



California Independent Petroleum Association
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BRIEFING FOR AUGUST 30, 2017, JOINT HEARING OF THE LEGISLATIVE COMMITTEE ON CLIMATE CHANGE POLICIES AND THE ASSEMBLY COMMITTEE ON JOBS, ECONOMIC DEVELOPMENT, AND THE ECONOMY

OVERVIEW: California is tied as the nation's third largest oil producer, producing more than a half million barrels of oil per day. This is down from 1 million barrels per day three decades ago. All of the oil produced in the Golden State is consumed here, but this is only enough to meet 38% of the state's total demand. The remaining 62% is imported from other states or nations that do not follow California's strict environmental protection laws.

Recognizing the need to meet our nation's energy demands while protecting our energy security, Gov. Jerry Brown, who is globally recognized for his environmental leadership, has taken a pragmatic approach to California's energy policy. In 2015 Gov. Brown told *Politico*, "I don't think it's responsible to let third-world countries do the oil production so that Californians can drive around, even in their hybrids. We have to shoulder our part of the responsibility. And reducing our climate footprint is not 'snap your fingers, take one issue.' To just instantly kill an industry, with all the backlash that entails, with the trivial impact on climate change, does not seem to me the wise way to go."

In 2016, President Barack Obama acknowledged how fossil fuels have helped the U.S. become the global leader in greenhouse gas emission reductions when he said, "Interestingly enough, one of the reasons why we've seen a significant reduction of coal usage in the United States is not because of our regulations. It's been because natural gas got really cheap as a consequence of fracking. [Some environmentalists'] attitude is we got to leave that stuff in the ground if we're going to solve climate change. And I get all that. On the other hand, the fact that we're transitioning from coal to natural gas means less greenhouse gases."

Due to the size of our nation-state, demand for oil has increased. At the same time, technology has paved the way for oil and gas companies to recover resources while leaving a smaller footprint. In fact, according to the California Air Resources Board, in 2013, oil and gas extraction accounted for 4% of the state's total methane emissions.

Even though oil and gas is not the largest contributor to greenhouse gas emissions, producers have complied with an ever-changing landscape of regulatory and legislative mandates while continuing to provide quality careers to a diverse workforce.

Ending oil production in California does not weaken the demand for oil. Instead, it will increase our energy dependence on imports from foreign interests, like the Middle East and Russia, who do not adhere to strict environmental regulations or respect human rights. Replacing 200 million barrels of California oil would equate to 588 more tanker ships per year, 284,994 oil rail cars, or gas rationing. These alternatives present a variety of environmental and economic concerns. Therefore, producing oil in California under the strictest standards on the planet is the most environmentally-friendly and economically beneficial way of meeting our state's vast energy needs.

This paper will explain how California producers continue to protect the sustainability of their companies by embracing clean technologies, the economic benefits of production and a brief overview of the federal, state, regional and local regulations operators must follow.

INNOVATIVE CRUDE METHODS: By Executive Order, Governor Arnold Schwarzenegger enacted the Low Carbon Fuel Standard (LCFS), a program designed to reduce the carbon intensity of California fuels by 10% by 2020.

Refiners in California either have to reduce the carbon intensity of their refining processes, blend with other fuels like ethanol, or buy credits to reach the 10% reduction goal. Credits, however, are difficult and potentially expensive to come by since only utilities and refiners can create them. The California Air Resources Board (CARB), who is responsible for developing and administering the program, created the Innovative Crude Methods program to allow in-state producers of crude to create credits by demonstrating they have lowered the carbon intensity of their production methods.

Originally limited to solar thermal steam and carbon capture and sequestration, CIPA worked with CARB to expand the program to include all solar installations in the oil patch eligible to generate credits. CIPA also worked to ensure the program allowed solar co-ops amongst numerous producers utilizing the same solar facility.

CIPA is assisting members to identify funding sources of new solar installation, get those projects certified by CARB, and generate, bank, and sell those credits to program participants.

NET WATER PRODUCER: Water is a by-product of oil production. For every barrel of oil produced in California, there are about 15 barrels of water produced as well, which amounts to 130 billion gallons of water every year. The vast majority of this water is recycled directly by oil and gas companies for further production. About 8 percent of the produced water is treated and blended with other sources for agricultural use in irrigation under state-approved permits. This water undergoes strict testing by independent certified laboratories and must meet specific quality standards set by the Regional Water Quality Control Board. This recycling has taken place for more than 30 years without incident and with no evidence of contamination from reclaimed irrigation water. Farmers have described this produced water recycling program as a lifeline to keep their crops alive during this historic drought, especially as their other irrigation water sources have been curtailed.

The U.S. Environmental Protection Agency, State Water Resources Control Board and Department of Conservation's Division of Oil, Gas & Geothermal Resources (DOGGR) have all found no evidence of contamination of public water supplies as a result of produced water from oil and gas production in California in their review of underground injection. Additionally, state law (SB 1281 signed by Governor Brown in 2014) requires producers to report on a quarterly basis to DOGGR the source and volume of any water used or injected in oil field operations.

The State's official drought policy is to encourage sustainable new water sources, such as oil production water use to irrigate agricultural fields. As with all water supplies, the new water will have to be certified safe for irrigation and continuously meet stringent testing criteria. Despite erroneous claims by anti-oil activists, state officials have verified that water from hydraulically fractured wells have not been used for irrigation. Only about 25% percent of wells in California use hydraulic fracturing. Clay Rodgers, Assistant Executive Officer of the Central Valley Regional Water Quality Control Board said, "I should point out from our knowledge, water from oil wells that have been hydraulically fractured have not and are not being used for irrigation."

Oil and gas producers provide about 50,000 acre feet of water for beneficial use for agriculture each year. This safe, new permanent water source will help hundreds of South San Joaquin family growers stay in business, keeping thousands of rural residents employed in farming, food processing, transportation, equipment and many other allied industries. The California Department of Food and Agriculture found that the drought cost California agriculture \$1.84 billion and 10,100 jobs in 2015.

ECONOMIC BENEFITS OF DOMESTIC PRODUCTION: The industry is an economic engine for the state creating 368,000 quality jobs with an average salary of nearly \$75 thousand annually. California oil and gas companies also paid more than \$42 billion in federal, state and local taxes in 2015.

The Los Angeles Economic Development Corporation in June 2017 released new data on the economic benefits of the oil and gas industry. According to the study, the industry generates more than \$148 billion in direct economic activity, contributing to 2.7 percent of the state's GDP in 2015.

This analysis also shows that California's energy industry employs a workforce that is diverse both in terms of ethnicity and level of education. The workforce is 29.1 percent Hispanic, 13 percent Asian and 5.3 percent African-American. This is four times more diverse than other STEM-focused industries.

While 23.3 percent of workers have a college degree and 28 percent have attended some college, 39.2 percent of workers have a high school education or less. Regardless of an oil and gas worker's level of education, he or she earns more on average than the average worker with the same level of education.

New data also illustrates how quality careers in oil and gas help support the American Dream. Petroleum engineering topped a list compiled by Realtor.com analyzing 336 college degrees to see which would result in the quickest path to homeownership. The *New York Times* recently published a story about the analysis, which stated, "Engineering degrees dominated the list, occupying 33 of the highest 50 rankings, with petroleum engineering at the top: Those with this particular degree, the site predicted, would have enough earning power to buy a home in just 2.6 years."

REGULATION AND LEGISLATION IMPACTING INDUSTRY: California oil and gas producers must follow an ever-changing landscape of regulations at the state, federal, local and regional levels. In fact, in some jurisdictions operators must follow rules from 20 different government entities. The state requires operators to be bonded and state regulators from several agencies perform unannounced inspections of operations.

The state's Division of Oil, Gas, and Geothermal Resources (DOGGR) oversees drilling permits, surface equipment permits, well stimulation permits and implements the idle well program. The State Water Quality Control Board and Regional Water Quality Control Boards review injection well applications, manage well stimulation ground water monitoring plans and issue permits for stormwater runoff for construction of pads. Other agencies with state oversight include CalOSHA, CalEPA, CHP, CalOES, CalTrans, DMV and the Department of Fish & Wildlife. The California Air Resources Board enforces industry's compliance with state laws governing greenhouse gas emission reductions. Additionally, regional air districts require producers to follow more than 25 rules governing issues such as air quality, odors, noise and chemical usage. Federal regulators include the U.S. EPA, Bureau of Land Management, Department of Homeland Security, U.S. Coast Guard and U.S. Department of Transportation.

Local governments also have their own set of local land use rules that operators must follow which include a separate permitting process. In Kern County, where the vast majority of production occurs, there is a local ordinance that includes more than 88 mitigation measures.

Additionally, the state legislature has passed a number of bills since 2009 impacting production including:

- **AB 1960:** Facilities permitting & inspection
- **SB 4:** Well Stimulation
- **AB 861:** Spill Prevention
- **AB 1966:** Mineral/ Surface Estates
- **SB 665:** Increased Bond Amounts
- **SB 1281:** Water Reporting
- **AB 1420:** Pipelines in Sensitive Areas
- **AB 864:** State Fire Marshal
- **SB 612:** DTSC Reporting
- **AB 1937:** Pipeline Repairs Near Sensitive Receptors
- **SB 1168:** Ground Water Analysis/Prioritization
- **State Budgets:** DOGGR & Water Board Assessments
- **SB 32/AB 197:** Gives CARB authority to reduce GHG emissions to 40% of 1990 levels by 2030
- **AB 2729:** Increases fees and indemnity bond amounts for idle wells
- **AB 2756:** Increases penalties and fee structure for state oil regulators
- **AB 2912:** Makes additional revisions to recent expansions to the state's oil spill preparedness and response program
- **SB 1383:** Requires a 40% reduction in methane, a 40% reduction in hydrofluorocarbon gases, and a 50% reduction in anthropogenic black carbon, from 2013 levels by 2030
- **AB 398:** Extends the cap and trade program



CALIFORNIA OIL & GAS BY THE NUMBERS

QUALITY CAREERS



- 368,00 total jobs
- \$33 billion in labor income
- 2.7% of the state's domestic product

TAX GENERATOR

California oil and gas companies in 2015 paid **\$42 BILLION IN FEDERAL, STATE AND LOCAL TAXES**

which fund vital public services, including:

- \$26.4 billion in state and local taxes
- \$15.6 billion in federal taxes
- \$28.5 billion in sales and excise taxes
- \$2.3 billion in corporate profits taxes

WORKFORCE DIVERSITY AND OPPORTUNITY

The oil and gas industry provides quality jobs, regardless of ethnicity or educational attainment, that pay on average more than jobs in other industries.

\$
\$74,690
average salary



The industry provides opportunity across the educational spectrum: 23.3% of workers have a college degree, 28% have attended some college, 39.2% have a high school education or less.



Petroleum engineering is the best degree for homeownership, with 2.6 years to a home purchase and a \$96,700 salary.



The workforce is 29.1% Hispanic, 13% Asian and 5.3% African-American.

This is four times more diverse than other STEM-focused industries.

THIRD HIGHEST PRODUCTION IN THE NATION

- 539,000 barrels of oil produced per day, down from 1 million barrels per day 30 years ago.
- All oil produced in California is used in California, but it only accounts for 38% of the state's demand for oil.
- 62% of the state's total demand is imported from other states or nations that do not follow California's strict environmental protection laws.

