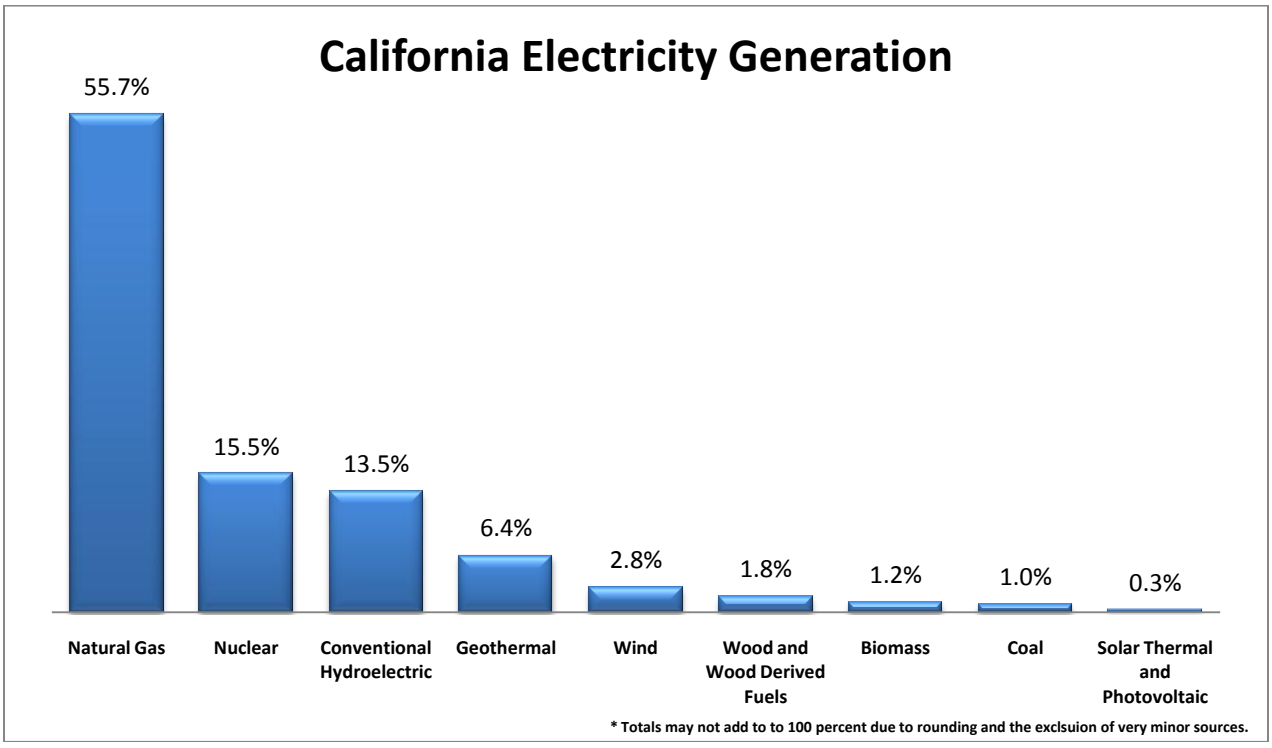
California Energy Facts

California – Select Economic and Energy Data†		State Rank
Real Gross Domestic Product, per capita	$42,064	7th highest
Unemployment	12.5%	4th highest
Gasoline Price, per gallon	$3.10	3rd highest
Electricity Price, per kWh	13.58¢	9th highest

California is an exceptional state. California has a high per capita gross state product and high energy prices. California's climate attracts people from throughout the country, and the entertainment industry and Silicon Valley have created great economic wealth in California. But California's regulations have driven up energy prices, and the regulations will continue to help push up energy prices. For example, California motorists are required to use a special motor gasoline blend called California Clean Burning Gasoline, making California have the highest gasoline price in the lower 48 states. California has also enacted regulations to increase the price of energy in an effort to reduce carbon dioxide emissions. These excessive regulations will not help California's battered jobs outlook, nor will it help California balance its budget.

California imports more electricity than any other state. Recent state laws prohibit utilities in California from entering into long-term contracts with coal-fired power plants for electricity imports.



California has large oil deposits, and accounts for more than a tenth of the nation's oil production. The state also has more than a tenth of the nation's oil refining capacity. California has substantial natural gas reserves, though it provides less than two percent of annual production in the United States. To meet rising state demand, there are proposals to build liquefied natural gas (LNG) import terminals in the state. There are also large deposits of offshore oil and natural gas, but, although the Federal moratorium expired in 2008, the Obama Administration and the state and local governments will not allow these resources to be further developed. California's hydroelectric power provides less than fifteen percent of California's electricity. The state has substantial geothermal potential and is home to the world's largest complex of geothermal power plants. It also has wind power potential, but wind currently provides less than three percent of the state's electricity. Though California's deserts provide significant solar power potential, today only a minimal portion of the state's electricity is generated from this source (0.3 percent), even though the world's largest solar power facility is in California's Mojave Desert.

Regulatory Impediments to Affordable Energy

Although affordable energy is a vital component of a healthy economy, regulations frequently increase energy costs. Regulations imposed in the name of reducing carbon dioxide and greenhouse gas emissions are especially costly. Carbon dioxide is a natural byproduct of the combustion of all carbon-containing fuels, such as natural gas, petroleum, coal, wood, and other organic materials. Today, there is no cost-effective way to capture the carbon dioxide output of the combustion of these fuels, so any regulations that limit carbon dioxide emissions will either limit the use of natural gas, petroleum, and coal, or dramatically increase their prices.

Below are some facts about California's regulatory environment that are likely to affect the cost of energy or the cost of using energy.

- **California caps** greenhouse gas emissions. In September 2006, the California State Legislature enacted the Global Warming Solutions Act, A.B. 32, which caps greenhouse gas emissions at 1990 levels by 2020. It was the first state program to impose a cap on greenhouse gas emissions and include enforceable penalties.[1]
- **California is a member** of the Western Climate Initiative (WCI), a regional agreement among some American governors and Canadian premiers to target greenhouse gas reductions. The central component of this agreement is the eventual enactment of a cap-and-trade scheme to reduce greenhouse gas emissions 15 percent below 2005 levels by 2020.
    - **California also has a de facto ban** on new coal-fired power plants. An interim greenhouse performance standard requires that all new baseload generation produce no more greenhouse gases than a combined-cycle gas turbine power plant.[2]
- **California requires** utilities to sell a certain percentage of electricity from renewable sources. The state's renewable portfolio standard requires utilities to provide 20

percent of their retail electricity sales from renewables by December 31, 2010 and 33 percent by 2020.[3] To qualify for the RPS the electricity either needs to be produced in-state, or produced out-of-state and delivered into the state. For most technologies the renewable facility had to have been constructed after September 26, 1996 to be counted towards the RPS.

    - **California imposes** a feed-in tariff for renewable energy, requiring investor-owned utilities to purchase renewable energy at an increased price. Utilities must buy all renewable generation under 3 megawatts within their service territories, until they hit a statewide total cap of 750 megawatts. Large public utilities must also set up programs to buy all renewable generation under 3 megawatts. By increasing the cost of renewable energy, this law increases electricity prices for consumers and businesses.

- **Most Californians are required** to use a special blend of gasoline called California Clean Burning Gasoline. In Imperial County, and the Los Angeles metropolitan area, motorists are required to use California Oxygenated Clean Burning Gasoline.[4] Also, **California imposes** a low carbon fuel standard (LCFS).[5] Governor Arnold Schwarzenegger issued Executive Order S-01-07, requiring a 10 percent reduction in the carbon intensity of all transportation fuels.[6] It is not clear how California will achieve this standard.
- **California imposes** automobile fuel economy standards, which are an attempt to regulate greenhouse gas emissions from new vehicles. Assembly Bill 1493, passed in 2002, allowed the California Air Resources Board to develop regulations to reduce greenhouse gas emissions from passenger vehicles, if the state received a waiver from EPA, which has been awarded to California by the Obama Administration.[7,8]
- **California requires** new residential and commercial buildings to meet energy efficiency standards. The state's specific code, from Title 24, Part 6, exceeds the requirements of the 2006 International Energy Conservation Code (IECC).[9] The IECC, developed by the International Code Council, is a model code that mandates certain energy efficiency standards. A new code in California is currently under development and could be fully enacted in late 2010. This code will require all new construction to reduce energy use by 15 percent, water use by 20 percent, and water for landscaping by 50 percent. Assembly Bill 1103, passed in 2007, also requires all non-residential buildings to report their annual energy use.[10] Beginning in 2010, commercial building owners must disclose annual energy use and Energy Star ratings to potential buyers, lessees, and financiers. In 2005, Governor Arnold Schwarzenegger issued Executive Order S-20-04, requiring a 20 percent reduction from 2003 levels in grid-based energy use in state buildings by 2015.[11] New and renovated state buildings must also meet the silver LEED standard. The silver LEED standard is one level of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. A wide variety of independent state agencies must also seek new energy efficiency standards. Lastly, Assembly Bill 532, passed in 2007, requires solar energy equipment to be installed by 2009 on any public building or facility where such an installation is cost-effective.[12]
- **California imposes** state-based appliance efficiency standards. The state's Appliance Efficiency Regulations include mandates for consumer audio and video products, metal halide lamp fixtures, pool pumps, general service incandescent lamps, water dispensers,

walk-in refrigerators and freezers, hot tubs, commercial hot food holding cabinets, under cabinet fluorescent lamps, and vending machines.[13] Additionally, Assembly Bill 1109, passed in 2007, requires the California Energy Commission to impose minimum efficiency standards for all general purpose lights.[14]

- **California allows** utilities to "decouple" revenue from the sale of electricity and natural gas. By allowing utilities to decouple, California has enable utilities to increase their revenue by selling less electricity and natural gas.

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† Data Sources: Real GDP per capita 2008: Bureau of Economic Analysis, *News Release: GDP by State* (June 2, 2009), http://www.bea.gov/newsreleases/regional/gdp_ state/gsp_newsrelease.htm; Unemployment: Bureau of Labor Statistics, *Regional and State Employment and Unemployment–February 2010* (Mar. 10, 2010); Gasoline Prices: American Automobile Association, *AAA Daily Fuel Gauge Report* (Mar. 30, 2010); Electricity Prices: Energy Information Administration, *Electric Power Monthly*, Table 5.6.B., Average Retail Price of Electricity, (March 15, 2010), http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_b.html; Electricity Generation Data: Energy Information Administration, Electricity Generation 2009, http://www.eia.doe.gov/cneaf/electricity/epa/generation_state_mon.xls.

[1] California Global Warming Solutions Act, A.B. 32 (Cal. 2006), http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf.

[2] California Public Utilities Commission, *Greenhouse Gas Emissions Performance Standard,* http://www.cpuc.ca.gov/PUC/energy/Climate+Change/070411_ghgeph.htm.

[3] Lawrence Berkeley National Laboratory, *Renewables Portfolio Standards in the United States*, http://eetd.lbl.gov/ea/ems/reports/lbnl-154e.pdf.

[4] Energy Information Administration, *California*, Apr. 1, 2010, http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CA.

[5] California Air Resources Board, *The California Low Carbon Fuel Standard Regulation*, http://www.arb.ca.gov/fuels/lcfs/1208lcfsreg_draft.pdf.

[6] Cal. Exec. Order No. S-01-07 (Jan. 18, 2007), http://gov.ca.gov/index.php?/executive-order/5172/.

[7] A.B. 1493 (Cal. 2002), http://www.arb.ca.gov/cc/ccms/documents/ab1493.pdf.

[8] Rulemaking on the Proposed Regulations to Control Greenhouse Gas Emissions from Motor Vehicles, http://www.arb.ca.gov/regact/grnhsgas/grnhsgas.htm.

[9] California Energy Commission, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*, http://www.energy.ca.gov/title24/index.html.

[10] An act to add Section 25402.10 to the Public Resources Code, relating to energy, A.B. 1103 (Cal. 2007), http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_1101-1150/ab_1103_bill_20071012_chaptered.pdf.

[11] Cal. Exec. Order No. S-20-04 (July 24, 2004).

[12] A.B. 532 (Cal. 2007), http://www.climatechange.ca.gov/publications/legislation/ab_532_bill_20071013_chaptered.pdf.

[13] California Energy Commission, *2007 Appliance Efficiency Regulations*, http://www.energy.ca.gov/2007publications/CEC-400-2007-016/CEC-400-2007-016-REV1.PDF.

[14] A.B. 1109 (Cal. 2009), http://leginfo.ca.gov/pub/09-10/bill/asm/ab_1101-1150/ab_1109_bill_20090413_amended_asm_v98.pdf.