U.S. Energy Information Administration

California State Energy Profile

California Quick Facts

- In 2024, California was the fourth-largest total electricity producer in the nation. It is also the nation’s third-largest electricity consumer and imports the second-largest amount of electricity of any state.
- In 2024, California was the eighth-largest producer of crude oil among the 50 states, and the state ranked third in crude oil refining capacity.
- California is the largest consumer of jet fuel in the nation and second-largest consumer of motor gasoline after Texas.
- California is the second-largest total energy consumer among the states, after Texas, but its per capita energy consumption is the third-lowest in the nation.
- In 2024, renewable resources, including hydroelectric power and small-scale solar power, supplied 57% of California's in-state electricity generation. Natural gas fueled another 35% and nuclear power provided almost all the rest.

Last Updated: June 20, 2025

Data

Last Update: June 20, 2025 | **Next Update:** July 17, 2025

Energy Indicators

Demography	California	Share of U.S.	Period
Population	39.4 million	11.6%	2024
Civilian Labor Force	19.8 million	11.6%	Apr-25
Economy	**California**	**U.S. Rank**	**Period**
Gross Domestic Product	$ 4,103.1 billion	1	2024
Gross Domestic Product for the Manufacturing Sector	$ 405,643 million	1	2024
Per Capita Personal Income	$ 85,518	6	2024
Vehicle Miles Traveled	316,612 million miles	1	2023
Land in Farms	23.7 million acres	16	2024
Climate	**California**	**U.S. Rank**	**Period**
Average Temperature	60.5 degrees Fahrenheit	14	2024
Precipitation	26.1 inches	39	2024

Prices

Petroleum	California	U.S. Average	Period	find more
Domestic Crude Oil First Purchase	$ 69.11 /barrel	$ 67.07 /barrel	Mar-25	
Natural Gas	**California**	**U.S. Average**	**Period**	find more
City Gate	$ 4.12 /thousand cu ft	$ 4.88 /thousand cu ft	Mar-25	find more
Residential	$ 22.34 /thousand cu ft	$ 14.57 /thousand cu ft	Mar-25	find more
Coal	**California**	**U.S. Average**	**Period**	find more
Average Sales Price	--	$ 54.04 /short ton	2023	
Delivered to Electric Power Sector	--	$ 2.44 /million Btu	Mar-25	
Electricity	**California**	**U.S. Average**	**Period**	find more
Residential	32.41 cents/kWh	17.11 cents/kWh	Mar-25	find more
Commercial	23.72 cents/kWh	13.27 cents/kWh	Mar-25	find more
Industrial	19.84 cents/kWh	8.26 cents/kWh	Mar-25	find more

Reserves

Reserves	California	Share of U.S.	Period	find more
Crude Oil (as of Dec. 31)	1,492 million barrels	3.1%	2022	find more
Expected Future Production of Dry Natural Gas (as of Dec. 31)	1,070 billion cu ft	0.2%	2022	find more
Expected Future Production of Natural Gas Plant Liquids	54 million barrels	0.2%	2022	find more
Recoverable Coal at Producing Mines	--	--	2023	find more
Rotary Rigs & Wells	**California**	**Share of U.S.**	**Period**	find more
Natural Gas Producing Wells	3,583 wells	0.7%	2020	find more
Capacity	**California**	**Share of U.S.**	**Period**	
Crude Oil Refinery Capacity (as of Jan. 1)	1,680,371 barrels/calendar day	9.1%	2024	
Electric Power Industry Net Summer Capacity	97,369 MW	7.9%	Mar-25	

Supply & Distribution

Production	California	Share of U.S.	Period	find more
Total Energy	1,591 trillion Btu	1.6%	2022	find more
Crude Oil	267 thousand barrels per day	2.0%	Mar-25	find more
Natural Gas - Marketed	130,703 million cu ft	0.3%	2023	find more
Coal	--	--	2023	find more
Total Utility-Scale Net Electricity Generation	**California**	**Share of U.S.**	**Period**	find more
Total Net Electricity Generation	15,307 thousand MWh	4.6%	Mar-25	
Utility-Scale Net Electricity Generation (share of total)	**California**	**U.S. Average**	**Period**	
Petroleum-Fired	*	0.3 %	Mar-25	find more
Natural Gas-Fired	26.8 %	35.6 %	Mar-25	find more
Coal-Fired	0.1 %	14.7 %	Mar-25	find more
Nuclear	10.3 %	18.7 %	Mar-25	find more
Renewables	63.1 %	30.3 %	Mar-25	

Supply & Distribution

Stocks	California	Share of U.S.	Period	find more
Motor Gasoline (Excludes Pipelines)	130 thousand barrels	1.2%	Mar-25	
Distillate Fuel Oil (Excludes Pipelines)	4,107 thousand barrels	4.7%	Mar-25	find more
Natural Gas in Underground Storage	467,114 million cu ft	7.4%	Mar-25	find more
Petroleum Stocks at Electric Power Producers	NM	NM	Mar-25	find more
Coal Stocks at Electric Power Producers	0 thousand tons	0.0%	Mar-25	find more
Fueling Stations	**California**	**Share of U.S.**	**Period**	
Motor Gasoline	7,826 stations	7.2%	2022	
Propane	209 stations	8.0%	May-25	
Electric Vehicle Charging Locations	16,827 stations	23.7%	May-25	
E85	514 stations	12.1%	May-25	
Biodiesel, Compressed Natural Gas, and Other Alternative Fuels	1,669 stations	44.9%	May-25	

Consumption & Expenditures

Summary	California	U.S. Rank	Period	
Total Consumption	6,817 trillion Btu	2	2023	find more
Total Consumption per Capita	176 million Btu	49	2022	find more
Total Expenditures	$ 195,100 million	1	2023	find more
Total Expenditures per Capita	$ 5,123	26	2022	find more
by End-Use Sector	**California**	**Share of U.S.**	**Period**	
Consumption				
» Residential	1,167 trillion Btu	6.4%	2023	find more
» Commercial	1,158 trillion Btu	7.1%	2023	find more
» Industrial	1,457 trillion Btu	4.7%	2023	find more
» Transportation	3,036 trillion Btu	10.8%	2023	find more
Expenditures				
» Residential	$ 35,489 million	10.8%	2023	find more

Consumption & Expenditures

» Commercial	$ 34,515 million	14.5%	2023	find more
» Industrial	$ 20,446 million	8.6%	2023	find more
» Transportation	$ 104,649 million	13.7%	2023	find more

by Source	California	Share of U.S.	Period	
Consumption				
» Petroleum	648 million barrels	8.8%	2023	find more
» Natural Gas	2,085 billion cu ft	6.4%	2023	find more
» Coal	1,277 thousand short tons	0.3%	2023	find more
Expenditures				
» Petroleum	$ 113,651 million	12.4%	2023	find more
» Natural Gas	$ 27,338 million	13.5%	2023	find more
» Coal	$ 147 million	0.6%	2023	find more

Consumption for Electricity Generation	California	Share of U.S.	Period	find more
Petroleum	7 thousand barrels	0.4%	Mar-25	find more
Natural Gas	29,199 million cu ft	3.4%	Mar-25	find more
Coal	4 thousand tons	*	Mar-25	find more

Energy Source Used for Home Heating (share of households)	California	U.S. Average	Period
Natural Gas	60.7 %	46.0 %	2023
Fuel Oil	0.2 %	3.7 %	2023
Electricity	29.6 %	41.7 %	2023
Propane	3.6 %	5.0 %	2023
Other/None	5.9 %	3.5 %	2023

Environment

Renewable Energy Capacity	California	Share of U.S.	Period	find more
Total Renewable Energy Electricity Net Summer Capacity	42,093 MW	11.1%	Mar-25	
Ethanol Plant Nameplate Capacity	128 million gal/year	0.7%	2024	

Renewable Energy Production	California	Share of U.S.	Period	find more

Environment

Utility-Scale Hydroelectric Net Electricity Generation	2,714 thousand MWh	12.3%	Mar-25	
Utility-Scale Solar, Wind, and Geothermal Net Electricity Generation	6,475 thousand MWh	8.6%	Mar-25	
Utility-Scale Biomass Net Electricity Generation	371 thousand MWh	9.6%	Mar-25	
Small-Scale Solar Photovoltaic Generation	2,896 thousand MWh	35.9%	Mar-25	
Fuel Ethanol Production	1,960 thousand barrels	0.5%	2022	
Renewable Energy Consumption	**California**	**U.S. Rank**	**Period**	find more
Renewable Energy Consumption as a Share of State Total	12.8 %	14	2022	
Fuel Ethanol Consumption	33,863 thousand barrels	2	2022	
Total Emissions	**California**	**Share of U.S.**	**Period**	find more
Carbon Dioxide	326.2 million metric tons	6.6%	2022	
Electric Power Industry Emissions	**California**	**Share of U.S.**	**Period**	find more
Carbon Dioxide	43,360 thousand metric tons	2.8%	2023	
Sulfur Dioxide	1 thousand metric tons	0.1%	2023	
Nitrogen Oxide	59 thousand metric tons	5.3%	2023	

Analysis

Last Updated: June 20, 2025

Overview

California has the largest economy in the nation, with a $4.2 trillion GDP in 2024, overtaking Japan to become the fourth-largest economy in the world.[1,2] About one in nine U.S. residents live in California, and it is the most populous state in the nation.[3] California also uses more energy than any other state except Texas.[4] However, energy efficiency efforts have helped make California's per capita energy use the third lowest in the nation.[5,6] California has abundant renewable energy resources, including solar energy, hydroelectric power, geothermal energy, and biomass, and the state produces more electricity from renewable energy than every other state but Texas.[7] California is also rich in mineral resources. Long known for gold and other precious minerals, the state has the nation's largest rare earths mine.[8] Additionally, California has significant crude oil reserves, and the state's petroleum refineries have nearly one-tenth of the nation's total crude oil refining capacity.[9,10]

California stretches two-thirds of the way up the U.S. West Coast. At its greatest distances, it is more than 1,040 miles long and 560 miles wide.[11] With such great distances to travel, transportation accounts for the largest share of the

state's energy consumption.[12] Californians have more registered motor vehicles and travel more vehicle miles than residents in any other state.[13] California accounts for one-tenth of U.S. motor gasoline consumption and about one-seventh of the nation's jet fuel consumption.[14,15] Overall, the state's transportation sector accounts for 42% of California's total energy consumption. The industrial sector uses 22% of the state's total energy and the residential and commercial sectors each account for 17%.[16] However, per capita energy consumption in both the residential and commercial sectors is lower than in all other states except Hawaii.[17] Although California has a varied climate, most of the state's more densely populated areas are relatively mild for much of the year.[18,19] Changes in weather patterns and climate have resulted in an increased use of cooling and almost three-fourths of California households have air conditioning.[20,21]

Per capita residential and commercial sector energy use in California is lower than in all other states except Hawaii.

Electricity

In 2024, California was the nation's fourth-largest total electricity producer and accounted for about 5% of all U.S. utility-scale (1-megawatt and larger) power generation.[22] Renewable resources, including hydropower and small-scale (less than 1-megawatt) customer-sited solar photovoltaic (PV) systems, supplied 57% of California's total in-state electricity generation in 2024. Natural gas-fired power plants provided 35% of the state's total net generation. Nuclear power's share of California's total electricity generation was about 7%. The state has one operating commercial nuclear power plant—the two-reactor Diablo Canyon facility.[23,24] Coal fuels only a small amount of California's in-state net generation, all of it from one 57-megawatt industrial cogeneration plant.[25,26]

California is the nation's fourth-largest electricity producer.

In 2024, California was the nation's second-largest conventional hydroelectric power producer after Washington, and it is consistently among the nation's top four hydropower producers.[27,28] Hydropower's contribution is highly variable and is dependent on rain and snowfall.[29,30] Nonhydroelectric renewable resources, mainly solar and wind energy, provided 45% of California's total in-state electricity generation in 2024.[31]

California imports the second-largest amount of electricity, after Virginia, and typically receives between one-fifth and one-third of its electricity supply annually from outside of the state.[32,33] Wildfires in California and surrounding states threaten both imports of electricity and transmission within the state.[34,35] Although California consumes more electricity than all other states except Texas and Florida, it uses less electricity per capita than any other state except Hawaii.[36,37] In 2024, California had the nation's second-highest average price of electricity, after Hawaii.[38] The commercial sector accounted for 47% of California's electricity sales in 2024. The residential sector, where three in ten California households use electricity for home heating, accounted for 35% of sales.[39,40] About 17% of the state's electricity sales went to the industrial sector. Light rail, subways, and the iconic cable cars in California's transportation sector accounted for 0.3% of the state's electricity use.[41]

California has led the states in the most electric vehicles (EVs) and EV charging locations every year since 2016.[42] California is part of the West Coast Green Highway, an extensive network of electric vehicle DC fast charging locations located along Interstate 5. The state has about 16,800 public charging locations.[43,44] In 2023, California had about 1.2 million registered battery electric vehicles, the most of any state and more than one-third of the U.S. total.[45]

Renewable energy

California is second in the nation, after Texas, in total electricity generation from renewable resources. The state is the nation's top producer of electricity from solar energy and geothermal resources. In 2024, California was the nation's

second-largest producer of electricity from biomass, after Georgia, and also the second-largest producer of conventional hydroelectric power, after Washington.[46]

California is the nation's top producer of electricity from solar and geothermal energy.

Solar energy is the largest source of California's renewable electricity generation.[47] The state's greatest solar resources are in California's southeastern deserts, where all of its solar thermal facilities and several of its largest solar PV plants are located. However, solar PV facilities are located throughout the state.[48,49] In 2024, utility-scale solar energy supplied about 19% of the state's total electricity net generation. When small-scale solar generation is included, solar energy provided 32% of the state's total electricity generation.[50] At the beginning of 2025, California had about 22,200 megawatts of utility-scale solar power generating capacity, more than any other state. When small-scale solar panel generating systems are included, the state had about 40,000 megawatts of total solar capacity.[51]

In 2024, wind accounted for 6% of California's total in-state electricity generation, and the state ranked tenth in the nation in wind-powered generation.[52,53] California wind power potential exists at several areas around the state, both onshore and offshore.[54] The majority of the state's wind turbines are in six major wind resource areas: Altamont, East San Diego County, Pacheco, Solano, San Gorgonio, and Tehachapi.[55] At the beginning of 2025, California had 6,400 megawatts of wind capacity.[56] The first wind power farm on California's coast, with 27 turbines and 95 megawatts of capacity, came online in Santa Barbara County at the end of 2023.[57]

California is the nation's top producer of electricity from geothermal resources. In 2024, the state produced 70% of the nation's utility-scale geothermal-sourced electricity, and geothermal power accounted for about 4% of the state's total in-state generation.[58,59] The state's operating geothermal power plants have a combined total capacity of nearly 1,900 megawatts.[60] Four areas in California have substantial geothermal resources—the coastal mountain ranges north of San Francisco, volcanic areas of north-central California, areas near the Salton Sea in southern California, and areas along the state's eastern border with Nevada. The Geysers, located in the Mayacamas Mountains north of San Francisco, is the largest complex of geothermal power plants in the world and has about 725 megawatts of installed generating capacity.[61,62]

Superheated geothermal brines in the Salton Sea geothermal resource area in Southern California contain lithium, a critical mineral used to manufacture rechargeable batteries.[63,64] The state has the largest rare earth mine in the United States. The Mountain Pass mine in Southern California's Mojave Desert is the largest deposit of rare earth elements in the nation. Rare earths are used in the manufacture of electric vehicles, wind turbines, and batteries, among other applications.[65,66] In 2024, the Mountain Pass mine produced almost 45,500 metric tons of rare earth concentrate, accounting for about 12% of global rare earth production.[67,68]

California ranks second in the nation, after Georgia, in the most utility-scale electricity generation from biomass.[69] In 2024, biomass fueled 2% of the state's total net generation, and more than half of that was from wood and wood-derived fuels.[70] In early 2025, California had roughly 1,000 megawatts of utility-scale biomass generating capacity and nearly three-fifths was fueled by wood and wood waste. Landfill gas, municipal solid waste, and other biomass sources fuel the remaining biomass capacity.[71] California's biomass resources also provide feedstock to the two wood pellet manufacturing facilities in the state. Those plants can produce about 168,000 tons of pellets per year. Wood pellets are used for heating but can also be used for electricity generation.[72] About 1% of California households use wood as their primary fuel for space heating.[73]

California consumes 1.4 billion gallons of fuel ethanol annually, which is one-tenth of the nation's fuel ethanol supply and 11 times more than the 128 million gallons that the state's three fuel ethanol plants can produce annually.[74,75] Midwestern states provide most of the additional fuel ethanol California uses.[76] California can produce a combined 80 million gallons of biodiesel annually from four production plants, which is almost one-third of the nearly 269 million

gallons of biodiesel consumed in the state.[77,78] Several California petroleum refineries have added manufacturing capacity for renewable diesel production derived from biomass.[79,80,81] California accounts for 10% of U.S. renewable diesel production and 91% of the nation's renewable diesel consumption.[82,83]

California's renewable portfolio standard (RPS), enacted in 2002 and revised several times since then, required that 33% of electricity retail sales in California come from eligible renewable resources by 2020. The state met that goal three years before the target date.[84] The RPS also requires that 60% of electricity sales come from renewables by 2030 and 100% by 2045.[85] In 2022, the state legislature set intermediate targets of 90% renewable energy and zero-carbon electricity by the end of 2035 and 95% by the end of 2040 on the way to the eventual target of 100% by 2045.[86]

Petroleum

California was the eighth-largest crude oil producer among the states in 2024 and accounted for about 2% of the nation's total onshore and offshore oil production.[87] Although California's annual crude oil production has steadily declined from its peak of 394 million barrels in 1985, the state produced 104 million barrels of crude oil in 2024.[88] Reservoirs along California's Pacific Coast, including in the Los Angeles basin, and those in the state's Central Valley contain major crude oil reserves, and the state holds about 3% of the nation's total proved crude oil reserves.[89,90]

Assessments of California's offshore areas indicate the potential for large, undiscovered recoverable crude oil resources in the federally administered Outer Continental Shelf.[91] However, in 1994, concerns about the risks of offshore crude oil and natural gas development resulted in a permanent moratorium on new offshore oil and natural gas leasing in state waters.[92] Congress imposed a federal moratorium on oil and natural gas leasing in California federal waters in 1982, but it expired in 2008.[93] No new California offshore federal lease sales have occurred since then, although about two dozen older crude oil and natural gas production platforms remain active in federal waters that start three miles from the California coastline and about a dozen platforms are in state waters off the coast of California.[94,95,96] In April 2025, the Department of the Interior sought public comment on creating a new five-year offshore drilling plan for oil and natural gas in federal waters, including off California.[97,98]

California has 9% of the nation's total crude oil refining capacity and ranks third among the states, after Texas and Louisiana, with the most refining capacity.[99] A network of pipelines connects California crude oil production to the state's 14 operating petroleum refineries, which are located primarily in the Los Angeles area, the San Francisco Bay area, and the San Joaquin Valley.[100,101,102] As crude oil production in California and Alaska declined, the state's refineries increased their supply from foreign oil imports.[103,104] Led by Iraq, Brazil, Guyana, and Ecuador, foreign suppliers provided almost two-thirds of the crude oil refined in California in 2024.[105,106] In October 2024, a new California law allowed state regulators to set minimum petroleum product inventory levels for refineries in the state to help curb gasoline and diesel fuel price volatility.[107] Shortly after the law's enactment, an oil company operating a 139,000-barrel-per-day refinery in the Los Angeles area announced it would shut down the facility by the end of 2025.[108] A separate oil company told state regulators in April 2025 that it would close its 170,000-barrel-per-day refinery in the San Francisco area by the end of April 2026.[109,110]

Foreign suppliers provide almost two-thirds of the crude oil refined in California.

California requires that motorists use, at a minimum, a specific blend of motor gasoline called CaRFG (California Reformulated Gasoline) to reduce pollution from motor vehicles and improve air quality. California refineries produce cleaner fuels in order to meet state environmental regulations. Refineries in the state often operate at or near maximum capacity because of the high demand for those petroleum products and the lack of interstate pipelines that can deliver those cleaner fuels into the state. When unplanned refinery outages occur, the lack of CaRFG deliveries available from interstate pipelines means replacement supplies of CaRFG come in by marine tanker from out-of-state U.S. refineries or from other countries, such as India and South Korea. It can take several weeks to find and bring replacement motor gasoline from overseas that meets California's unique specifications.[111,112,113]

California is the nation's second-largest consumer of refined petroleum products, after Texas, and accounts for about 9% of U.S. total consumption.[114] California is the nation's largest consumer of jet fuel and the second-largest consumer of motor gasoline, after Texas.[115,116] The transportation sector uses about 86% of the petroleum consumed in the state. The industrial sector accounts for about 10% of state petroleum use, and the commercial sector consumes about 3%. The residential sector, where about 4 out of 100 California households heat with petroleum products, mostly propane, uses about 1%. A small amount of petroleum is used for electricity generation.[117,118]

Natural gas

California's natural gas output has declined steadily since 2000, and the state now accounts for less than 1% of the nation's total natural gas reserves and production.[119,120] California's natural gas production is less than one-tenth of the state's total natural gas consumption.[121,122] Several interstate natural gas pipelines enter California from Arizona, Nevada, and Oregon bringing natural gas into California from the Southwest, the Rocky Mountain region, and western Canada.[123] California consumes nearly 90% of the natural gas delivered to the state.[124] A small amount is exported to Mexico. The remaining natural gas that enters the state is placed in California's 14 underground natural gas storage fields that together can hold about 604 billion cubic feet of natural gas, about 7% of the nation's storage capacity.[125]

California is the nation's second-largest natural gas consumer. Only Texas uses more.[126] In 2024, about 31% of the natural gas delivered to California consumers went to the state's industrial sector. The electric power sector closely followed at 30%, as natural gas fueled about one-third of the state's total electricity generation.[127,128] The residential sector, where 6 in 10 California households use natural gas for home heating, accounted for 22% of natural gas use. The commercial sector consumed about 15%, and the transportation sector used about 1% as compressed natural gas vehicle fuel.[129,130]

California is the nation's second-largest natural gas consumer, after Texas.

Coal

California does not have any coal reserves or production and has very little coal-fired electricity generation. All the generation is from one industrial facility in Trona.[131,132,133] Almost all the coal consumed in California arrives by rail from mines in Colorado and Utah.[134] In 2024, some coal produced in other states was exported to other countries from California ports.[135]

Energy on tribal lands

California has the largest Native American population in the nation at about 535,000, and the state is home to nearly 100 federally recognized tribal groups.[136,137] Although tribal areas exist throughout California, they account for less than 1% of the state's land area.[138,139] Many of the state's tribal lands are small, including the nation's smallest reservation, the 1.32-acre parcel that contains the Pit River Tribe cemetery.[140] The state's largest is the forested Hoopa Valley Reservation, home of the Hupa people, in northern California's Humboldt County, with 102,000 acres.[141,142]

California's diverse climate and geography give tribes access to a variety of renewable energy resources. One of the first utility-scale wind projects on tribal land in the nation is in southern California. In 2005, the Campo Kumeyaay Nation in southern California leased some of its land in San Diego County for the development of a 50-megawatt wind project.[143,144] The Ramona Band of Cahuilla became one of the first tribes to make its reservation independent of the regional electric grid in 2009.[145] In 2015, the Bear River Band of the Rohnerville Rancheria in Northern California became the first California tribe to install a hybrid solar, wind, and advanced energy storage microgrid for power generation.[146]

Some reservations in California have abundant biomass potential. The Blue Lake Rancheria Tribe in Humboldt County has a 175-kilowatt biogas fuel cell system powered by gasified wood waste from the forestry industry.[147,148] In 2019, the Rancheria extended use of its microgrid to the broader community, about 10% of the county's population, during a

widespread wildfire-related utility power shutoff in northwest Humboldt County.[149] In 2022, the U.S. Department of Energy (DOE) awarded the Karuk Tribe almost $2 million to build a nearly 1 megawatt ground-mounted solar panel system and battery energy storage in northern California.[150] In addition to the tribes that have abundant solar, wind, and biomass resources, some California tribal lands have geothermal electricity generation potential, particularly in the Imperial Valley in southern California, the Geysers area in northern California, and along the state's eastern border.[151]

The California Energy Commission (CEC) awarded one of its largest grants, $31 million, in 2022 to the Viejas Tribe of Kumeyaay Indians for a long-duration energy storage system in San Diego County to provide renewable backup power for the tribe. The energy storage system supports statewide grid reliability in the event of an emergency.[152] The CEC awarded in 2024 a $32 million grant to the Paskenta Band of Nomlaki Indians to build a large-scale 5-megawatt solar and long-duration 15-megawatthour microgrid in northern California.[153] Since 2010, DOE has invested more than $21 million in about 40 California tribal renewable energy and energy efficiency projects.[154]

Endnotes

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[3] U.S. Census Bureau, U.S. and World Population Clock, Most Populous States, accessed May 19, 2025.

[4] U.S. Energy Information Administration (EIA), State Energy Data System, Table C11, Total Energy Consumption Estimates by End-Use Sector, Ranked by State, 2022.

[5] McCann, Adam, "Most & Least Energy-Efficient States (2025)," WalletHub (October 15, 2024).

[6] U.S. EIA, Rankings: Total Energy Consumed per Capita, 2022.

[7] U.S. EIA, Electric Power Monthly (February 2025), Tables 1.10.B, 1.11.B, 1.15.B, 1.16.B, 1.17.B, 1.18.B.

[8] MP Materials Corp., About, accessed May 19, 2025.

[9] U.S. EIA, U.S. Crude Oil and Natural Gas Proved Reserves, Year-end 2022, Table 6.

[10] U.S. EIA, Number and Capacity of Petroleum Refineries, Atmospheric Crude Oil Distillation Operable Capacity (B/CD), as of January 1, 2024.

[11] NETSTATE, California, The Geography of California, accessed May 19, 2025.

[12] U.S. EIA, State Energy Data System, Table C1, Energy Consumption Overview: Estimates by Energy Source and End-Use Sector, 2022.

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[14] U.S. EIA, State Energy Data System, Table F10, Motor Gasoline Consumption, Price, and Expenditure Estimates, 2023.

[15] U.S. EIA, State Energy Data System, Table F2, Jet Fuel Consumption, Price, and Expenditure Estimates, 2023.

[16] U.S. EIA, State Energy Data System, Table C1, Energy Consumption Overview: Estimates by Energy Source and End-Use Sector, 2022.

[17] U.S. EIA, State Energy Data System, Table C14, Total Energy Consumption Estimates per Capita by End-Use Sector, Ranked by State, 2022.

[18] U.S. Census Bureau, 2020 Census: California Profile, Population Density by Census Tract, accessed May 19, 2025.

[19] NETSTATE, Geography of California, Climate, accessed May 19, 2025.

[20] U.S. EIA, Residential Energy Consumption Survey (RECS), 2009 RECS Survey Data, Air Conditioning, in West Region, divisions, and states (HC7.11) and 2020 RECS Survey Data, State Data, Housing characteristics, Highlights for air conditioning in U.S. homes by state, 2020.

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[22] U.S. EIA, Electric Power Monthly (February 2025), Table 1.3.B.

[23] U.S. EIA, Electricity Data Browser, Net generation for all sectors (thousand megawatthours), California, Annual, 2001-24.

[24] U.S. Nuclear Regulatory Commission, California, updated February 21, 2025.

[25] U.S. EIA, Electricity Data Browser, Net generation for all sectors (thousand megawatthours), California, Annual, 2001-24.

[26] U.S. EIA, Preliminary Monthly Electric Generator Inventory (based on Form EIA-860M as a supplement to Form EIA-860), Inventory of Operating Generators as of April 2025, Plant State: California, Technology: Conventional Steam Coal.

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Other Resources

Energy-Related Regions and Organizations

- Petroleum Administration for Defense District (PADD): 5
- Regional Transmission Organization (RTO) and Independent System Operator (ISO): California Independent System Operator (CAISO)
- North American Electric Reliability Corporation (NERC) ERO Enterprise: Regional Entities: Western Electricity Coordinating Council (WECC)

Other Websites

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- California Public Utilities Commission (CPUC), Energy
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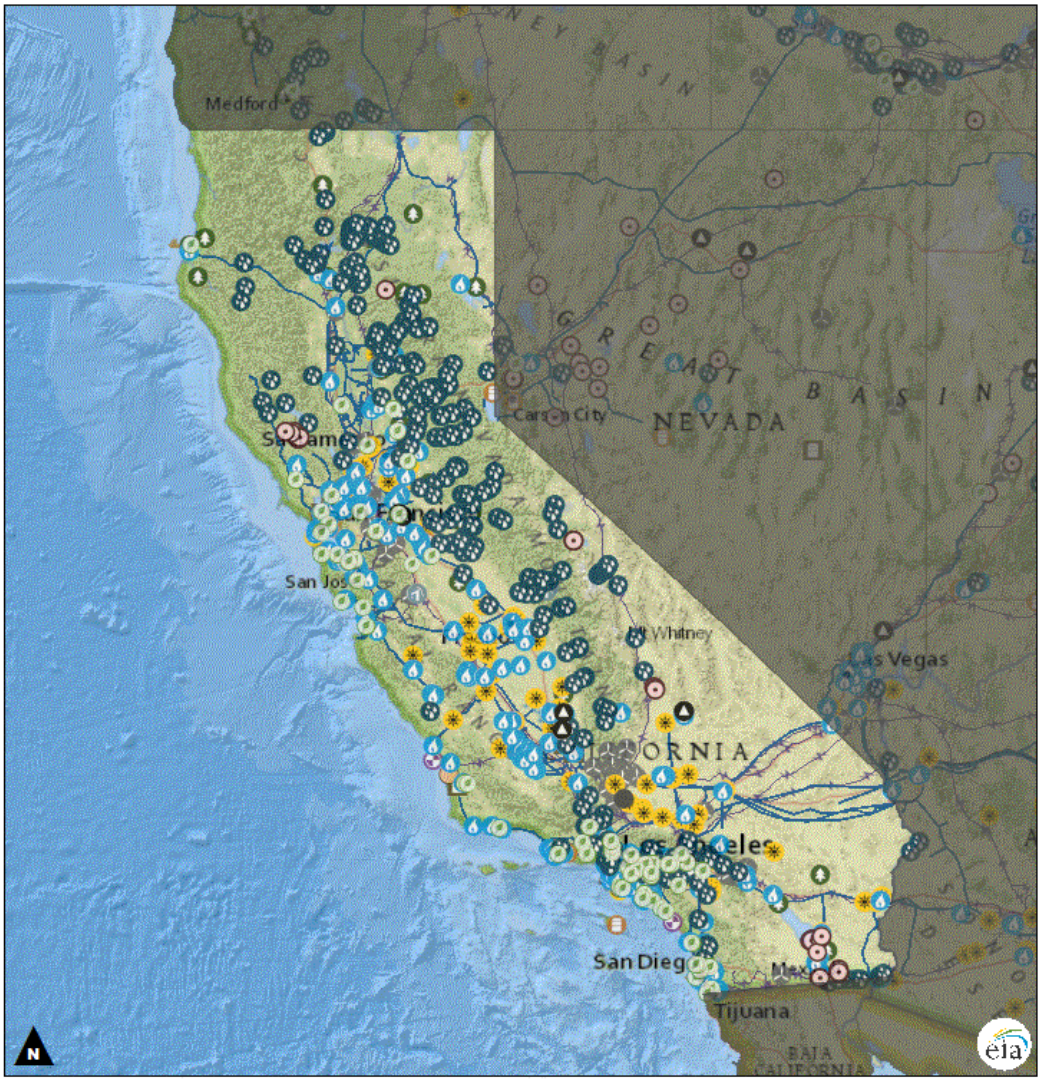

States:Electricity Transmission Lines - Ventyx, Velocity Suite;Grey Base:National

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Mask	Hydroelectric Power Plant	Pumped Storage Power Plant
Surface Coal Mine	Natural Gas Power Plant	Solar Power Plant
Underground Coal Mine	Nuclear Power Plant	Wind Power Plant
Biomass Power Plant	Other Power Plant	Wood Power Plant
Coal Power Plant	Other Fossil Gases Power Plant	Petroleum Refinery
Geothermal Power Plant	Petroleum Power Plant	Strategic Petroleum Reserve

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