October 2021

PETROLEUM WATCH

CALIFORNIA ENERGY COMMISSION

INSIDE

REFINERY NEWS

- **Marathon Los Angeles:** On September 17, an earthquake caused a power outage at the refinery resulting in emergency flaring (Cal OES, South Coast AQMD).

CALIFORNIA GASOLINE RETAIL PRICES BY BRAND

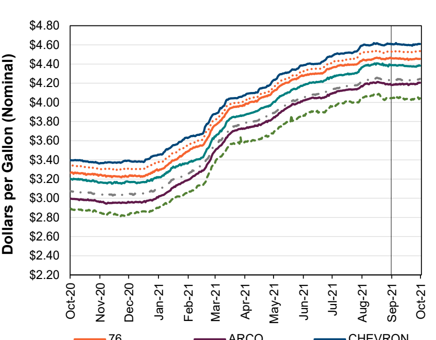
September 2021 vs. 2020

(Percentage Change)

76	35% higher
ARCO	39% higher
Chevron	35% higher
Hypermart	38% higher
Shell	35% higher
Unbranded	37% higher
Valero	36% higher

September 2021 Averages

76	$4.45
ARCO	$4.19
Chevron	$4.60
Hypermart	$4.04
Shell	$4.53
Unbranded	$4.24
Valero	$4.38



Source: California Energy Commission (CEC) analysis of Oil Price Information Service (OPIS) data

CALIFORNIA DIESEL RETAIL PRICES BY REGION

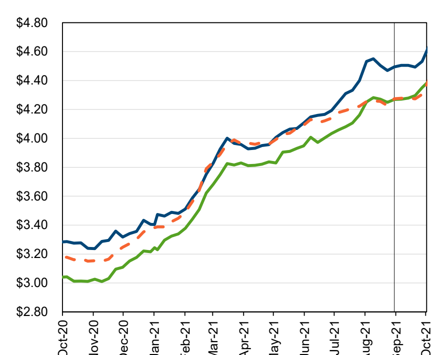
September 2021 vs. 2020

(Percentage Change)

Northern CA	37% higher
Central CA	39% higher
Southern CA	34% higher

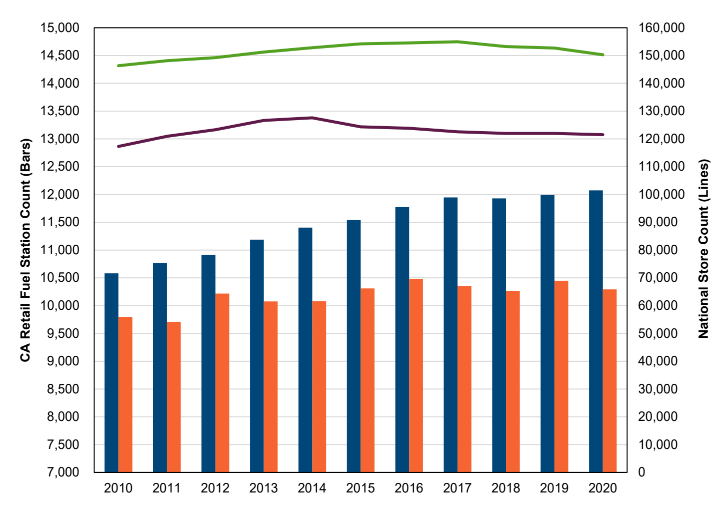
September 2021 Averages

Northern CA	$4.51
Central CA	$4.29
Southern CA	$4.28



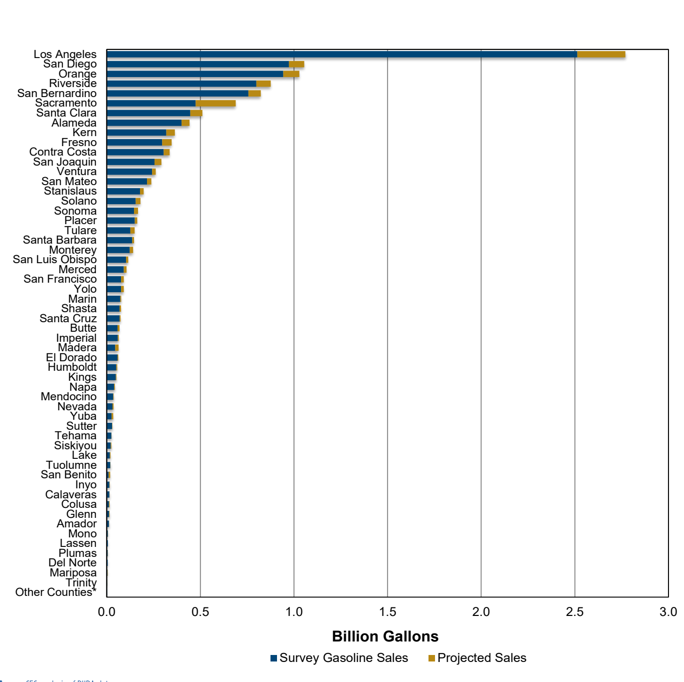
Source: CEC analysis of OPIS data

NACS STORE COUNTS



Source: CEC analysis of Petroleum Industry Information Reporting Act (PIIRA) and National Association of Convenience Store (NACS) data

2020 GASOLINE SALES BY COUNTY



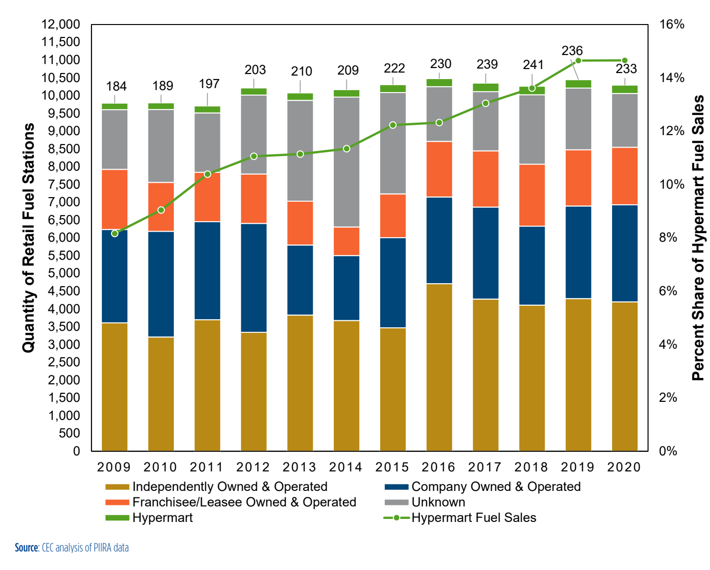
Source: CEC analysis of PIIRA data
Notes: *Other counties includes Alpine, Modoc, and Sierra.

TOP CALIFORNIA CITIES BY GASOLINE SALES IN 2020 (MILLIONS OF GALLONS)

Rank	City Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	Los Angeles	543	577	570	513	462	490	578	597	553	551	434
2	San Diego	424	436	419	351	383	430	458	478	464	455	351
3	Sacramento	237	260	260	255	174	256	279	284	264	278	245
4	San Jose	264	300	293	279	218	287	324	319	298	311	235
5	Bakersfield	191	194	194	179	169	181	221	217	205	204	191
6	Fresno	150	154	156	144	108	154	185	192	176	159	156
7	Riverside	118	120	119	116	115	127	147	148	154	143	129
8	Long Beach	129	129	134	121	125	120	130	129	127	125	100
9	Stockton	107	102	96	97	80	95	109	109	102	107	97
10	Anaheim	128	124	129	106	96	115	136	135	129	121	92

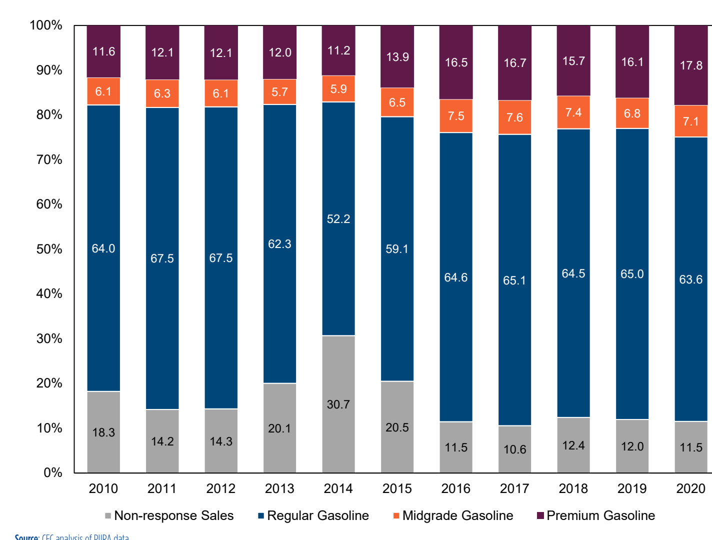
Source: CEC analyis of PIIRA data

TOTAL STATION COUNTS BY OWNERSHIP



Source: CEC analysis of PIIRA data

TOTAL GASOLINE SALES BY FUEL GRADE



Source: CEC analysis of PIIRA data
Notes: Non-response sales includes sales by stations that are not regulated by CEC-A15 regulation requirements.

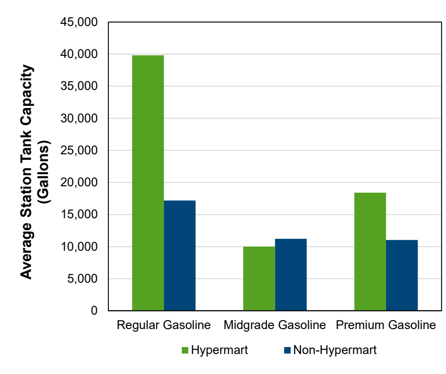
FEATURED TOPIC

RETAIL FUEL OUTLET ANNUAL REPORT

The California Energy Commission (CEC) collects information about finished petroleum products that are sold at a retail level or to the ultimate end user under the Retail Fuel Outlet Annual Report (CEC-A15). Finished automotive fuels such as gasoline, diesel, E-85, biodiesel and liquified natural gas are examples of some fuels that are listed on the report. Reports are submitted a variety of ways including the A15 website, email, or mail. Since 2016, when the A15 website was created, the total stations submitting an A15 report has been consistent at 8,684 or more stations, accounting for an estimated 87 percent of California's total gasoline sales.

The COVID-19 pandemic was the number one factor for low gasoline sales in California in 2020. In January 2020, the World Health Organization (WHO) declared COVID-19 an outbreak and activated their incident management system. The outbreak started in Wuhan, China and quickly spread across the globe with the first case in the U.S. confirmed in mid-January. On March 19, 2020, California Governor Gavin Newsom signed an executive order for all Californians to stay at home to slow the spread of the virus. For April 2020, California Department of Tax and Fee Administration (CDTFA) reported the lowest monthly net taxable sales of gasoline ever at 713 million gallons, 44 percent less than April 2019. As the virus continued to spread, a Blueprint was created for California counties to classify risk level and degree of activity restrictions. As restrictions limited travel to only essential reasons, some refineries were set to idle for part of the year because of decreased gasoline use.

HYPERMART AND NON-HYPERMART AVERAGE TANK CAPACITY



Source: CEC analysis of PIIRA data

RETAIL STATION COUNTS

National Association of Convenience Store (NACS) reported a total of 150,274 convenience stores (c-store) across the United States and 121,538 of those stations, or eighty percent, selling fuel. NACS reported that single-store operators, or independently owned and operated stations, account for 61.4 percent of total c-stores. Most of those single-store operators are "mom-and-pop" family run businesses. The number of these single-store operators decreased in the last decade by one percent. In 2020, single-store operators owned 91,196 locations, while chain-owned stores totaled 57,078 locations across the United States. Convenience Store Products reported that the top chain-owned c-stores are 7-Eleven Inc., Alimentation Couche-Tard Inc., and Speedway LLC. Alimentation Couche-Tard Inc. owns many large chains including Circle K and Corner Store market brands across North America. These companies are the top three 2020 c-stores with 20,515 locations across the country. In California, the most prevalent c-store brands are Circle K and 7-Eleven.

The national number of c-stores started to decrease after the 2017 reporting year while c-stores selling fuel started to decrease after 2014. The top ranked states with the most c-stores are (1) Texas, (2) California, (3) Florida, and (4) New York. California has 12,074 c-stores, only behind Texas with 15,695 c-stores.

There were 10,294 CEC-A15s submitted for the 2020 reporting year. As highlighted by NACS, 80 percent of all c-stores offer fuels. However, NACS also reports that California has 12,074 c-stores, which makes the number of CEC-A15s submitted 85 percent of the total number of stores, a figure larger than NACS reporting. This higher calculated percentage is because the CEC-A15 collects reports from all types of locations including ones without c-stores, such as cardlocks, hypermarts, marinas, airports, and alternative fuel stations (such as natural gas, propane, and E-85 stations).

CALIFORNIA RETAIL GASOLINE SALES BY COUNTY

2020 Gasoline Sales by County shows that the counties with the most gasoline sales are Los Angeles, San Diego, and Orange, each selling over 1 billion gallons. These three counties have the largest populations in California according the U.S. Census Bureau. All top 5 counties ranked by highest population are located in Southern California. Those five counties ranking 1 through 5 are Los Angeles, San Diego, Orange, Riverside, and San Bernardino County. Santa Clara, Alameda, Sacramento, and Contra Costa counties are ranked 6-9 by highest population and all located in Northern California. Fresno and Kern County, at ranks 10 and 11 by highest population respectively, are located in the Central Valley. Similar to population, gasoline reported sales ranked different from above. The top five southern counties combined reported nearly half of all California gasoline sold, totaling 6 billion gallons. The four northern counties reported a combined 1.6 billion gallons, and the two Central Valley counties reported 768 million gallons. Most counties that reported 50 to 300 million gallons are in the Central Valley. These counties are home to major highways that stretch from Los Angeles to San Francisco, a distance of over 400 miles. Counties selling under 40 million gallons are typically rural and are near the state border with Oregon or Nevada.

CALIFORNIA RETAIL GASOLINE SALES BY CITY

The City of Los Angeles and the City of San Diego have been ranked one and two for top reported gasoline sales since 2010 (Top California Cities by Gasoline Sales In 2020). Both cities reported 351 million gallons or more in sales, have the highest station counts, and have the largest populations. The City of Sacramento had been ranked the fourth highest by gasoline sales since 2010 but moved to third in 2020, surpassing San Jose by 10 million gallons at 245 million gallons. Two Central Valley cities, Bakersfield and Fresno, ranked as five and six, sold 191 and 156 million gallons, respectively. Of the cities that ranked seven through ten, three of the four are located in Southern California - Riverside, Long Beach, and Anaheim - and each sold between 92 and 129 million gallons.

Of the Bay Area cities, San Jose and San Francisco saw the largest decrease in sales due to the pandemic. These two cities were part of the first six Bay Area counties that instituted their own stay-at-home order days before California's shelter-in-place order was signed. The order required 7 million people in the Bay Area to shelter in place without a pre-determined end date. Together they saw a decrease of 107 million gallons in 2020 compared to 2019, an amount equivalent to the total sale volume reported by Stockton in 2019. Cities outside the top 10 also experienced notable decreases in gasoline sales. San Francisco declined 29 percent, down 31 million gallons from reporting 107 million gallons in 2019. Chula Vista and Corona saw decreases in gasoline sales by 28 and 19 million gallons, respectively. One of the top 10-ranked cities that had the smallest sales decrease was Fresno, which reported 3 million gallons less during the pandemic year.

OWNERSHIP AND HYPERMARTS

The CEC defines a hypermart as a station that is a company owned or operated supermarket or wholesale chain store that sells their own fuel at the same location. Examples of outlets considered hypermarts include Costco, Sam's Club, Safeway, Raley's, Food 4 Less, Foods Co., Ralphs, and Vons. In 2009, there were 184 hypermart stations. Total hypermart stations continued to increase eight out of the next eleven years to a new all-time high of 241 stations in 2018. Eventually, total station counts decreased to 233 in 2020.

In Total Station Counts by Ownership, independently owned and operated station counts continued to increase and remained consistently higher in the past five years. In fact, most stations in California are independently owned when compared to company or franchisee/lessee owned fueling facilities. Back in 2009, the station ratio was 3.6 independently owned stations to 2.6 company owned stations and 1.6 franchisee/lessee owned stations. Since 2009, company and independently owned stations have grown, while franchised or leased stations decreased by 76 when comparing 2009 to 2020. As a result, the ratio in 2020 was 4.2 independently-owned to 2.7 company-owned, and 1.6 franchisee/lessee-owned business.

Gasoline sales at hypermart stations increased from 8.2 percent of total California gasoline sales in 2009 to 14.7 percent in 2020. Total sales nearly doubled in the last 11 years but the number of stations only increased by 49, a 26.6 percent increase. From 2019 to 2020, company percent sales (not shown on graph) and hypermart sales are the only two ownership types that have increased in total percentage sales during the pandemic. One key point to increasing sales at hypermart locations is lower retail prices. Looking at the California Gasoline Retail Prices by Brand, hypermart fuel prices are the lowest. The average price for September 2021 was $0.15 less than the next lowest price (ARCO), costing $4.04 per gallon at the pump.

GASOLINE FUEL GRADE

Total Gasoline by Fuel Grade shows the ratios of gasoline sold by its grade. From 2016 to 2020, the total gasoline breakdown is 64 percent regular grade (87 octane), 7 percent mid-grade (89 octane), 16 percent premium grade (91 octane). Mid-grade sales remained between 6 to 7 percent in the past 10 years. Today many gas stations mix 50 percent regular and 50 percent premium gasoline together while drivers are filling up. Actual sales of mid-grade are likely under-reported while regular and premium sales are likely over-reported since stations often use their purchasing contract amounts as their reported sales. Premium grade gasoline sales increased from 12 percent in 2010 to 18 percent in 2020. According to American Automobile Association (AAA), a national survey in 2016 on gasoline use showed that U.S. drivers spent $2.1 billion on premium gasoline which they didn't need. This was around the time that premium gasoline sales increased 2.6 percent from 13.9 percent in 2015 to 16.5 percent in 2016. Even though the article states that people are wasting money and assume that higher-octane means better fuel economy, premium sales continued to increase to 17.8 percent in 2020, a new all-time high.

Rather than operate a mid-grade tank, it is more common for gas stations to blend mid-grade fuel at the pump. Many stations switched existing mid-grade tanks to serve premium or regular gasoline to reduce costs. There are 776 stations that report having a mid-grade tank, out of the 8,900 plus stations that reported in 2020, and only seven hypermart stations reported a separate mid-grade tank. Stations with mid-grade tanks are predominantly found at older facilities (that lack the ability to blend grades), and marinas (that only sell mid-grade fuel).

A factor that may assist hypermarts' increased sales is their larger Average Tank Capacity. In the 2020 retail outlet report, hypermarts reported an average regular tank capacity of 39,800 gallons, more than double the capacity than non-hypermart locations. Premium tank capacity is also larger at hypermarts, averaging 18,400 gallons. For a non-hypermart station, the average regular tank capacity is 17,200 gallons and premium tank capacity is 11,000 gallons. Regular grade capacity alone at a typical hypermart has roughly the same amount as the total capacity of all grades at all other types of stations. This higher tank capacity, along with the higher fuel sales, indicates high fueling rates at hypermart stations.

On June 15, 2021, Governor Newsom ended California's stay-at-home order. Gasoline sales during the second half of the year will likely see an increase from the first half of 2021 as people return to commuting to offices and drive during their summer and holiday vacations.

Visit our website for more information about the CEC-A15 results.

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