Choosing Winners and Losers
The Consequences of Banning Energy Sources

California is known nationally and internationally for its leadership in setting ambitious climate goals and spurring innovation that has evolved how the world thinks about energy production, efficiency, and transmission. With each new legal and regulatory enactment, California policy should remain technology-neutral to protect jobs, encourage innovation, and maintain growth while looking at ways to reduce greenhouse gas (GHG) emissions.

To that end, California passed the first-of-its-kind cap-and-trade program, applicable to stationary sources and transportation fuels, including oil and gas production, manufacturing, and electricity generation, allowing market prices to drive down emissions while maintaining its strong economy. This approach is prudent since California contributes only 1% to global GHG emissions.

In the energy field, California utilizes a Renewable Portfolio Standard, setting a percentage goal for renewable energy while allowing electric utilities to undertake long-term Integrated Resource Planning to figure out how to transition the energy grid to accommodate a growing portfolio of renewable sources. California also is the leading regulator of automotive emissions in the country, pioneering limits on tailpipe emissions and control technologies years before federal requirements. This balanced approach has likely led to California maintaining its leadership in the global economy and energy world, and has served as a model that California should continue to follow.

**FORCING THE MARKET**

On the other hand, the California Legislature is not immune to the urge to force the market to adopt specific technologies or services through means such as an outright ban on certain energy sources, through setback requirements, or mandates on a certain energy mix.

For example, in 2019, AB 345 (Muratsuchi; D-Torrance) proposed imposing a state minimum 2,500-foot setback requirement on new oil and gas development, as well as on redrilling or rework of any existing oil and gas infrastructure. The 2,500-foot setback requirement was in effect a domestic ban jeopardizing new and existing infrastructure necessary for in-state production to continue.

The California Chamber of Commerce tagged the proposal as a job killer and the bill ultimately was held in the Assembly Appropriations Committee. Also for two years in a row, bills attempting to ban all combustion engines in the state were introduced—AB 1745 (Ting; D-San Francisco) in 2018 and AB 40 (Ting; D-San Francisco) in 2019—but both failed to garner sufficient votes in committee.

All the while, regulations at the California Air Resources Board (CARB) are making an end-run around legislative directives on issues such as transportation emissions and infrastructure issues, with CARB failing to conduct and report on bills. For example, SB 498 (Skinner; D-Berkeley) directed CARB to work with stakeholders and the Institute of Transportation Studies of the University of California to look at all state board programs and report on a comprehensive approach. This study was due to the Legislature on July 1, 2019, but has never been provided despite multiple requests from legislators and stakeholder groups.

Despite state leadership in reducing GHGs, California’s economy still relies on fossil fuels. As the state transitions away from this traditional fuel source to renewable energy, the Legislature must account for the effects on consumers, motorists, and residents’ quality of life that come with legislated bans and mandates. Renewable energy and fossil fuels should not be viewed as diametrical opposites. A mix of both is required to maintain a secure energy grid and protect jobs. An appropriate balance can be struck to set forth a model for other states and the world to follow.

**THE POLICY ISSUES**

- **Combustion Engine Bans Have Disproportionate Impact on Poor and Working Class Californians.** Transportation accounts for a large portion of California’s GHG inventory.
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Legislators have introduced bills to ban combustion engines in each of the last two years, and no doubt will continue to sponsor similar legislation in the future. Although banning combustion engines is certainly one strategy to reduce GHG emissions, a targeted ban disproportionately harms poor, minority, and middle class workers who commute long distances in older vehicles due to the high housing costs in California’s major metropolitan areas. Most working Californians cannot afford and do not choose to purchase electric vehicles. Solutions need to be developed that are even-handed and take into account all the costs of climate policy.

California lays claim to the country’s most developed electric vehicle market in the nation. As California leaders push for even more purchase and use of electric cars, the blessings of fewer GHG emissions are limited by the serious logistical challenges brought on by economy-wide electrification. For example, electric vehicles may be unusable following a natural disaster or during public safety power shutoffs, when electric service may be unavailable for several days or weeks. Additionally, evacuation distances for those escaping wildfires or other natural disasters may exceed the range of an electric vehicle on a single charge, or charging stations may become inaccessible.

• **Picking Winners and Losers Hinders Innovation**. California policy makers have historically preferred and provided financial and market incentives for solar and wind energy over other renewables, hindering innovation by narrowly defining “renewable” as a list of preferred options. This makes other emerging technology less cost competitive in California. California also cannot rely 100% on solar and wind—it requires storage when the sun stops shining and wind stops blowing, or requires a reliable backup generation.

Battery storage technology often is touted as the response to concerns over reducing the role of natural gas as a clean, fast-ramping resource. However, sufficient battery storage is not yet available at a level that is necessary to maintain power after dark or when the wind is low, currently constituting less than 1/10th of 1% of defined renewables in use in California. After the closure of California’s last nuclear generating facility, the state’s remaining reliable backup generation will be natural gas. California is lagging on energy storage, and if the state also bans or limits natural gas, Californians will be left with nothing to keep the lights on, a real possibility we are facing at peak energy usage starting in 2021. Legislators must be sure to keep the physics of the grid top of mind when enacting energy policy.

Nuclear energy, for example, once was heralded as the clean and green option. France, for instance, is the world’s largest net exporter of clean electricity and provides Switzerland, Italy and Belgium with loads of cheap energy by relying heavily on nuclear power. Back home, Californians have had an ambivalent and inconsistent relationship with energy generation technologies. The flirtation with nuclear power was brief, and the skepticism over costs, unanswered safety issues, and unresolved concerns over waste disposal overcame the obvious advantages that nuclear generation represents for climate health.

California was a world leader in moving generation from coal and oil to natural gas, creating some of the greatest improvements in air quality in the country while making significant progress in GHG emissions. But that progress was already banked by the time that serious climate policy was debated in the last decade, leaving policy makers the choice of standing still or seeking the next big thing in generating clean electricity. California legislators continue to introduce bills mandating procurement of wind and solar, despite the impracticability of doing so, thereby limiting innovation and technology in other areas of energy production.

• **Renewables Are Just Part of the Mix**. Legislators should consider the negative social and environmental externalities of picking one technology over another.

For example, many solar panels installed over the last several decades are reaching the end of their useful lives. As the number of in-state permitted hazardous waste facilities declines, California is forced to ship this hazardous waste to states or nations with fewer environmental regulations, in effect shifting our problems onto others.

Batteries too cause unforeseen externalities. Like many of our consumer electronics, batteries use precious metals that are mined in countries without the rights granted to California workers, without environmental regulations, and where massive amounts of GHGs are emitted during the mining and transport process. The world also has a limited supply of lithium, which currently is used to fuel these batteries.

Our energy future cannot be a one-size-fits-all approach that chooses a single technology and discourages innovation in other fields.

• **California Industries Rely on Natural Gas**. For the last few years, legislators and agencies have targeted natural gas production and use, imposing regulatory moratoriums on new gas hookups without first studying the effects, and introducing bills to ban or curtail the use of this reliable and flexible power source.

It is important to remember that certain industries cannot continue to operate in California if natural gas is banned. For instance, clay roof tile manufacturers, asphalt companies,
mortuaries, and some food production facilities require massively high heating units. Natural gas is the most efficient, and sometimes only source that will allow kilns, ovens and stoves to reach the appropriate temperature. Banning gas means these companies must move out of state, or close all together, requiring more imports and thus more GHG emissions from transport into the state. Given the already-soaring cost of housing, increasing the cost of building materials seems unwise.

While the Legislature may recognize this concern, natural gas hookup bans are proliferating at the local government level in an inconsistent and sometimes unthoughtful approach. Even some environmental justice groups are pushing back on these bans, which, where energy security is the main concern, dramatically affect the lives of those living in disadvantaged communities.

- **Banning Natural Gas and Oil Production in the State Means More Imports.** Proponents of energy policies that ban in-state natural gas and oil production fail to acknowledge unintended consequences such as increased oil and gas imports, higher energy costs for residents, less tax revenue for the state, fewer in-state jobs, and negative environmental and labor impacts.

  For example, California residential electricity rates are the fifth highest in the nation. Commercial and industrial ratepayers in California pay as much as 50% to 70% above the national average for electricity. California regularly ranks as having the most expensive gasoline in the United States with prices averaging at least 60 cents per gallon higher than the national average. This cost discrepancy is due to factors including California’s state excise taxes, costs passed on from climate change regulations (cap-and-trade and the low carbon fuel standard), a reduction in the number of refineries operating in California, and the absence of interstate pipelines, such that transportation fuel can be imported only via ship or truck.

  Despite having the most stringent environmental policies in the country, California’s fuel consumption is still at its highest level since 2009 (see California Energy Commission, Retail Fuel Outlet Annual Reporting). Oil and gas remains the leading energy source powering California’s economy. Californians will continue to rely on fossil fuels for the foreseeable future, as the state is home to 40 million residents, 35 million registered vehicles, 145 airports, 32 military bases, and 11 public ports, including three of the nation’s “megaports” (Los Angeles, Long Beach and Oakland).

  Given California’s declining in-state production and declining imports from Alaska, the state will inevitably rely on more imports from foreign countries. This is evidenced by the year-after-year increases in foreign crude oil imports. California has increased crude oil imports from foreign countries year after year, with as little as 5% of crude imported in 1992, to approximately 57.5% of crude being imported in 2018—a 52.5 percentage point increase (see California Energy Commission, Crude Oil Supply Sources to California Refineries). By importing approximately 369 million barrels of crude oil in 2018, California spent more than $23 billion annually to buy crude oil from foreign oil producers (the Brent spot price for oil was around $62.52/barrel as this article was written).

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Source: California Energy Commission.

Instead of over-regulating domestic oil production and then having to buy crude from foreign oil regimes with weak environmental and labor laws, California could invest in domestic oil and gas production facilities. California oil and gas facilities provide very high-paying jobs under the world’s most stringent environmental and labor laws. Yet, the state is doing exactly the opposite. In November 2019, Governor Gavin Newsom announced an immediate moratorium on all new permits for steam-injected oil drilling and a requirement that all pending applications to conduct hydraulic fracturing be reviewed independently prior to approval.

Curtailing oil and gas production in California while continuing to import more oil does not lead to lower global emissions or a cleaner environment—it merely shifts California’s oil and gas supply and greenhouse gas emissions to less environmentally regulated and less worker-friendly countries. Policies banning in-state production create greater negative externalities by increasing greenhouse gas emissions elsewhere, reducing high wage in-state jobs; funding foreign regimes known for human rights violations; increasing the chances of oil spills correlated...
CLIMATE CHANGE/ENERGY

with longer transportation routes; and reducing tax revenue for California that could be used to fund schools, infrastructure and many other social services.

Such policies also jeopardize the state’s energy resource adequacy, as highlighted by a recent California Public Utilities Commission decision directing load serving entities to procure 3.3 gigawatts of capacity beyond baseline resources in order to meet a potential resource adequacy shortage beginning in 2021.

2020 LEGISLATION

Lawmakers have already introduced bills aimed at banning the sale of nonzero-emission combustion engines by 2040, specifying energy procurement sources, offshore oil production bans, and building and appliance electrification standards. Outright bans, without accounting for the full economic and environmental impacts of what will happen, miss the whole picture, potentially damage our economy, and do not necessarily contribute to a reduction in global GHGs or a cleaner environment.

Although we anticipate additional legislation targeting in-state oil and gas production, the CalChamber is committed to working with legislators so that they better understand the implication of these policies on California’s economy and environment.

CALCHAMBER POSITION

Energy policy is complex, with known and unknown externalities every time a bill is proposed picking energy winners and losers. The Legislature should be careful to evaluate each policy within the broader system of energy, economy, and the environment. If it does, California can continue to be a leader in global climate change and have the strongest economy in the nation and world. It can work with other states and countries to develop new strategies and technologies. It can allow the bipartisan processes, such as the extension of cap-and-trade, to work. It can continue to support the more than 300,000 jobs directly or indirectly related to the oil and gas industry, all while imposing the toughest environmental laws and regulations in the country.

For years California focused inward and is on track to achieving its ambitious energy goals. We can now focus outward and be a model for stability.

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