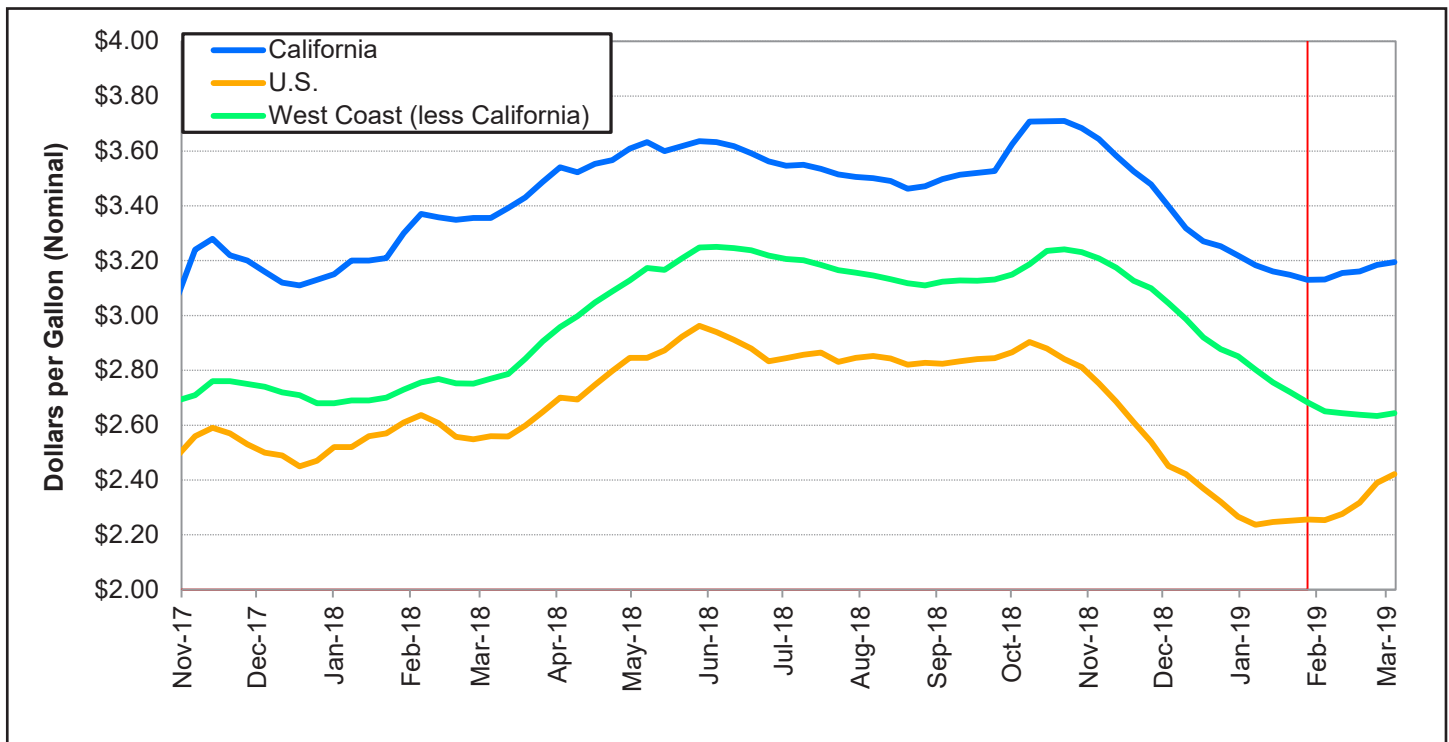
in the United States has been positive overall, but the declining quarterly growth rates could be a sign that the prosperity is beginning to slow down. Meanwhile, supply in the United States shows no indication of slowing down with large shale players announcing plans to ramp up production by 40 to 80 percent in the Permian Basin within the next five years.

OPEC's adjustment to its demand forecast reveals that global economic growth is expected to lose momentum. Uncertainty in Europe concerning Brexit developments, the political climate in Middle East and Latin America, and worries of a prolonged economic decline in China are all likely contributors to their lower forecast.

⁴ OPEC February Monthly Oil Market Report, page iii, page 57: http://www.opec.org/opec_web/en/publications/338.htm.

GASOLINE AND DIESEL RETAIL PRICES

Figure 3: Gasoline Retail Prices



Source: U.S. Energy Information Administration

GASOLINE PRICES

February 2019 vs 2018

(Percentage Change)

California	2% lower
U.S.	12% lower
West Coast	2% higher

February 2019 Averages

California	\$3.16
U.S.	\$2.31
West Coast	\$2.64

Week of February 25, 2019

California	\$3.18
U.S.	\$2.39
West Coast	\$2.63

The California retail price remained steady at \$3.16 from January 28 to February 4 (Figure 3). The price increased over the rest of the month to \$3.18 on February 25 (sidebar). The average price in California is \$0.20 lower at \$3.16 when compared to same month last year. The West Coast (less California) price was on a downward trend and decreased from \$2.65 on February 4 to \$2.63 on February 25. The West Coast price is the lowest since August 14, 2017, at \$2.61.

The United States retail price had the largest increase and added \$0.14 to the February 4 price of \$2.25 to end February 25 at \$2.39. Despite having the largest increase, the U.S. average monthly price is 11 percent lower than February

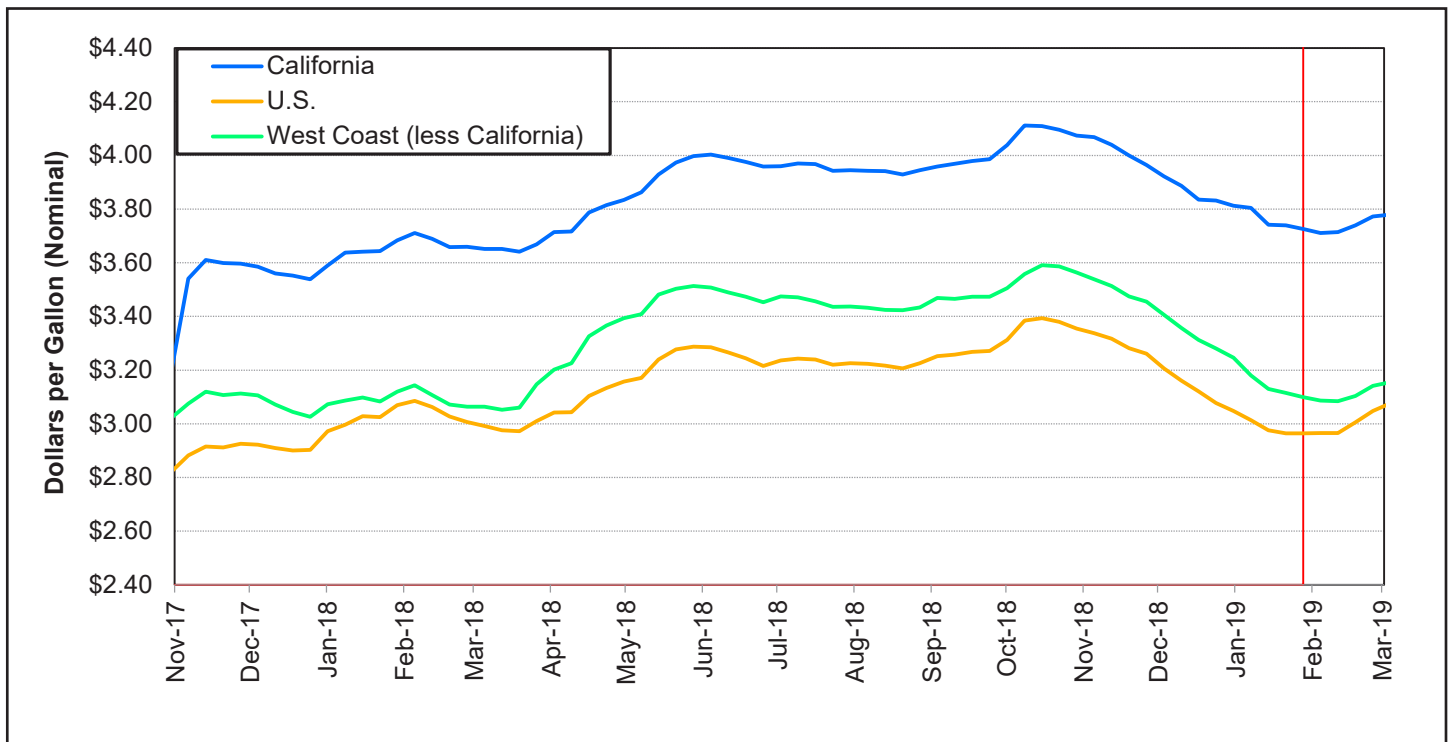
2018 (sidebar). The price continued to increase and finished March 4 at \$2.42. The gap between the California and U.S. average prices decreased to \$0.85 from \$0.91 in January. The gap between the California and West Coast average prices increased to \$0.52 from \$0.41 in January.

Crude oil prices trended upward from February to March. Total U.S. gasoline stocks fell from 258 million barrels on February 8 to 251 million on March.⁵ During that time, the U.S. gasoline retail price increased \$0.17 from February 4 at \$2.25 to \$2.42 on March 4.

⁵ This Week in Petroleum, U.S. EIA, March 6, 2019: <https://www.eia.gov/petroleum/weekly/gasoline.php>.

GASOLINE AND DIESEL RETAIL PRICES

Figure 4: Diesel Retail Prices



Source: U.S. Energy Information Administration

DIESEL PRICES

February 2019 vs 2018

(Percentage Change)

California	1% higher
U.S.	2% lower
West Coast	0%

February 2019 Averages

California	\$3.73
U.S.	\$3.00
West Coast	\$3.10

Week of February 25, 2019

California	\$3.77
U.S.	\$3.05
West Coast	\$3.14

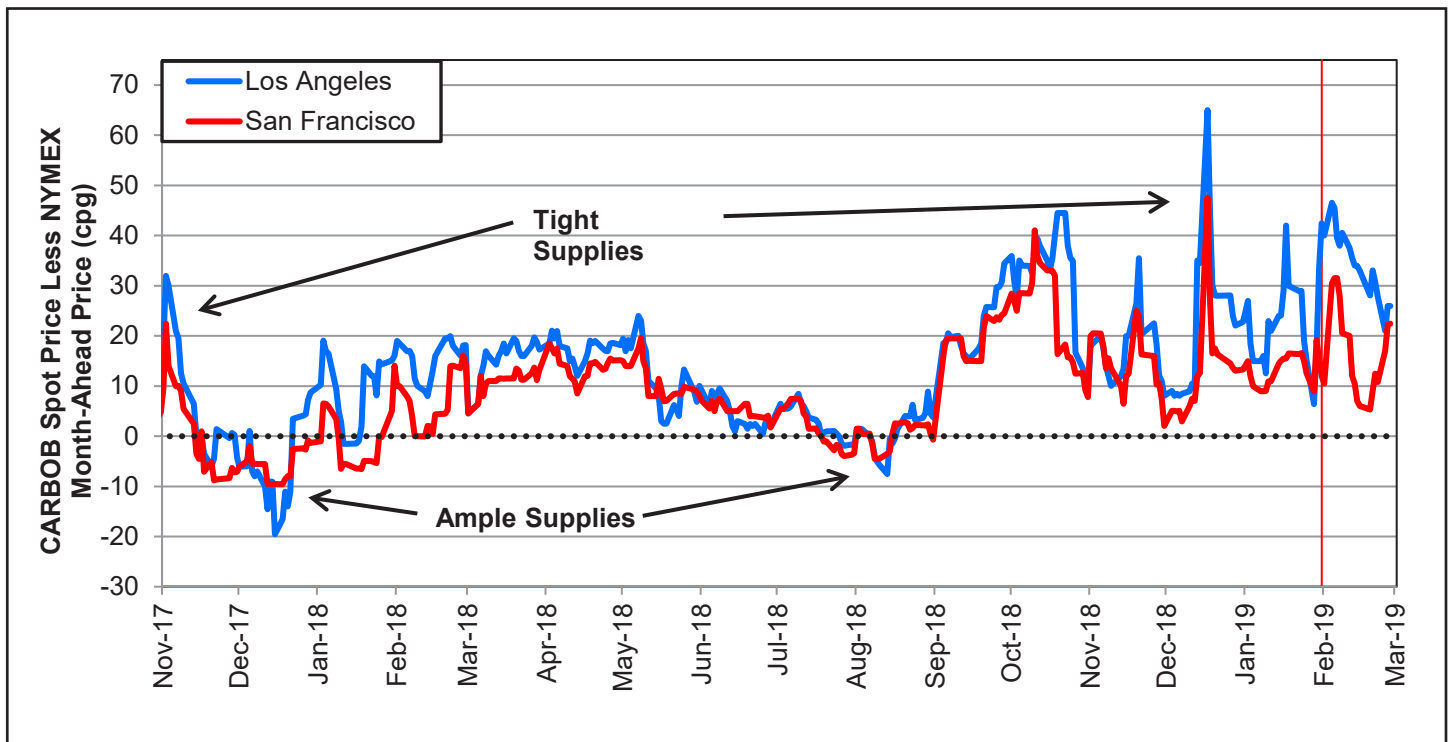
Diesel retail prices leveled off and then increased at the end of February. Starting February 2 at \$3.71, California diesel prices increased \$0.06 by February 25. The United States as a whole had a slightly larger increase, adding \$0.08 to end February 25 at \$3.05. The West Coast price, minus California, added \$0.05 to end February 25 at \$3.14. The California and U.S. monthly average prices each increased \$0.02, and the West Coast increased \$0.03. Compared to the same time last year, the price increases were modest with California up 1 percent, the United States up 2 percent lower, and the West Coast seeing no change.

Diesel prices across the United States increased in February. Generally, February is a time where prices remain flat or decline due to falling demand. This year, lower production and steady demand ate into diesel fuel stocks and increased the price across the United States. California conversely managed to increase production (Figure 8) to meet local demand to keep a ceiling on prices.

Looking forward to March, planting season will be well under-way. Planting season naturally adds to diesel demand, but does not always increase the price. If California refiners can respond to the increase in demand, prices may go down.

SPOT MARKET SPREADS

Figure 5: California Spot Gasoline to NYMEX Futures Price Spread



Source: U.S. Energy Information Administration and OPIS

GASOLINE SPOT - FUTURES SPREAD

February 2019 vs 2018

Los Angeles	18¢ higher
San Francisco	10¢ higher

February 2019 Averages

Los Angeles	34¢
San Francisco	17¢

February 28, 2019

Los Angeles	22¢
San Francisco	19¢

The Los Angeles (LA) and San Francisco (SF) gasoline spot less New York Mercantile Exchanges (NYMEX) futures spreads were \$0.40 and \$0.10, respectively, on February 1 (Figure 5). The spreads increased to reach monthly highs of \$0.47 for LA on February 4 and \$0.32 for SF on February 6. The spreads then decreased to monthly lows of \$0.21 for LA on February 25, and \$0.05 for SF on February 19. On February 28, the LA spread was \$0.22 and the SF spread was \$0.19.

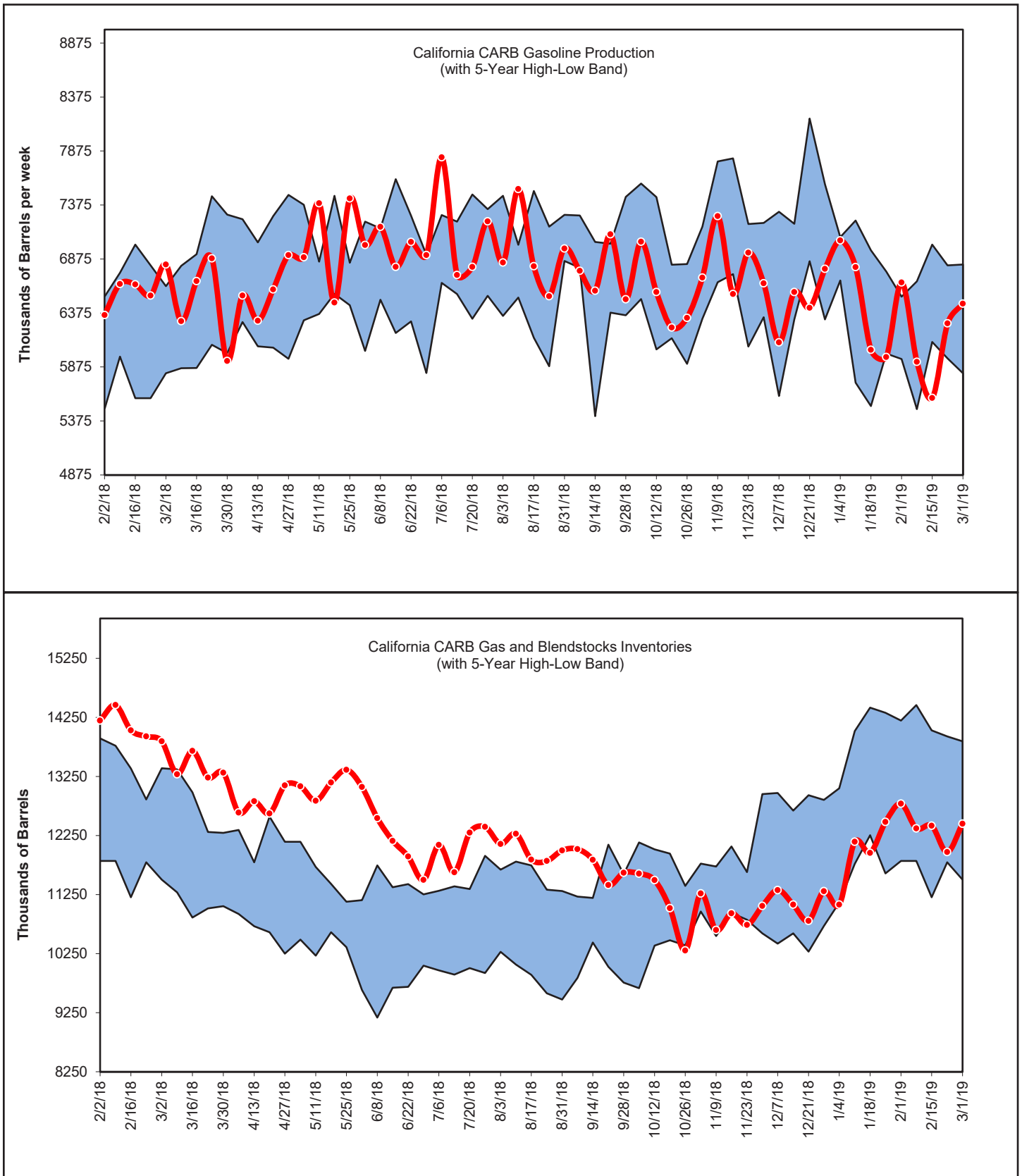
At \$0.34, the monthly average for the LA spread has not been this high since December 2015. A power outage at Chevron Richmond likely contributed to the spike seen in the SF spread on February 4. Refineries are also switching from winter to summer blend gasoline. LA switches in February followed by SF in March. These events, along with differences between Northern and Southern California production and inventories, likely

contributed to the increase in the spreads.

California gasoline production was above the five-year band high at 6.7 million barrels per week (bpw) on February 1 (Figure 6). Production then fell below the five-year band at 5.6 million bpw on February 15. By March 1, production increased to 6.5 million bpw, which is within the five-year band. Gasoline inventories decreased from 12.8 million barrels to 12.4 million barrels between February 1 and March 1, respectively. There were some large differences in production and inventory between Northern and Southern California. Northern California's inventories and production remained within or above the five-year band for the month. Production in Southern California was below the five-year band for two weeks of the month while inventories were below the five-year band for the entire month.

SPOT MARKET SPREADS

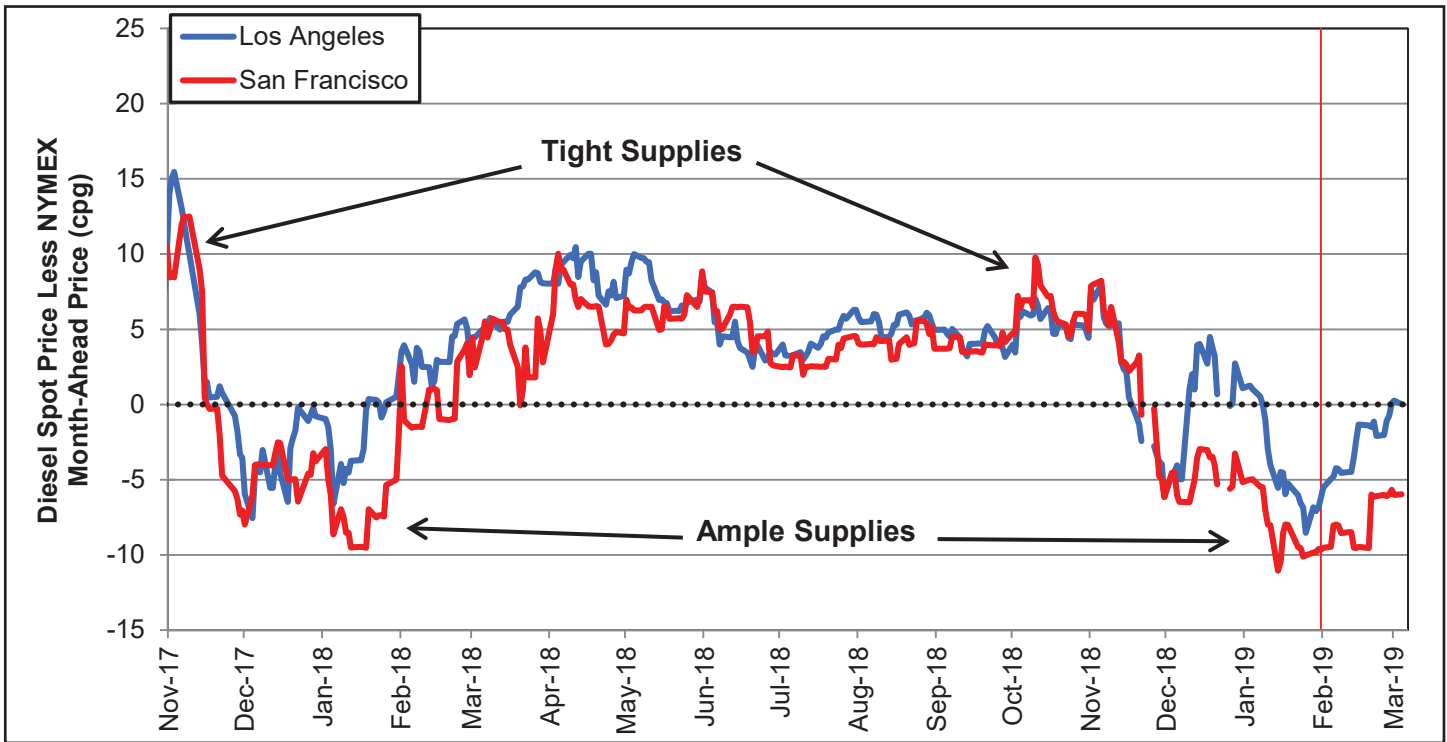
Figure 6: Gasoline Production and Inventories



Source: California Energy Commission PIIRA data

SPOT MARKET SPREADS

Figure 7: California Spot Diesel to NYMEX Futures Price Spread



Source: U.S. Energy Information Administration and OPIS

DIESEL SPOT - FUTURES SPREAD

February 2019 vs 2018

Los Angeles	6¢ lower
San Francisco	8¢ lower

February 2019 Averages

Los Angeles	-3¢
San Francisco	-8¢

February 28 2019

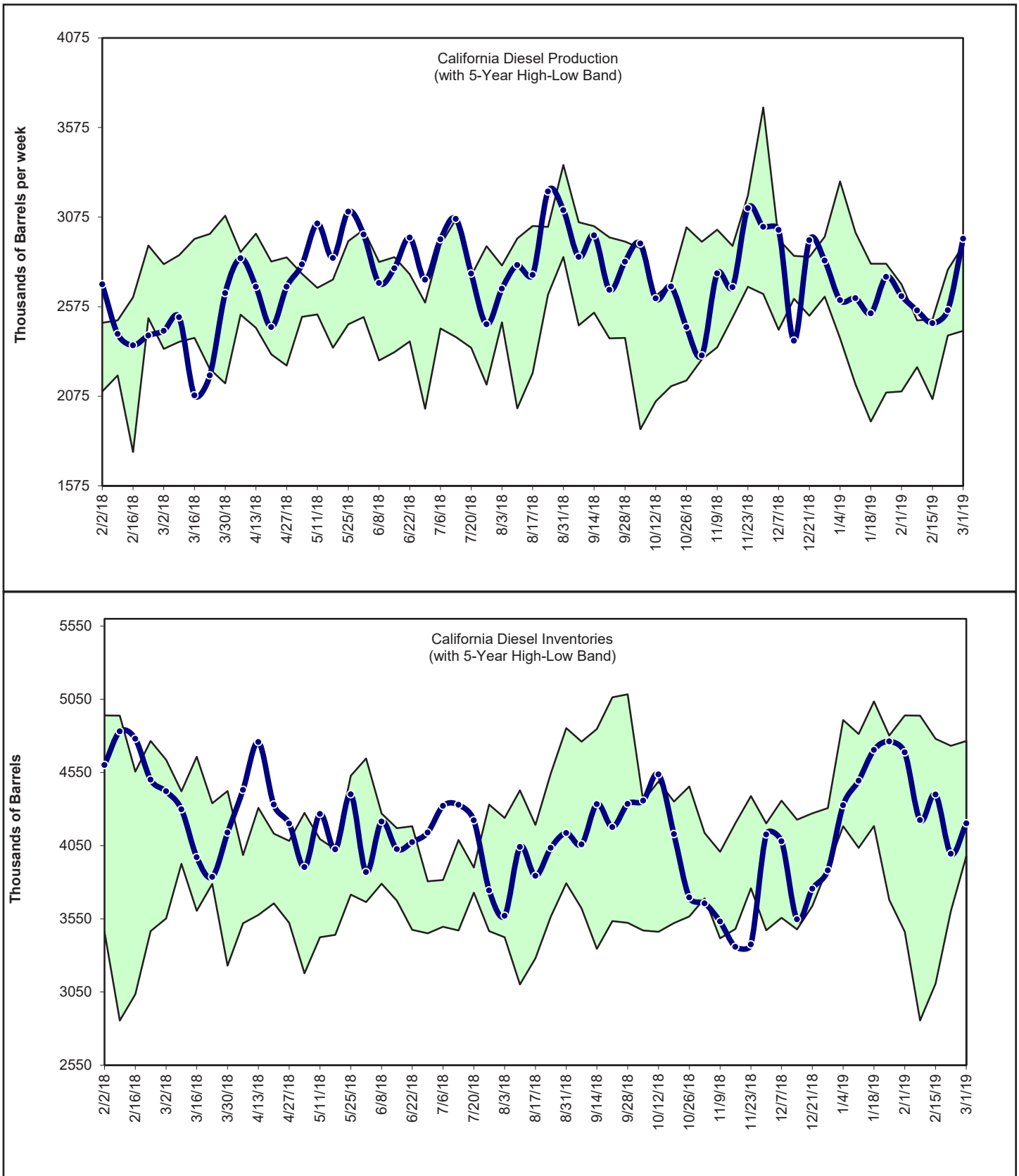
Los Angeles	-0¢
San Francisco	-6¢

The LA and SF diesel spreads remained negative throughout February (**Figure 6**). On February 1, the LA spread was -\$0.06, the widest spread of the month for LA. The LA spread increased the rest of the month, hitting \$0.01 on February 28. The SF spread began February lower than LA at -\$0.10. The SF spread increased throughout February, ending the month at -\$0.06. The outright prices for NYMEX futures and SF and LA spot reached lows on February 11 of \$1.89, \$1.81, \$1.85 respectively, and all prices maximized on February 21 at \$2.04, \$1.97, \$2.02 respectively.

Throughout February, the LA spot price averaged \$0.05 more than the SF spot price. February brings warmer weather to Southern California initiating the growing season for the agricultural industry. This leads to increased demand of diesel fuel for farm equipment, resulting in increased spot prices. California diesel production remained near the top of the five-year band throughout February and reached a peak of 3 million barrels on March 1. California diesel inventories were on the low end of the five-year band, averaging 550,000 barrels less per week than February 2018. Southern California inventories dipped below the five-year band until March 1, averaging 260,000 barrels less than the five year minimum. The combination of increased diesel demand and lower diesel inventories in Southern California throughout February resulted in LA spot prices above SF prices.

SPOT MARKET SPREADS

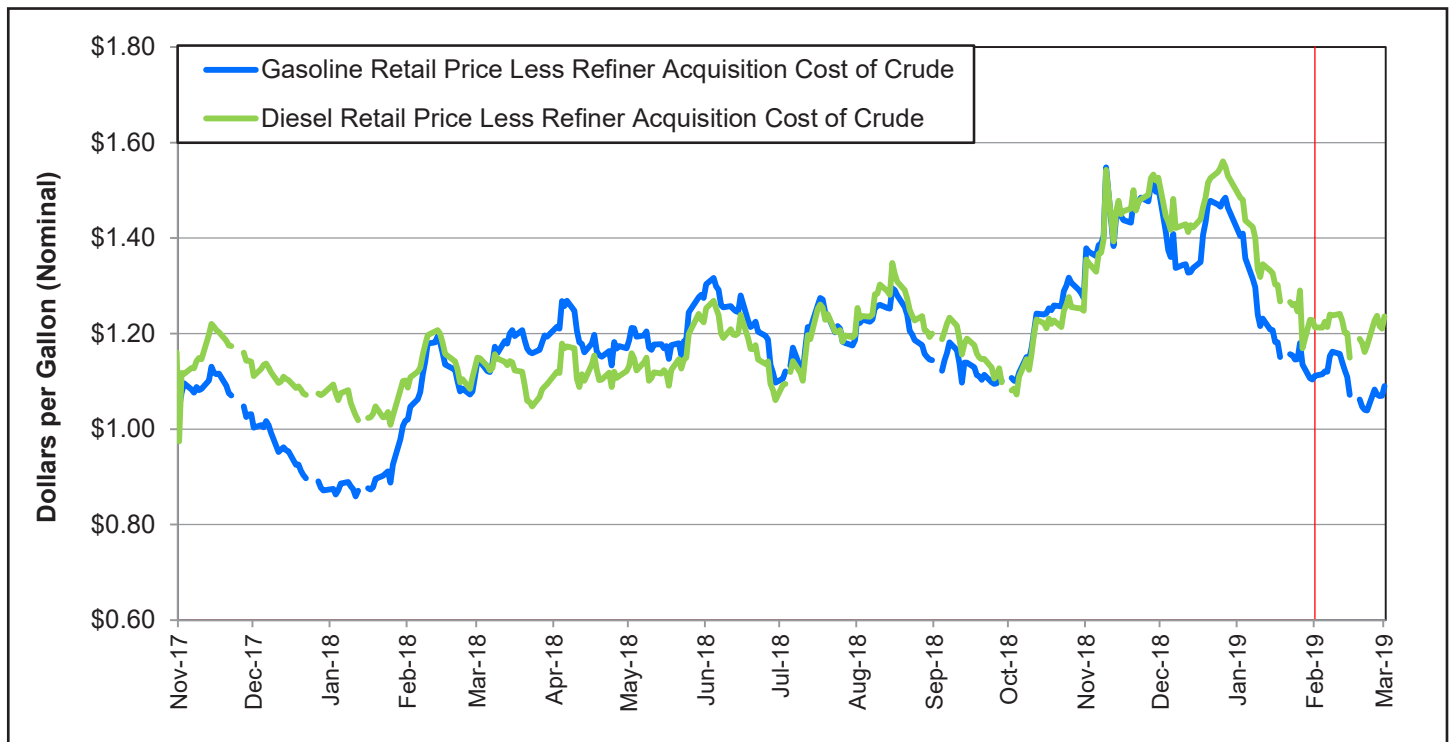
Figure 8: Diesel Production and Inventories



Source: California Energy Commission PIIRA data

GROSS MARGINS

Figure 9: Gross California Gasoline and Diesel Margins



Source: U.S. Energy Information Administration and OPIS

CRUDE TO RETAIL MARGINS

February 2019 vs 2018

Gasoline	1% lower
Diesel	6% higher

February 2019 Averages

Gasoline	\$1.10
Diesel	\$1.21

February 28, 2019

Gasoline	\$1.07
Diesel	\$1.21

Gross margins stabilized in February after returning to pre-November 2018 levels (Figure 9). While retail gasoline and diesel prices rose in February, so did crude oil prices which lead to the stabilization of the difference between them. February 2019 levels for the gasoline gross margin were roughly the same as last year, with the diesel margin showing a slight increase (sidebar). On February 22, the gasoline gross margin reached a low of \$1.04, which is the lowest value it has been since February 1, 2018.

From February 2018 to February 2019, the difference between the two margins averaged roughly zero. That difference grew in the second half of February 2019 to \$0.15, which is the largest difference seen since January 19, 2018. This difference indicates that the diesel market in California is tighter than the gasoline market, which is a common relationship for February, as discretionary driving tends to be depressed in winter months.