

How Green is Jerry Brown?

By Liza Tucker



February 2017

Table of Contents

Executive Summary.....	2
Oil Drilling.....	11
Fossil Fuel-Generated Electricity.....	20
Greenhouse Gas Emissions.....	23
Toxic Emissions.....	28
California Environmental Quality Act.....	33
Coastal Protection.....	35
Water.....	37
Conclusion.....	41
Recommendations by Subject.....	42
Endnotes.....	45

"The oil rigs are moving in Kern County but the sun is also shining in California...We want to use our resources, which are our people as well as our sun, and all the other sources of power. It's not easy. There are going to be screw ups, there are going to be bankruptcies, there'll be indictments, and there'll be deaths but we're going keep going and nothing is going to stop us. We're going make this state as great as we believe it to be." *Jerry Brown, 2012*

"Some people need a heart attack to quit smoking. Maybe we just got our heart attack. We should start doing the work that it takes to really do what it takes to reduce our climate emissions." - *Jerry Brown, 2016*

Executive Summary

This review fact-checks the perception of Jerry Brown as an environmentalist against his actions since taking office as Governor in 2011 to answer the question: "How Green Is Brown?" On a continuum of "Green" to "Murky" to "Dirty," the review concludes that Brown's environmental record is not green. The following advocates and public interest groups concur with the report's analysis, conclusions, and recommendations: Food & Water Watch, Physicians for Social Responsibility-Los Angeles, Rootskeeper, Powers Engineering, Basin & Range Watch, Aguirre & Severson LLP, Public Watchdogs, the Southern California Watershed Alliance, The Desal Response Group, Restore The Delta, and Committee to Bridge the Gap.

Brown has staked his environmental legacy on fighting climate change, calling it the "singular challenge of our time."¹ He claims that he is enacting "a thorough, integrated plan to reduce fossil fuel consumption."² He plans to have 1.5 million electric cars on the road by 2025 and has granted major investor-owned utilities a windfall of billions of dollars to build the charging infrastructure to make it happen. Yet, he has thrown his

support to the fossil fuels industry whose products emit the most carbon on the planet when burned for transportation, electricity, and heat.³

Far from the environmentalist that Brown claims to be, Brown has expanded the burning of heat-trapping natural gas and nurtured oil drilling and hydraulic fracturing while stifling efforts to protect the public from harm. The Public Utilities Commission has approved a slew of unnecessary new fossil-fuel power plants when the state's three major investor-owned utilities have overbuilt their generating capacity by nearly triple the minimum extra capacity that the state requires. Under Brown, the number of active onshore state oil and gas wells jumped by 23 percent since the year before he was elected Governor in a bid to produce more oil.

Hydraulic fracturing is producing 20 percent of the state's oil, while companies continue to use other common, dirty methods of oil extraction exempted from fracking legislation under Brown. Companies are extracting oil from a few hundred newly permitted offshore wells in existing state leases since Brown came to office, though Brown asked then-President Obama to ban any new drilling in California's federal waters. Brown's regulators have ignored a petition signed by 350,000 people to ban the use of toxic oil wastewater for crop irrigation until proven safe.

Far from the environmentalist that Brown claims to be in his fight against climate change, Brown has nurtured drilling and hydraulic fracturing in the state while stifling efforts to protect the public from harm.

In the wake of the death of a Chevron worker in a boiling sinkhole, caused as a byproduct of oil well stimulation, Brown fired two oil and gas regulators who were trying to make oil drilling and disposal of wastewater safer.⁴ He recently appointed his top aide who carried out the firings five years ago — Cliff Rechtschaffen — to the scandal-plagued PUC. In addition, Brown has allowed the largely unrestricted use of limited water resources by polluting oil companies and agribusinesses.

Brown has done an about-face from his earlier stance favoring the state's signature climate law, the California Environmental Quality Act which requires local agencies to mitigate the significant environmental consequences of their actions. His appointees at the Coastal Commission have given Southern California Edison the right to bury spent nuclear fuel from the shuttered San Onofre plant on a San Diego beach just 100 feet from the ocean.⁵

While claiming to fight climate change, Brown has largely ignored the broader environmental effects of toxic pollution, vetoing legislation that would have protected the most vulnerable, low-income communities of color from serial polluters of air, water, and soil in their midst. He has also tolerated regulators at the Department of Toxic

Substances Control who have disparaged communities like the ones they are tasked to protect in racist emails released under the Public Records Act.

Summary of Findings

ISSUE	BROWN ACTIONS	RATING	RECOMMENDATION
Oil Drilling	Nurtured drilling and fracking. Fired regulators who were making drilling safer.	Dirty	Ban fracking, phase out drilling, end irrigation of crops with wastewater.
Fossil Fuel-Generated Electricity	Slew of Natural Gas power plants approved. Aliso Canyon kept open. Supports deregulated, regional electrical grid.	Dirty	Abandon the regional grid, deny new natural gas plant applications, stop those under development, close Aliso Canyon.
Greenhouse Gas Emissions	Ambitious GHG policies have lowered emissions. Clean energy makes up 27% of electric generation.	Green	Set goals for faster transition from fossil fuels. Cut petroleum use in cars in half. Abandon cap and trade for direct regulation.
Toxic Emissions	Poor regulation of toxic emissions. Fines are small, serial polluters still receive permits. Low income communities at risk.	Dirty	Create oversight board for toxics regulation, require companies to put up money for cleanup, and revoke permits of serial polluters.
California Environmental Quality Act	State projects exempted from CEQA whenever inconvenient - including for Sacramento Kings stadium.	Dirty	Stop CEQA exemptions for developers and industry.
Coastal Protection	Tried to weaken Coastal Act protections. Granted permit to allow radioactive waste to be buried on a San Diego Beach.	Murky	Uphold Coastal Act protections. Move nuclear waste to licensed facility.
Water	Brown's infrastructure projects deplete water resources and threaten wildlife. Poor rules on water conservation.	Murky	Abandon Twin Tunnels. Impose industry fees on commodities for clean water.

The report finds:

OFFSHORE OIL DRILLING

- Brown asked President Obama to permanently ban any new oil and gas leasing in federal waters off of California's coast to match California's long-standing ban on new drilling in state waters. But oil production continues from 1,366 offshore wells in existing leases, according to the California Department of Conservation. Since 2012, regulators issued about 238 permits for new wells in existing offshore leases, and 171 of those offshore wells are currently active, according to analysis by the nonprofit FracTracker Alliance. Regulators are not protecting state waters. Between 2011 and 2013, voluntary industry disclosures show fracking in at least 19 wells in state waters. In 2015, oil regulators granted fracking permits for 13 wells off of Long Beach. The fracking did not take place because the permits expired before the Coastal Commission could act, but the

fracking would have used dangerous chemicals, including Kathon, an industrial biocide lethal to marine life. Separately, under a loophole in the state law banning new leases, regulators are considering Venoco's application to tap thousands of new offshore acres in the California Coastal Sanctuary by swapping out existing, non-producing acres for protected acreage.

- **Recommendation to make Brown greener:** Governor Brown should direct regulators to reject any drilling in a protected coastal sanctuary, ban offshore fracking, and phase out oil drilling in state waters.

FRACKING

- Brown has personally intervened to stop local bans on new drilling. In May 2014, Brown called city of Carson's mayor Jim Dear to discuss the city's temporary moratorium, imposed in the wake of complaints from residents who feared Occidental would threaten their health and quality of life by fracking hundreds of wells in the city. After the call, the city council allowed new drilling to proceed, infuriating residents. California Resources Corp., Occidental's spinoff that inherited the project, ultimately pulled the plug, stating that the project was no longer "practical" given low oil prices. In 2016, Carson planned to ban fracking outright, then reached agreement with oil companies that they would not use fracking or other extreme methods of well stimulation to produce oil. Other cities and counties have passed fracking bans. They include the city of Beverly Hills, Santa Cruz, San Benito, Monterey, Mendocino, Butte, and Alameda counties.
- **Recommendation to make Brown greener:** Neither Governor Brown nor any of his state regulators should interfere with decisions of cities and counties to ban new drilling or fracking. The state should phase in a ban on oil drilling.

IRRIGATION OF CROPS WITH OIL WASTEWATER

- Under Brown, farmers' use of oil wastewater to irrigate crops is expanding in California, a practice that environmental and health safety advocates say should stop until the practice is proven safe. Farmers have bought wastewater from oil companies for irrigation more cheaply than water from other sources for decades. Oil giant Chevron sells 21 million gallons of oil drilling wastewater a day to the Cawelo Water District alone, which supplies the water to 90 Kern farmers. But oil companies must get permits from regional water quality control boards to dispose of the water. Environmental groups have protested new permits for the practice because little to no independent or comprehensive testing has ever been done of more than 450 compounds used as additives to produce oil and gas. Wastewater samples have been shown to contain dangerous levels of oil, acetone, and carcinogenic benzene. Some chemicals used in oil and gas operations are linked to cancer, endocrine disruption and reproductive damage. In August 2016, a coalition of environmental and health

advocacy groups sent a petition with 350,000 signatures to Brown and water regulators to stop the practice of irrigating with oil wastewater until proven safe. Brown's water regulators have ignored them.

- **Recommendation to make Brown greener:** Governor Brown should end crop irrigation with oil wastewater until proven safe.

CALIFORNIA JOINING WESTERN GRID

- Brown is pushing to merge California's electric power system into a sprawling "Western Grid" that will initially include PacifiCorp, at the expense of state environmental laws. This affiliate of Warren Buffett's operates plants in six Western states and owns more coal-fired plants than any other electric company. Brown argues that the idea of selling energy across state lines should appeal to President Trump who "talks about breaking down the state barriers for insurance" for health insurance companies. But Brown's position risks damaging the state's own renewable energy goals, according to legal experts and to a confidential memo drawn up by The Utility Reform Network. The memo warns that California could wind up in the "crosshairs" of hostile federal regulators and courts that could force the state to buy dirty coal power from neighboring plant operators such as PacifiCorp, and override its renewable energy requirements.
- **Recommendation to make Brown greener:** Governor Brown should not move forward with the Western Grid in light of the Trump Administration's control over the Federal Energy Regulatory Commission and Supreme Court appointments.

CHEMICAL DANGERS OF FRACKING

- In the state's major fracking legislation, Brown sacrificed a moratorium on fracking until its health effects could be studied in favor of a public health risk assessment that would be performed concurrently. Eighteen months ago, the California Council on Science and Technology and Berkeley Lab found that fracking carries environmental and public health risks. They warned that fractures in shallow wells could intersect with protected aquifers, and called for an end to the use of the most hazardous chemicals and chemicals with unknown environmental characteristics. They also called for an end to disposal of fracking wastewater in unlined pits, and injection of wastewater with chemicals from fracking and other stimulation into protected aquifers. Regulators have not acted on banning chemicals with unknown properties or the ones known to be most hazardous. Brown has said, "Inaction may be the biggest form of action." That applies here.
- **Recommendation to make Brown greener:** Governor Brown should require regulators to heed the report's recommendations and act to ban fracking,

following in the steps of New York Governor Andrew Cuomo, who used his executive authority in 2014 to ban fracking in his state.

“Inaction may be the biggest form of action.” -

Jerry Brown

FOSSIL FUEL-GENERATED ELECTRICITY

- Jerry Brown is a booster of natural gas which contributes to global warming. Under Jerry Brown, 60 percent of the electricity generated in California now comes from natural gas, up from 53 percent in 2010. Over the past six years, during Brown’s tenure, 15 natural gas-fired power plants have been approved or built. According to the state’s three major investor-owned utilities, natural gas demand is slated to fall 1.4 percent year over year in the next two decades while renewable energy sources displace natural gas. The state of California requires the major investor-owned utilities to plan for an extra generating capacity of 15 percent to meet any sharp spikes in demand and avoid blackouts. But as of 2015, these utilities have nearly 40 percent extra capacity —roughly triple what the state requires. This excess capacity, bankrolled to the tune of billions of dollars by ratepayers, has helped boost the stock value of these utilities by an average of 69 percent under Brown.
- **Recommendation to make Brown greener:** Governor Brown should put a moratorium on natural gas plants already in development, direct regulators to reject new natural gas plants, and ask the State Auditor to review the state’s generating capacity.

CAP & TRADE

- Brown is a champion of cap and trade, which allows companies to pay to pollute by buying and selling pollution allowances. But USC and Berkeley experts find that this market mechanism hurts low-income communities of color often located within a few miles of big polluters. Greenhouse gases do not affect public health directly, but high greenhouse gas emissions are correlated with high emissions of toxic fine particles from industrial plants such as refineries and electric generators. Of the biggest regulated emitters studied, 61 percent reported increases in greenhouse gas emissions in 2013-2014 over 2011-2012. Large emitters also used “offset” credits to invest in cheaper greenhouse gas reduction projects out-of-state. Those projects do not help in-state communities where facilities are located.
- **Recommendation to make Brown greener:** Governor Brown should move away from market mechanisms towards direct regulation of greenhouse gases and toxic emissions.

WATER

- Brown believes that building the “Twin Tunnels,” two 35-mile long, 40-foot wide tunnels that would divert Sacramento River water from the San Joaquin Delta, is critical for Southern California water supplies. But installing giant pipes to deliver rapidly depleting water is what ultimately threatens California. A new study by hydrologists at the Colorado School of Mines and Utrecht University, Netherlands, finds that California’s agricultural powerhouses in the Central Valley could run out of accessible groundwater as early as the 2030s. California remains one of the last states in the nation to lack comprehensive, mandatory state groundwater regulations governing conservation, wastewater and “gray water” recycling, storm water capture, and aquifer recharging. Water is still moved hundreds of miles to major cities, used, and then dumped into the ocean instead of recycled. Farmers are not restricted in terms of how much water they pump out of aquifers, and water management planning is delegated to local authorities who don’t have to produce any management plans until 2020 or implement them until 2040. By then, advocates say California will have run out of water.
- **Recommendation to make Brown greener:** Governor Brown should scrap the Twin Tunnels project, urge the passage of mandatory, statewide regulations governing water conservation, water capture and recycling, as well as aquifer recharging, and stop unsustainable aquifer depletion by farmers.

“It’s about having the plumbing that meets their needs of the 21st century,” - Jerry Brown on his Twin

Tunnels project

TOXIC EMISSIONS

- Under Brown, lead battery recycler Exide became a poster child for mishandled toxics regulation. For decades, Exide spewed lead all over East Los Angeles without a permit to operate. Sacramento managers at the Department of Toxic Substances Control turned a blind eye to lead accumulating at hazardous waste levels in the soil near the facility. Toxics regulators never required Exide to put up enough money to cover facility closure, or to pay for ordered corrective action, as state law provides. The facility was finally shuttered in March 2015, only after a U.S. Attorney threatened criminal prosecution if the facility didn’t close down and pay for cleanup. It took until February 2016 for Brown to announce that he wanted the legislature to allocate \$176 million to clean up to 10,000 homes near the site. Instead of Exide fully covering that expense, as the law provides that companies must, consumers will also have to pay through a new fee on lead-acid car batteries.

- **Recommendation to make Brown greener:** The Governor should direct regulators to require hazardous waste polluters to put up substantial sums of money as a condition of operation as the law requires, and to deny permits to serial polluters. In addition, he should call for an interdepartmental strike force to regulate emissions of heavy metals.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

- Brown has worked to undermine the state's signature environmental law, the California Environmental Quality Act (CEQA). The law mandates that every state and local planning decision include measures to prevent environmental damage. As Mayor of Oakland, Brown saw CEQA as an impediment to his housing plan, and supported a state law to exempt certain parts of downtown Oakland from the law. As California Attorney General, Brown used CEQA to force local governments to consider the climate impacts of their land use plans. In his latest about-face, Governor Brown is its loudest critic who calls efforts to roll back the law "the Lord's Work." After two diligent oil and gas safety regulators were fired by Brown in 2011, regulators stopped telling oil companies to follow CEQA procedures for new drilling permits in Kern. In 2013, Brown fast-tracked a new stadium for the Sacramento Kings, while cutting back on CEQA requirements for a range of other infill projects. In 2014, Brown exempted state water agencies' drought measures from CEQA, which meant no public comment or independent scientific analysis of any water diversions or transfers.
- **Recommendation to make Brown greener:** Governor Brown should stop trying to undermine CEQA and direct regulators to stop exempting developers and the oil industry from CEQA.

COASTAL PROTECTION

- Brown's appointees to the California Coastal Commission voted to fire its progressive executive director who diminished the influence of wealthy developers over its decisions. In addition, Brown's former Attorney General Kamala Harris defended his Coastal Commission's 2015 decision to allow Southern California Edison (SCE) to bury 3.6 million pounds of nuclear waste from the shuttered San Onofre nuclear power plant on the San Diego beach behind it. The permit endangers 8.4 million residents who live within 50 miles of the location. The Coastal Commission itself admits that the stainless steel casks holding the waste could crack from salt air and that the waste facility will be submerged in the next 15 years. Public interest attorney Michael Aguirre has sued over the permit, arguing that the waste should be moved to another SCE licensed nuclear plant for storage.

- **Recommendation to make Brown greener:** Governor Brown should support legislation to store radioactive waste from San Onofre at a licensed facility and direct coastal commissioners to rescind the permit for nuclear waste burial.

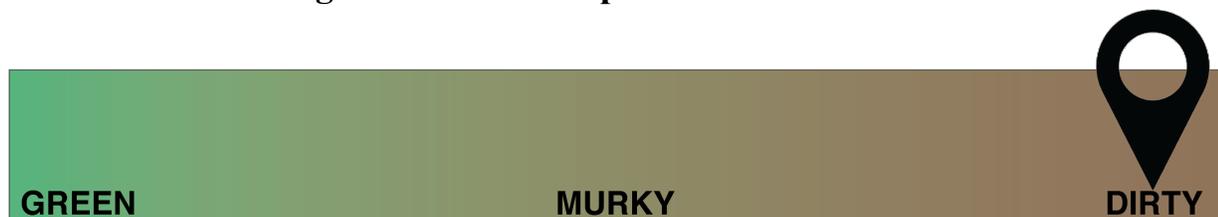
Report: How Green Is Jerry Brown?

This review covers major environmental issues facing the state of California, provides a description of key Brown Administration actions on them, and rates each category Green, Murky, or Dirty.

Brown has a set of tools at his disposal, including executive powers, to protect the public health and environment. This review suggests concrete actions that Brown could take to protect the environment and the public.

Oil Drilling

Brown's oil drilling and wastewater policies are:



Even as Jerry Brown has glimpsed a zero carbon future, he has championed the status quo, which includes the widespread use of toxic chemicals in oil production.

The number of active oil and gas wells has jumped 23 percent from 53,825 in 2009, the year before Brown was elected Governor, to 66,516 onshore wells at the end of 2016, according to Department of Conservation data. On Brown's watch, the number of wells drilled and completed in 2014 jumped by 67 percent over 2011 to 6,896 from 4,636, according to the Department of Conservation.⁶ California oil production peaked in the mid-1980s, and then declined for three decades, according to the Pacific Institute.⁷ After 2011, permits for new wells ticked up.

On December 13, 2016, Brown asked President Obama to ban any new oil and gas leasing in federal waters off of California's coast to match California's long-standing ban. "Now is the time to make permanent the protection of our ocean waters and beaches from new oil and gas drilling," Brown wrote. But oil production continues in existing state leases offshore in 1,366 active wells, according to the Department of Conservation. New drilling permits were issued for 238 wells since 2012 for existing leases in waters off of Los Angeles and Ventura Counties, according to the nonprofit FracTracker Alliance. Roughly 171 of them are currently active.

In 2014, Brown came out against an oil severance tax that was gaining momentum in the legislature and had been drafted as a ballot measure. Every other major oil-producing state has imposed one. California charges a small fee on oil and gas produced that supports the Department of Conservation's Division of Oil, Gas, and

Geothermal Resources.⁸ But an oil severance tax could raise up to \$1.5 billion a year in revenue.⁹

“Now is the time to make permanent the protection of our ocean waters and beaches from new oil and gas drilling,” - Jerry Brown, amidst continued offshore production

Brown has personally intervened to stop local bans on new drilling. In May 2014, Brown called Carson Mayor Jim Dear to discuss the city’s temporary moratorium, imposed in the wake of complaints from residents who feared Occidental would threaten their health and quality of life by fracking hundreds of wells in the city.¹⁰ After the call, the city council allowed the drilling to proceed, infuriating residents.¹¹ California Resources Corp, Occidental’s spinoff that inherited the project, ultimately pulled the plug, stating the project was no longer “practical” given low oil prices.¹²

Under Brown, urban drilling that threatens public health continues. Los Angeles is home to the country’s largest urban oil field with over 580,000 Angelenos living within five blocks of an active oil or gas well, according to the nonprofit Stand Together Against Neighborhood Drilling.¹³ In some cases, wells are located just 30 feet from homes. A 2016 poll released by the organization showed out of 1,200 likely voters surveyed, 72 percent would support a 1,500-foot health and safety buffer around all active oil and gas extraction activities. More than 91 percent of people who live within one quarter mile of an active well are low-income people of color. Pollution from oil drilling compounds the toxic pollution from industrial operations already located in these communities.

Oil Wastewater

Oil drilling produces a tremendous amount of filthy wastewater in need of disposal. In 2011, Brown used his aides and appointees to pressure regulators to approve oil wastewater injection permits without proving that old wells receiving those injections wouldn’t leak and pollute nearby aquifers protected under state and federal law for drinking and irrigation.



Derek Chernow, then acting director of the California Department of Conservation, and his state oil and gas supervisor, Elena Miller, had been insisting that oil companies prove that their wastewater injections would not contaminate aquifers before they got permits.¹⁴ Oil wastewater usually contains high levels of cancer-causing benzene and other chemicals linked to

diseases, including cancer and birth defects.

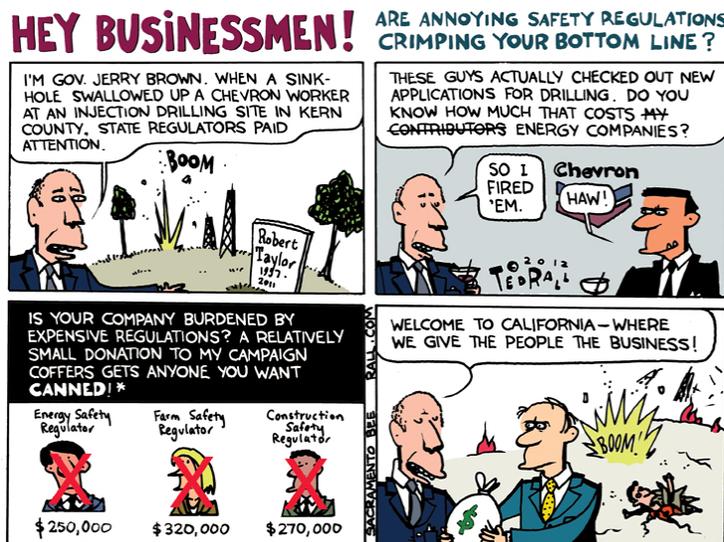
The regulators' pressure on companies to show their wells wouldn't leak or suffer blowouts prompted an oil industry backlash and complaints of slowing down industry operations. According to court documents, Brown's former chief of staff and former California governor Gray Davis pressured Brown to fire Chernow and Miller on Occidental Petroleum's behalf.¹⁵ Occidental Petroleum rewarded Brown by donating a total of \$500,000 to his ballot measure to raise taxes, Prop 30, after the regulators were fired. In December 2016, Brown rewarded Cliff Rechtschaffen, the state official who carried out the firings of Chernow and Miller (according to legal declarations), with a plum appointment as commissioner of the powerful Public Utilities Commission.

“There’s going to be screw-ups. There’s going to be bankruptcies. There’ll be indictments, and there’ll be deaths. But we’re going to keep going. Nothing’s going to stop us.” - Jerry Brown on continued oil drilling in California

In 2012, Brown noted a double-digit jump in drilling permit approvals in the wake of the dismissals and the prior death of a Chevron supervisor in a sinkhole caused by steam injection.¹⁶ Putting fossil fuels on the same footing as renewable energy, Brown quipped at the opening of a solar plant, “The oil rigs are moving in Kern County. We want

to use our resources ... our sun and all the other sources of power. It’s not going to be easy. There’s going to be screw-ups. There’s going to be bankruptcies. There’ll be indictments, and there’ll be deaths. But we’re going to keep going. Nothing’s going to stop us.”¹⁷

Brown’s oil wastewater policies threaten federally-protected drinking water and irrigation aquifers. These aquifers are

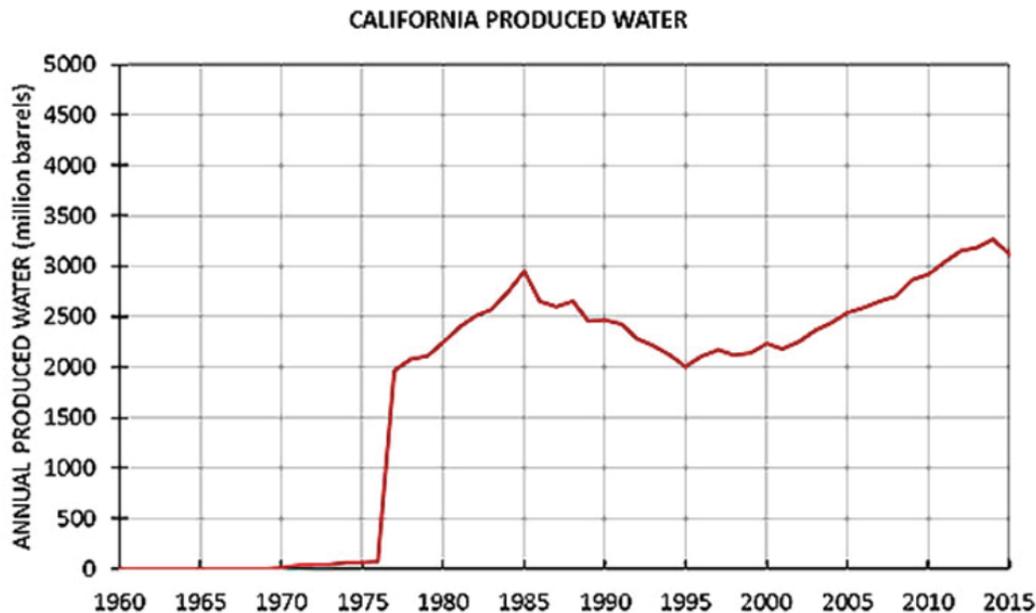


*Installation and Layaway Plans Available

Sacramento Bee, May 2012

critically important, supplying California with 60 percent of its water during this devastating drought. In future years, Californians might need to use even more of that

water for drinking and irrigation.



Oil Wastewater In California - Dept. of Conservation

In 2015, an Associated Press investigation revealed that California regulators had allowed oil companies to inject production and waste fluids into 2,500 wells, contaminating federally protected aquifers in violation of the Safe Drinking Water Act.¹⁸ Some of the permits for those injections were granted decades ago. But almost half of the injection wells got permits or started injections under Brown, as the amount of oil wastewater produced peaked at about 3.25 billion barrels in 2014.¹⁹

The EPA gave California until 2017 to stop injections into any aquifer that hasn't been specially designated for either drilling or waste injection. Regulators shut down a few dozen of the thousands of illegal injection wells. But the state is applying for federal exemptions from the Safe Drinking Water Act to expand injections into as many as 60 aquifers. The state missed a deadline to close 1,500 injection wells, and now the Department of Conservation appears to be banking on the Trump Administration to keep them open. "We're allowing those wells to continue to operate because both we and the [California] Water Board are convinced that these allowances will be exempted by the federal Environmental Protection Agency," said Jason Marshall, chief deputy director of the Department of Conservation.²⁰

Regulators argue that past injections have already made them unsuitable for drinking or that they are too deep to tap. But statements that this water is undrinkable are unreliable given the state's poor record-keeping and confusion over the status of these protected aquifers.²¹ The Center for Biological Diversity is suing the state to make it

conduct an environmental impact review of the consequences of exempting these aquifers from the Safe Drinking Water Act.

Fracking

Jerry Brown continues to champion oil drilling and fracking, which now produces 20 percent of California oil, according to the California Department of Conservation. Brown signed SB 4, the state's first fracking law, in 2013. After the legislation went into effect on January 1, 2014, but before the permanent rules went into effect on July 1, 2015, the state rubber-stamped more than 2,000 requests by 15 companies to frack in the state. Ninety-five percent of this fracking took place in Kern County, and the rest in Kings and Ventura counties.²² Another 575 fracks have taken place since then, according to the Department of Conservation's database.²³

In 2014, New York Governor Andrew Cuomo used his executive powers to ban fracking in the state, having concluded that the risks to health and the environment outweighed the benefits.²⁴ Brown has the power to do the same, but instead blessed fracking while directing that its effects on health and the environment be studied on the side. Critics like environmentalist Bill McKibben call fracking Brown's "serious blind spot."²⁵

Fracking is justified in Brown's mind because it helps produce natural gas. "In terms of the larger fracking questions—natural gas—because of that...the carbon footprint of America has been reduced because of the substitution of natural gas for coal," Brown said in 2013.²⁶ But Brown has not addressed at what point we transition away from the fossil fuel altogether, instead of unnecessarily increasing its use.

In 2013, a University of Southern California/Los Angeles Times poll found that 58 percent of California voters favored a moratorium on fracking.²⁷ A 2014 poll showed that two thirds of Californians supported legislation to ban fracking until proven safe.²⁸ When originally introduced, that was SB 4's intent. It imposed a moratorium on issuing fracking permits until the completion of a scientific study of its risks and hazards was complete.²⁹ The bill also set out to regulate well construction, and make companies fully disclose the composition of fracking fluids.

Under heavy industry lobbying, the temporary moratorium was dropped, though a study on the risks of fracking to public health was retained. After legislators dropped the moratorium, Occidental donated \$100,000 to Brown's favored Oakland Military Institute. Steam flooding, water flooding, and cyclic steam treatments, all common methods of stimulating oil production, were exempted from the legislation. Environmental reviews of fracking permits were made optional.

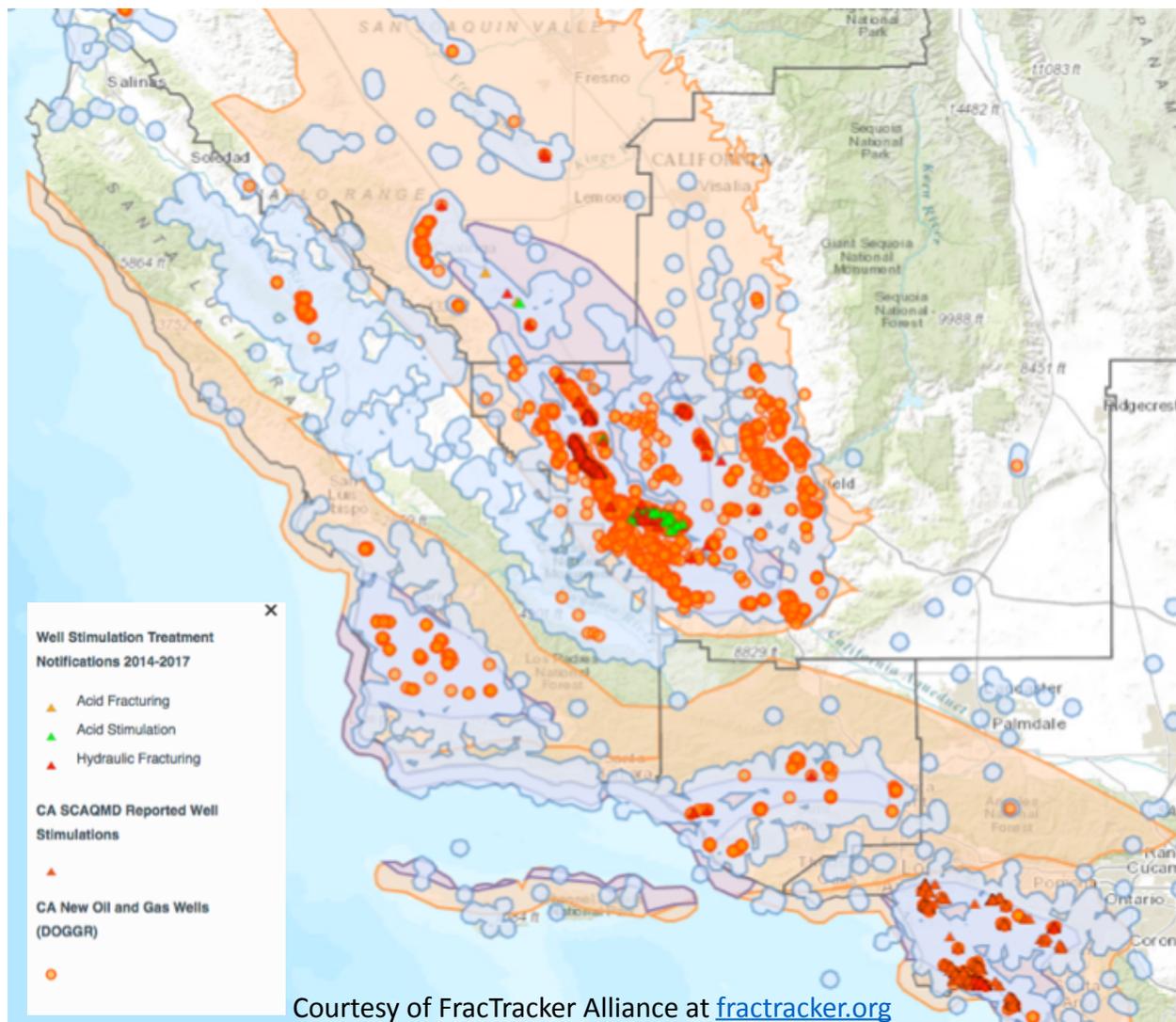
Brown's own top aide in charge of legislation and appointments, Nancy McFadden, had an interest in how the legislation turned out.³⁰ Sources in the Capitol report that the former Pacific Gas & Electric executive was involved in amendments that weakened the bill. At the same time, she held stock in Linn Energy, an oil company that was about to

purchase Berry Petroleum, owner of thousands of oil wells in the state. McFadden is already under investigation by the Fair Political Practices Commission for whether she failed to properly report sales of Pacific Gas & Electric stock when she joined Brown's staff, in response to a Consumer Watchdog conflict of interest complaint.³¹

Linn and Berry both specialize in steam injection of oil wells, and therefore profited from an exemption from the legislation that Brown signed.

In addition to fracking documented in 10 California counties, oil companies have also fracked offshore wells in state waters at least 212 times between 1994 and 2014, according to the Coastal Commission.³² Voluntary oil industry disclosures to a fracking chemical disclosure database show at least 19 wells fracked in state waters under Jerry Brown between 2011 and 2013.³³ A 2014 poll conducted by Public Policy Polling and commissioned by the Center for Biological Diversity found that 55 percent of Californians back a ban on offshore fracking, and 65 percent want oil companies prevented from dumping fracking chemicals into the ocean.³⁴

Map of California Well Stimulation



Nevertheless, under Brown, oil regulators approved 13 offshore fracking permits for four artificial islands off of Long Beach in 2015. At least ten chemicals routinely used in offshore fracking could kill or harm a broad variety of species.³⁵ The California Center on Science and Technology (CCST) identified an industrial biocide called Kathon that the company was planning to use as one of the world's most toxic to aquatic life. The permits expired before the Coastal Commission granted a coastal development permit, but nothing prevents the company from re-applying.³⁶

In 2015, the California State Lands Commission, whose commissioners include the Governor-appointed director of finance, proposed to allow Venoco to tap thousands of offshore acres previously off limits in the California Coastal Sanctuary and feed the crude into the same pipeline system that failed in the Refugio spill near Santa Barbara. The Center for Biological Diversity has urged the state to reject the proposal, perform a thorough environmental review of the Refugio spill, and to analyze the environmental risks of continued exploitation of aging offshore oil infrastructure.³⁷ No decision has yet been made.

Chemical Dangers of Fracking

As SB 4 required, fracking's public health risks were studied by the CCST and Berkeley Lab. Eighteen months ago, the organizations found that fracking risks public health and environmental damage.³⁸

The CCST report said that many of the 300-plus chemicals used in fracking do not have "the basic suite of physical, chemical, and biological analysis required" to fully understand their risks. In California, three quarters of all fracking takes place in shallow wells near drinking water aquifers that fracking could contaminate. The report recommended an end to disposal of the fracking wastewater in shallow unlined pits and its injection into protected aquifers. It recommended banning any chemical with unknown environmental properties, and limiting the use of the most hazardous chemicals. Brown has had ample time to direct regulators to come up with draft rules in response to the report's recommendations on hazardous and unknown chemicals, but so far regulators have not.

In addition to limiting the use of hazardous chemicals, the report also suggested disallowing the use of the fracking wastewater for irrigation until appropriate testing and treatment protocols were developed.

Farmers' use of oil wastewater to irrigate crops is expanding in California.

Farmers' use of oil wastewater to irrigate crops is expanding in California. Oil giant Chevron sells about 21 million gallons of oil drilling wastewater a day to the Cawelo Water District alone, which supplies the water to 90 Kern farmers.



In 2015, based on the results of a Food & Water Watch Public Records Act request, *Mother Jones* magazine reported that Halos Mandarins, Sutter Home Wine, and Sunview Raisins had been irrigated with oil wastewater.³⁹ The chemicals in this water have never been comprehensively or independently tested to make sure that the food supply and health are protected, according to the Center for Biological

Diversity and the Protect California Food Coalition. And nothing has been done to protect farmworkers from potential daily exposure.

Wastewater samples have been shown to contain dangerous levels of oil, acetone, and carcinogenic benzene.⁴⁰ Oil companies have not been made to test for such constituents. They have only tested for heavy metals such as arsenic when there are more than 450 compounds used as additives to force oil out of the ground.

A coalition of environmental and health advocacy groups recently sent a petition to Brown and water regulators with 350,000 signatures to stop the practice of irrigating with oil wastewater until proven safe.⁴¹ Brown's water regulators have ignored them.

Brown's oil drilling and wastewater policies are:



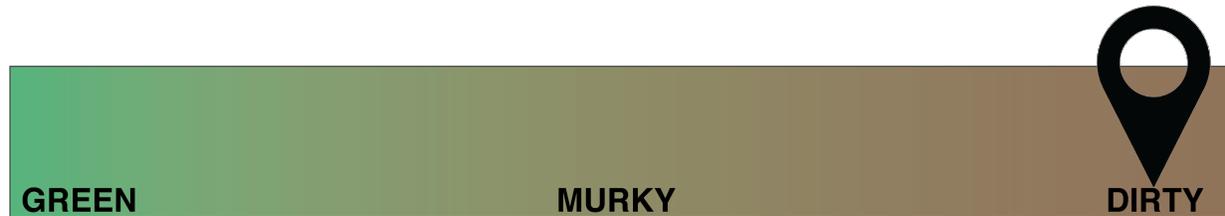
Brown can use his executive powers to:

- Ban fracking both offshore and onshore.
- Direct California regulators to abandon applications for federal exemptions on oil wastewater injections into protected aquifers.
- Ban oil industry activity near any federally protected aquifers.

- Direct oil regulators to require oil companies to prove their injection wells won't leak.
- Ban the use of oil wastewater to irrigate crops unless it is recycled in entirety by oil companies and free of dangerous levels of chemicals and heavy metals.
- Impose a setback of at least 2,500 feet between homes, schools, hospitals, and other sensitive receptors and oil wells.

Fossil Fuel-Generated Electricity

Brown's Fossil Fuel Generated Electricity policies are:



Jerry Brown has been a booster of natural gas that contributes to global warming. Under Brown, 60 percent of the electricity generated in California now comes from natural gas, up from 53 percent in 2010 when he was elected Governor.⁴² Brown has continued Arnold Schwarzenegger's natural gas power plant spree.⁴³ Over the past six years, during Brown's tenure, 15 natural gas-fired power plants have been approved or built. California has also expanded its imports of electricity to 34 percent, up from 29 percent in 2010. Roughly half of those imports are coal, and another one quarter to one third are natural gas, according to the California Energy Commission.⁴⁴

Over the past six years, during Brown's tenure, 15 natural gas-fired power plants have been approved or built.

At the same time, California doesn't appear to need any new natural gas-fired capacity.⁴⁵ The state of California requires the major investor-owned utilities to plan for an extra generating capacity of 15 percent to meet any sharp spikes in demand and avoid blackouts. But as of 2015, these utilities have nearly 40 percent extra capacity—roughly triple what the state requires according to California's grid operator. This excess capacity, bankrolled by ratepayers, has helped boost the stock value of the three major investor-owned utilities by an average of 69% under Brown.⁴⁶

According to the state's three major investor-owned utilities, natural gas demand is slated to fall 1.4 percent year over year in the next two decades while renewable energy sources displace natural gas.⁴⁷ At the same time, the North American Electric Reliability Corporation, a not-for-profit international regulator, warns that California is becoming too dependent on a single fuel—natural gas—which poses a potential risk for the system's reliability.⁴⁸

This tsunami of new natural gas capacity is unnecessary, according to experts.⁴⁹ Environmental advocates are vigorously contesting several of them.⁵⁰ The state requires clean energy alternatives to be prioritized over fossil fuel options, but has bypassed those considerations in specific cases.⁵¹ Jerry Brown himself intervened to pressure the Public Utilities Commission to approve a natural gas power plant for Pacific Gas & Electric that was later rejected by an appeals court as unnecessary.⁵²

Natural Gas Storage

Electric utilities and other large users of natural gas can buy and store natural gas at 13 different storage facilities in the state.⁵³ In the wake of the biggest methane gas leak in US history at Southern California Gas's Aliso Canyon storage facility, Brown and his regulators have taken extraordinary steps to keep the facility open when evidence shows that it could be shuttered with no adverse effect on electricity supplies. Brown's regulators and Southern California Gas (SoCalGas) worked together to issue flawed summer and winter reliability assessments claiming Los Angeles cannot do without Aliso.⁵⁴ But the measures they have taken so far to encourage conservation and to ensure enough gas supply from pipelines have proven that Aliso Canyon is not a necessity.

Moreover, Brown is shielding the company and its parent, Sempra, from scrutiny. The Public Utilities Commission is the only agency in California with the power to open a formal, public investigation into the causes of the Aliso Canyon blowout. Brown issued an emergency order two months into the well blowout that gave the Public Utilities Commission (PUC) the perfect cover not to do so. Brown's order said that the PUC was in charge of an investigation into the causes of the blowout and any violations, that oil and gas regulators were overseeing efforts to stop the leak and were directing SoCalGas to hire a third party to perform a technical analysis of what caused it, and share the results with regulators and the public. But the order did not specify whether SoCalGas or regulators would share the results on what caused the leak that sickened and displaced thousands of Porter Ranch area residents, nor when.⁵⁵

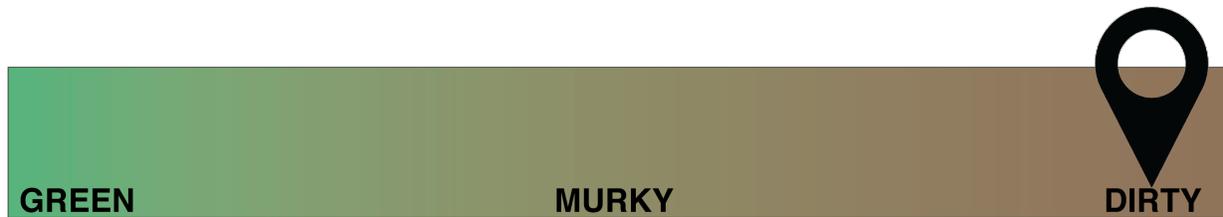
Sempra invited Brown's sister Kathleen Brown onto Sempra's board of directors in June 2013, paying her a total of \$691,300 in stock and cash for her work from 2013 through 2015.

Brown's policies shielding Sempra have also benefited his sister, Kathleen Brown. Sempra invited Brown's sister Kathleen Brown onto its board of directors in June 2013, paying her a total of \$691,300 in stock and cash for her work from 2013 through 2015. Kathleen Brown also sat on the board of real estate and oil company Forestar Group, which owns 700 acres next to Porter Ranch where it plans to build a luxury home community. When she stepped down in early 2016, she left with \$749,000 worth of its stock. Closing the storage facility as a hazard to nearby residents could reduce the value of the Forestar project.⁵⁶

Currently, oil regulators are overseeing safety testing of Aliso wells. As of September, out of 114 storage wells, only 23 have been able to pass safety tests. Fifteen wells still await test results. Another 76 are temporarily out of service.⁵⁷ How many of those wells could wind up needing to be permanently plugged for safety reasons is unclear. But as

regulators put SoCalGas through its paces, they are proposing to weaken regulations on storage wells. The rules would relax requirements to prove injection wells are safe without mandating subsurface safety valves, and rely on operators to conduct mechanical integrity tests and self-report.⁵⁸

Brown’s fossil fuel-generated electricity policies are:



Brown can use his executive powers to:

- Shutter Aliso Canyon permanently.
- Impose a moratorium on all natural gas power plants in development, and reject new applications.
- Assign an independent expert to evaluate utility proposals for natural gas power plants.
- Request the state auditor to review the state’s generating capacity.
- Direct regulators to follow the law that requires the need for electricity to be met first with energy efficiency, demand response, storage, and renewable resources before the approval of any new fossil-fueled power plants.

Greenhouse Gas Emissions

Brown's climate change policies are:



In 2015, Brown signed an executive order to slash greenhouse gas emissions to 40 percent below 1990 levels. The legislature also passed signature climate change legislation, SB 350, which doubled energy efficiency by 2030, and boosted California's goal of generating its electricity from renewable sources to 50 percent by 2030. The legislation built on Brown's 2012 executive order directing state government to help get 1.5 million zero-emission vehicles on the road by 2025. Electric utilities also got carte blanche to upgrade infrastructure to provide widespread vehicle charging.

In addition, the legislature authorized programs providing as much as \$100 million towards innovative transportation and fuel technologies, and the state leveraged more than \$5.5 billion to deliver more than 90 transportation projects and 13,000 clean truck, locomotive, and marine vessel technology projects.⁵⁹ This year, Brown also signed a law to cut three potent and short-lived greenhouse gas pollutants 40 to 50 percent below 2013 levels: methane from landfills and dairy farms, black carbon from diesel engines and forest fires, and synthetic gases used in refrigeration, air conditioning and industrial products.⁶⁰ Regulators are developing rules to reduce fugitive methane emissions from the oil and gas sectors, to eliminate organic waste disposal in landfills by 2025, and to phase out certain refrigerants more quickly.⁶¹

Oil is “a product that is highly destructive, while highly valuable at the same time. And we’re trying to work out the right policies,” - Jerry Brown

But Brown made a big sacrifice to pass SB 350. A key component of the bill would have slashed petroleum use in cars and trucks in half, spurring the development of alternatives and a faster transition away from oil. At the time, Brown denounced the oil industry for selling “a product that is highly destructive, while highly valuable at the same time. And we’re trying to work out the right policies.” Under heavy oil industry lobbying of Democratic moderates, that critical provision of the legislation was dropped. Brown didn't get into the trenches to fight for the provision.⁶² He could have tried to persuade a group of moderate Democrats who spiked the provision that the oil industry was wrong to claim it would lead to sky high gas prices.

Neglected in the public discussion was the fact that four oil refiners control 78 percent of the market and keep us on perennially low inventories of gasoline in order to manipulate the price. Ask any economist, or oil trader, and he or she will tell you that a mandate to slash petroleum use in cars, as SB 350 originally contained, would have cut demand for petroleum, increased its supply, and driven down prices. Instead, Brown vetoed a bill in 2013 that would have required the California Energy Commission to identify what data were necessary to collect in order to analyze whether oil companies were manipulating fuel prices.

“Western Grid”

Brown also condoned the intent in SB 350 to fold California’s energy system into a regional electricity grid in the belief that banding together with other Western states will create a more efficient system of electric power generation.⁶³ But the legislation opens the state up to a bigger, murkier energy trading market and increases imports of coal-generated electricity from giants like Warren Buffett’s PacifiCorp. It also pushes utilities into the laissez-faire arms of the Federal Energy Regulatory Commission (FERC) that could override the state’s authority to regulate its own market. According to a confidential analysis by The Utility Reform Network (TURN), the regionalization of California’s grid “significantly increases the risk that California will find itself in the crosshairs and potentially on the losing end of a [federal] preemption challenge” that would damage California’s renewable energy policies.⁶⁴

At a symposium on the future of the electrical grid in September 2016, Brown joked that all those involved in creating the path for a wider grid should “make sure that all those who love coal and those who love the sun can sit down and work in a totally seamless web of interconnection, interaction, and happiness for all.” But he could be ceding control over California’s energy future.

“...Make sure that all those who love coal and those who love the sun can sit down and work in a totally seamless web of interconnection, interaction, and happiness for all.” - Jerry Brown
on the Western Grid

Last April, the US Supreme Court put limits on Maryland’s ability to regulate energy in its own territory, as it is part of a regional grid. Nevertheless, legal experts at the University of California produced an opinion last April for the state’s gung-ho grid operator that argued the chances of federal pre-emption were next to nil. The Imperial Irrigation District filed suit, alleging that the experts did not produce an entirely independent opinion, and substantially underplayed the legal danger to California.⁶⁵

While a Western Grid opens up the possibility of increased coal and natural gas-produced electricity imports, rooftop solar was excluded from the increased renewable energy standard in SB 350. According to negotiators, electric utilities wanted to count all existing rooftop solar towards the renewable energy standard so that they would not have to invest as much in big, new renewable energy projects. It was up to the administration and legislature to insist that this rooftop solar be counted retroactively, as well as going forward, while also insisting that utilities proceed with green energy projects of their own. They did not.

Clean Energy Jobs

California's clean energy policies in the last decade are estimated to have created half a million jobs, and \$48 billion of investments in renewable energy, energy efficiency, transportation and other clean energy projects.⁶⁶ The growth of large, in-state renewable energy projects is critical to both jobs and the environment, but not at the expense of nimbler, cheaper, more decentralized players such as non-profit municipal utilities, small businesses, and individuals.⁶⁷ As Brown has helped major investor-owned utilities solidify their dominance in the renewable energy landscape, his stated goal of having small-scale local projects make up more than half of the megawatts of renewable capacity by 2020 has run into trouble.⁶⁸

Brown's Clean Energy Job Plan called for a goal of 12,000 megawatts of "distributed" or local renewable energy generation from smaller solar, wind, and biomass systems—enough to power about 8 million homes.⁶⁹ Utilities are not anxious to connect these projects to the grid as they view them as "disruptive" to their core business of building large-scale power plants, and have said they can provide the capacity themselves.⁷⁰ Brown's appointed PUC commissioners have helped them impose connection fees on owners of solar panel systems and pay them less for the excess energy they generate, impeding the very small-scale projects that Brown professes to support.

It remains to be seen whether bills Brown signed this year help to simplify interconnections between small-scale energy projects and investor-owned utilities, and to boost adoption of battery storage technology.⁷¹

Cap and Trade

This year, Brown signed SB 32 extending the state's landmark 2006 global warming legislation mandating a reduction of greenhouse gas emissions to 1990 levels. The state is on track to beat that goal, so Brown set a new goal of slashing emissions 40 percent below 1990 levels by 2030. But Brown could not muster enough votes to extend past 2020 California's cap and trade system that limits emissions and requires companies to pay to pollute by buying and selling allowances or installing pollution-control equipment.

In the end, Brown believes that industry will embrace cap and trade over more

draconian alternatives. If they don't move toward supporting a market-based system of emissions control, they will "get orders from regulators" instead, Brown said at a press conference upon passage of SB 32. "And they are going to plead for a market system called cap and trade so they can respond in a way that is more beneficial to the bottom line."⁷² Brown has called in his 2017-2018 budget for legislation and a two-thirds vote to confirm the Air Board's authority to administer the cap and trade program beyond 2020. But many environmentalists consider cap and trade simply a lost opportunity for regulators to order refineries and other large-scale polluters to clean up.

"They are going to plead for a market system called cap and trade so they can respond in a way that is more beneficial to the bottom line." -

Jerry Brown after the passage of SB 32

Overall, California cut its carbon dioxide emissions by 10.9 percent between 2006 and 2013, more than the national reduction, according to the US Energy Information Administration.⁷³ The role that cap and trade has played in reducing emissions is not critical—rather the combination of the Great Recession, a sharp uptick in renewable



energy— 27 percent of our electricity now comes from renewables — and incentives for electric cars and clean trucks, has cut emissions.⁷⁴ Yet in 2014, California's greenhouse gas emissions fell less than one percent.⁷⁵ The Lawrence Berkeley National Laboratory estimates that current policies will only get California half way to the 2030 goal.⁷⁶

Unfortunately, cap and trade does more for the corporate bottom line than it does for the low-income communities of color located near big emitters of greenhouse gases and particulate matter. USC and Berkeley researchers recently found that while overall greenhouse gas emissions in the state have continued to drop since 2001, localized emissions from sectors including oil production, refining, and electricity generation, have risen since 2012 when cap and trade went into effect.⁷⁷

Reasons include the fact that cap and trade allows companies to pay to keep polluting if they wish. Second, the program hurts lower income, minority communities by allowing companies to "offset" their pollution through investing in green projects elsewhere. That does nothing to lower carbon and attendant particle emissions in California's own disadvantaged communities.

Lastly, the program has a provision that allows free hand outs of allowances to industries considered the most “trade exposed,” or vulnerable to less expensive imports. The refinery sector currently receives 90 percent of its carbon pollution allowances for free, according to the California Air Resources Board (CARB). Only four big oil companies control 78 percent of the refinery capacity on a gasoline island with virtually no pipelines to import it. California refiners are far from “trade exposed,” but continue to get a special deal under Brown, with no real incentive to cut emissions.⁷⁸

Brown’s climate change policies are:



Brown can use his executive powers to:

- Abandon the Western Grid, which allows other states whose interests don’t necessarily align with California’s to make decisions about this state’s energy future.
- Ask regulators to decrease existing imports from coal and natural gas-fired power plants.
- Ask the legislature to give the California Energy Commission, and any advisory body on petroleum before it or the legislature, the right to identify and collect necessary data to analyze whether oil companies are manipulating fuel prices.
- Ask regulators to ratchet down sharply the number of free greenhouse gas pollution allowances and revoke the “trade exposed” status of refineries.
- Eliminate cap and trade and replace with direct regulation.

Toxic Emissions

Brown's toxics policies are:



Many facilities that emit greenhouse gases also emit toxic metals and chemicals into the air, water, or soil. Brown has blocked major reform of state regulation of the worst toxic polluters in California, and has protected the wallets of corporate giants such as Boeing, which is loath to spend the money to properly clean up its nuclear and chemical pollution in California.

Shortly after taking office in 2011, Brown Administration regulators reversed course on the thorough cleanup of a partial nuclear meltdown site called the Santa Susana Field Lab in Simi Hills.⁷⁹ Boeing, the federal contractor at the Cold War test facility, enlisted the help of former Brown aides to derail legally binding agreements signed by the prior administration and two federal agencies.

Toxic and radioactive waste in the water and soil at the site has caused illnesses including specific types of cancers among people living within two miles of the site at a rate 60 percent higher than among those living farther away.⁸⁰

A number of agencies are responsible for regulating industries that produce toxic pollution, including the Department of Toxic Substances Control (DTSC), CARB, and local air and water districts.

While California has some of the toughest laws in the nation protecting citizens from toxics, the DTSC is a poor enforcer.

Under Brown, the CARB has come under fire from community advocates and lawmakers for failing to prioritize low-income communities of color that continue to be disproportionately subjected to toxic air pollution from diesel trucks and railroads, and from industrial operations subject to the cap and trade program. In 2015, the legislature passed a bill adding two members to diversify representation and accountability at the CARB. Those appointees are the first to be appointed by someone other than the Governor.⁸¹

Toxic pollution also frequently affects low-income communities of color where polluting

industries such as refineries, metal processors, or lead battery, chemical, and used motor oil recyclers are concentrated. Such communities as Santa Fe Springs, Boyle Heights, Paramount, Newark and Richmond co-exist with polluters such as Phibro-Tech, a chemical waste recycler, Exide, the now-shuttered lead battery recycler, Carlton Forge and other metal grinders, Evergreen Oil, a used motor oil recycler, and Chevron.

Poor Enforcement

While California has some of the toughest laws in the nation protecting citizens from toxics, the DTSC is a poor enforcer.⁸²

Low-income communities of color and environmental and public health advocates cite the DTSC's failure to enforce laws that would protect communities from toxic harm. Among those failures are: huge lag times in enforcement action against polluters; lax permitting that allows serial polluters to continue operation, wrist-slap fines for toxic emissions, a lack of follow-through when facilities ignore regulators' orders to correct deficiencies, and complaints of illnesses from cancer to asthma to heart disease that either go uninvestigated or lead nowhere when investigated.

Although the agency's problems began before the Brown administration, Brown has defended the status quo instead of altering course at this failed department. In 2014, Brown vetoed a major piece of reform legislation authored by Senate pro Tempore Kevin de Leon. SB 812 would have forced the DTSC to meet statutory deadlines on setting out criteria for hazardous waste permit denials and revocations, and would have created a Bureau of Internal Affairs to investigate allegations of misconduct.

Exide as Poster Child for Reform

Lead battery recycler Exide is a poster child for mishandled toxics regulation. For decades, Exide spewed lead all over East Los Angeles without a permit to operate. Under Brown, the DTSC turned a blind eye to its own Southern California regulators who informed them of lead accumulating at hazardous levels in the soil near the facility and the need to clean it up. The South Coast Air Quality Management District that set air emissions standards also failed to coordinate with DTSC on how to manage the problem.

In addition to never permitting the site, the DTSC never required Exide to put up enough money to cover facility closure, nor to pay for ordered corrective action, as state law provides. The facility was finally shuttered in March 2015, only after a U.S. Attorney threatened criminal prosecution if the facility didn't close down and pay for cleanup.

“This model should be the exception, not the rule.” - Jerry Brown on forcing consumers to pay a fee to clean up Exide’s lead contamination

Brown remained silent on the facility as media reports on the lead contamination mounted. It took until February 2016 for Brown to announce that he wanted the legislature to allocate \$176 million to clean up to 10,000 homes near the site. Instead of Exide fully covering that expense, as the law provides, consumers will also have to pay through a new fee on lead-acid car batteries.⁸³ “This model should be the exception, not the rule,” Brown wrote in his signature on the legislation creating the fee. Brown also tried to limit the input residents have on how the cleanup is handled, by suspending requirements for public participation under the California Environmental Quality Act, but a public outcry forced him to reverse course.

Mishandled Cleanups

The DTSC continues to exclude communities in its handling of toxic cleanups. At one contaminated site in Riverside County where a housing tract is going up, the DTSC initially cut the community out of participating in its cleanup plan, according to environmental advocate Penny Newman. A selected community “work group” included all white men to represent a community that is 70 percent Latino. The DTSC had to be prodded three times to perform comprehensive soil testing for carcinogenic polychlorinated biphenyls (PCBs) left behind by a former military installation and sewage treatment plant.⁸⁴

Similar resistance to extensive and comprehensive soil testing has been repeated elsewhere. In the case of lead battery recycler Quemetco, the company successfully beat back regulators’ efforts to more broadly test residential neighborhoods for lead contamination in connection with a review for a permit renewal. In Paramount, air and county health regulators recently ordered two metal processors to suspend operations and stop emitting the carcinogenic metal hexavalent chromium after it was discovered at 350 times acceptable levels. But residents accuse water, air, and DTSC regulators of being too slow to act after years of complaints.⁸⁵

Community members and advocates are still worried about the glacial pace of a DTSC investigation into the contamination of Paramount neighborhoods where elevated levels of heavy metals, including hexavalent chromium, were found two years ago. The DTSC has still done nothing.

In 2015, after racist emails disparaging communities of the type the DTSC is tasked to protect surfaced in response to Public Records Act requests, the DTSC retained the two regulators responsible.⁸⁶ The emails contained phrases such as “crackho hooker” in reference to low-income immigrant communities, “Chop-chop Hop Sing” in reference to a subservient Chinese cook on the TV series Bonanza, and “Mommy must have had

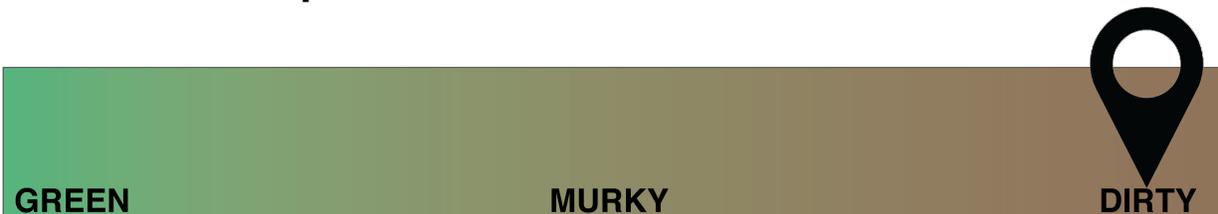
way too many pain killers when she named this guy” in reference to a DTSC coworker with an Asian name.

Brown has signed legislation that will strengthen penalties for repeat violations of hazardous waste laws and directs the DTSC to adopt regulations establishing criteria for permits by 2018. But those regulations do not have to detail the number and types of past violations that would result in a permit denial. In 2015, Brown also signed legislation creating a panel to make recommendations to the legislature on DTSC reform, but Brown’s DTSC Director, Barbara Lee, has blocked the panel from interviewing staff. While the panel has made some valuable recommendations, including the establishment of a board to oversee the department, they are powerless to force their adoption.⁸⁷

Brown signed legislation in 2012 to identify communities affected by pollution in order to set aside substantial funding for them. In 2016 he signed legislation allocating \$900 million from the cap and trade program to help poorer communities disproportionately affected by pollution and climate change.⁸⁸ The legislation requires every city and county to identify disadvantaged communities and to set out policies and objectives for meeting their specific water, wastewater, and fire protection needs, as well as reducing their health risks.

But once again, the questions of enforcing the state’s environmental laws, increasing penalties, and ordering polluting industries to install better pollution controls remain unaddressed.

Brown’s toxics policies are:



Brown can use his executive powers to:

- Houseclean the DTSC of top managers who put corporate interests above public health and the environment.
- Adopt recommendations of the Independent Review Panel, including the creation of an oversight board for DTSC to improve accountability and transparency.
- Require hazardous waste facilities to put aside substantial financial assurances for closure, post-closure, and corrective action.

- Create an interdepartmental strike force to regulate lead, hexavalent chromium, and other heavy metal emissions.
- Adopt a three-strikes-and-you're-out policy of denying permits to, or suspending permits of, serial polluters.

The California Environmental Quality Act

Brown's CEQA policies are:



The California Environmental Quality Act (CEQA) mandates that every state and local planning decision include measures to prevent environmental damage. As Mayor of Oakland, Brown saw CEQA as an impediment to his housing plan, and supported a state law to exempt certain parts of downtown Oakland from the law.⁸⁹ As California Attorney General, Brown used CEQA to force local governments to consider the climate impacts of their land use plans. In his latest about-face, Governor Brown is CEQA's loudest critic, calling efforts to roll back the law "the Lord's Work," and saying publicly, "I have never seen a CEQA exemption that I don't like."⁹⁰

In the wake of the firings of two oil and gas safety regulators in 2011, regulators stopped asking oil companies to follow CEQA procedures when they applied for Kern County drilling permits. In 2013, Brown signed a bill that fast tracked a new stadium for the Sacramento Kings, while cutting back on CEQA requirements for a range of other infill projects.⁹¹ In 2014, when he declared a drought, Brown exempted state water agencies' drought measures from CEQA, which meant no public comment or independent scientific analysis of any water diversions or transfers would be conducted. Water agencies were exempted from following water quality plans meant to protect endangered fish populations.⁹²

"I have never seen a CEQA exemption that I don't like." - *Jerry Brown*

Brown's proposal to allow builders to skip local CEQA review if they pledged to set aside units in projects for low-income residents died in negotiations this year.⁹³ But Brown signed SB 734, which allows him to "certify a leadership project for streamlining" if a development project attracts at least \$100 million in investment after it is finished, creates high-wage, high-skilled jobs, and does not contribute to greenhouse gas emissions. The law is likely to mean little CEQA review for big development projects such as the controversial Crossroads of the World mega-development proposed in a congested area of LA.⁹⁴

A study commissioned by the Rose Foundation for Communities and the Environment,

and conducted by BAE Urban Economics, found that CEQA has helped California grow in an environmentally sustainable way, with a tiny portion of projects winding up in litigation.⁹⁵

Brown's CEQA policies are:



Brown should use his executive powers to:

- Brown should desist in efforts to dismantle CEQA and direct regulators to cease exempting developers and the oil industry from CEQA requirements.

Coastal Protection

Brown's coastal protection policies are:



All four of Brown's Coastal Commission appointees voted to sack the Coastal Commission's progressive executive director Charles Lester last February.⁹⁶ At the time, Lester told the Los Angeles Times that commissioners under Brown became more accommodating of developers and started demanding that staff be more responsive to members of the commission.⁹⁷

Janelle Beland, Brown's former undersecretary of the California Natural Resources Agency and non-voting point person on the Coastal Commission, enabled significant developer influence on the commission and tried to weaken Coastal Act protections for environmentally sensitive habitats.⁹⁸ Lester and his staff had recommended denying development of Newport Banning Ranch, one of the last relatively intact wetland ecosystems in Southern California, despite previous oil drilling. Beland questioned that conclusion.⁹⁹

Despite the administration's pro-development stance, the commission voted in September to deny the controversial proposal under extraordinary political pressure and media scrutiny.

Less examined in the media is Brown's defense of his Coastal Commission's decision to allow Southern California Edison to bury radioactive waste from the shuttered San Onofre nuclear plant on the beach behind it. That would unquestionably save SCE money while simultaneously endangering the ocean and millions of people living near it.

In 2015, the state Coastal Commission granted a permit to allow SCE to move the radioactive waste from contained wet pools to 100 feet from the water's edge on a San Diego beach where it will be buried in casks because the commission claims that there is no other alternative.

Public interest attorney Michael Aguirre has sued over the plan to put a radioactive dump on the San Diego shoreline where it will be housed just inches from the watertable while remaining a serious threat for tens of thousands of years.¹⁰⁰ The maker of the stainless steel casks only guarantees that they will last 25 years.¹⁰¹ This is clearly incompatible with the California Coastal Act. The commission itself admits that the

stainless steel casks could crack from salt air and that the waste facility will be submerged in the next 15 years.

Aguirre argues that the waste could be moved to SCE's Palo Verde nuclear plant in the Mojave Desert. According to the Nuclear Regulatory Commission, in the last four decades, thousands of shipments of commercially generated spent nuclear fuel have been completed, mostly between licensed facilities, without any radiological releases or harm to the public.

Brown's coastal protection policies are:



Brown should use his executive powers to:

- Support legislation to store radioactive waste from San Onofre at a licensed facility, and direct coastal commissioners to rescind the permit.
- Direct regulators to uphold California's Coastal Act protections for coastline development and to honor CEQA.

Water

Brown's water management policies are:



Governor Brown is determined to begin construction on his “Twin Tunnels” project to divert Sacramento River water underneath the ecologically fragile Sacramento-San Joaquin Delta to giant farms and Southern urban centers. He has brushed aside staunch criticism that the tunnels will divert too much fresh water from the Delta, hastening fish extinction, and ruining water used for irrigation and drinking via salt water intrusion and contamination. The state recently released the final environmental assessment of the project, blessing it.¹⁰² The Obama Administration was fast-tracking federal reviews of the project.¹⁰³

Brown believes that building two 35-mile long, 40-foot wide tunnels a few hundred feet under the Delta is critical, calling it one of his “legacy projects.” The lion’s share of that water—some 70 percent—goes to big agriculture and its billionaires, the rest to urban centers and other industry. “It’s about having the plumbing that meets their needs of the 21st century,” Brown maintains.¹⁰⁴ But installing giant pipes to deliver water that is running out is what ultimately threatens California.

A new study by a pair of hydrologists at the Colorado School of Mines and Utrecht University, Netherlands, finds that, “California’s agricultural powerhouses—the Central Valley, Tulare Basin, and the southern San Joaquin Valley—which produce a plentiful portion of the nation’s food—could run out of accessible groundwater as early as the 2030s.”¹⁰⁵ Brown evidently is not applying the same far-sighted view he has of the existential threat of climate change to the state’s water management practices.

Some of the measures that environmentalists advocate to save the Delta can be applied statewide. Alternatives to help protect water quality and supplies in the Delta include retiring dry and polluted farm land on the West side of the Southern San Joaquin Valley that depends solely on imported water and whose waste pollutes the Delta, shoring up the Delta’s levees, fixing local water infrastructure, and improving water recycling, storm water capture, and recharging of groundwater.¹⁰⁶

Yet California remains one of the last states in the nation to lack comprehensive, mandatory state groundwater regulations governing water conservation, wastewater and “gray water” recycling, storm water capture, and aquifer recharging, according to

Conner Everts, executive director of the Southern California Watershed Alliance. Water is still moved hundreds of miles to major cities, used, and then dumped into the ocean instead of recycled and put back into the water grid. Brown's regulators established a goal of recycling 1.5 million acre-feet of water per year by 2020 but it remains voluntary, which is not a way to get there.¹⁰⁷



In 2014, Brown signed legislation regulating groundwater for the first time. But the legislation delegated water management planning, including for over-tapped groundwater basins, to local public agencies.¹⁰⁸ The management plans aren't due until 2020 and don't have to be implemented until 2040. By then, advocates say we will have run out of water.



In 2015, Brown called on urban water users to cut their water use by an average of 25 percent, and they responded. Agricultural allocations from reservoirs and canals were cut back, but no restrictions on the pumping of aquifers were imposed on an industry that generates two percent of the state's Gross Domestic Product.¹⁰⁹ The unrelenting agricultural use of water may be one factor helping to boost exports of food. According to the California Department of Food and Agriculture, California's agricultural exports have jumped 25 percent since 2011 to \$21.59 billion in 2014.¹¹⁰

Meanwhile, critical sources of surface water are drying up. The Colorado River is running dry after 16 years of drought, and the giant reservoirs of Lake Mead and Lake Powell are at record lows.¹¹¹ But as surface water dwindles, farmers are drilling wells more quickly and deeply than ever to pump out even more groundwater.¹¹² Continued over-drafting of groundwater basins leaves virtually no chance of replenishment.¹¹³ Yet, the state does not even require farmers to monitor groundwater levels, or meter their extractions, according to Everts.

This year, water regulators prematurely lifted the cuts in urban water use and directed
Photo Courtesy of LA County



local authorities to set their own goals for conservation.¹¹⁴ State regulators allowed local agencies to absolve themselves of conserving by proving on the basis of self-administered “stress tests” that they can meet demand for three very dry years. Naturally, conservation has dropped.¹¹⁵ But climate change has made traditional water supplies far more volatile, which requires stepping up long term water conservation goals.

California is legally obligated to provide safe water to its residents.¹¹⁶ In 2012, Brown signed legislation making California the first state in the nation to recognize the human right to water.¹¹⁷ Yet, over one million Californians, from those living in Southeast LA to the Salinas Valley, are exposed to unsafe drinking water from the taps in their homes, schools, and communities every year.¹¹⁸ Low-income communities that lack financial resources to properly treat their water are disproportionately exposed to nitrates, arsenic, pesticides, TCE, coliform bacteria, and other pollutants that come largely from fertilizers, pesticides, animal feed operations, mining, and urban industrial operations such as chrome plating.¹¹⁹

Brown’s \$7.5 billion water bond will put \$2.7 billion into water storage infrastructure such as dams and reservoirs. For the first time, a California water bond allocated money to

provide clean water to low-income communities of color—more than half a billion dollars.¹²⁰ Yet Brown and water regulators have not used financing methods such as fees on food products, polluting pesticides, or fertilizers to provide clean water, as Brown's own State Water Resources Control Board recommended in a 2012 report commissioned by the legislature.¹²¹ That leaves some Californians with drinking water not much better than in the Third World.

Brown's water management policies are:



Governor Brown can use his executive powers to:

- Stop the Twin Tunnels project and allow the water to stay in the San Joaquin Delta.
- Direct the State Water Resources Board to immediately stop aquifer over-drafting.
- Urge the legislature to enact the recommendations of the State Water Resources Control Board to levy fees on pesticides, fertilizers and/or agricultural products for clean water provision.
- Step up a commitment to long-term water conservation and management goals given the fact that climate change has made supplies far more volatile and unpredictable.
- Work with legislators and regulators to impose mandatory statewide regulations on water conservation, wastewater and storm water recycling, and aquifer recharging.
- Work to develop policies and incentives to scale back agriculture in now permanently arid areas of the state, including the western San Joaquin Valley.

CONCLUSION:

Governor Jerry Brown has called climate change “the existential threat of our time.” In response, he is using a combination of government regulation and market incentives to cut emissions. He has called the successful extension of AB 32, and the higher target to cut greenhouse gas emissions 40 percent below 1990 levels by 2030, nothing less than “a powerful restructuring of the California economy going forward.”¹²² He has brushed aside industry claims of evidence that his policies kill jobs as “dubious, if it exists at all.”

At the same time, Brown has defended through regulatory and legislative actions the expanded production and use of oil and gas in California while doing little to protect the environment and the public—especially low-income communities of color—from toxic harm. He has not implemented the recommendations of his own agencies to use direct financing tools such as water user fees, carbon taxes, or money up front from toxic industries, to discourage pollution and clean up soil, water, and air.

Under Brown, regulation of the fossil fuel industry and industries reliant upon them to prevent pollution and accidents has been lax, if not downright irresponsible, while the building of more unnecessary natural gas power plants has been encouraged by his regulators. Complications of his family ties, and of large oil, gas, and investor-owned utility donations to his campaigns, to his causes, and to the Democratic Party, appear to play a role, as Consumer Watchdog concluded in its recent report, *Brown’s Dirty Hands*. The report tabulated \$9.8 million in donations to Brown’s campaigns, causes, and initiatives from 26 energy companies since Brown ran for Governor.¹²³ Donations were often made within days or weeks of winning favors.

Under Brown, regulation of the fossil fuel industry and industries reliant upon them to prevent pollution and accidents has been lax, if not downright irresponsible.

The influence of the fossil fuels industry on national policy is likely to only grow under Donald Trump. Governor Brown must guard against that. In addition, he must refuse to fold California’s energy system into a Western Grid that would give what is likely to be a more anti-consumer FERC and a more conservative US Supreme Court the power to thwart California’s goals for renewable energy.

In addition, Brown’s preference thus far for “market-based” policies like cap and trade are not getting at the heart of the problem—which is the need to enact policies that give industries like refineries no choice but to upgrade technologies in order to produce less toxic pollution. Instead, Brown’s regulators levy fines for emissions that amount to nothing more than a pinprick for multi-billion dollar corporations, or continue to award free emissions allowances to companies not threatened by trade competition.

Today, Jerry Brown resembles his father, Governor “Pat” Brown, who championed massive water and other infrastructure projects in the 1960s to meet the demands of rapid growth, more than the liberal activist who sided with the public against polluters in the 1970s and 1980s.¹²⁴ The difference is that circumstances have radically changed. Our pollution is catching up with us, while finite natural resources like water—irresponsibly managed and recklessly polluted—are jeopardized. Policies are desperately needed on a statewide level to manage these resources, as well as to facilitate a much faster transition away from the fossil fuels that are helping to destroy the planet. We can’t sustain growth in the fossil fuel sector while trying to transition away from that very fuel source. Brown can’t have it both ways.

Recommendations By Subject:

1. Oil Drilling:

Brown can use his executive powers to:

- Ban fracking both offshore and onshore.
- Direct California regulators to abandon applications for federal exemptions on oil wastewater injections into protected aquifers.
- Ban oil industry activity near any federally protected aquifers.
- Direct oil regulators to require oil companies to prove their injection wells won’t leak.
- Ban the use of oil wastewater to irrigate crops unless it is recycled in entirety by oil companies and free of dangerous levels of chemicals and heavy metals.
- Impose a setback of at least 2,500 feet between homes, schools, hospitals, and other sensitive receptors and oil wells.

2. Fossil Fuel-Generated Electricity:

Brown can use his executive powers to:

- Shutter Aliso Canyon permanently.
- Impose a moratorium on all natural gas power plants in development, and reject new applications.
- Assign an independent expert to evaluate utility proposals for natural gas power plants.
- Request the state auditor to review the state’s generating capacity.

- Direct regulators to follow the law that requires the need for electricity to be met first with energy efficiency, demand response, storage, and renewable resources before the approval of any new fossil-fueled power plants.¹²⁵

3. Greenhouse Gas Emissions:

Brown can use his executive powers to:

- Abandon the Western Grid, which allows other states whose interests don't necessarily align with California's to make decisions about this state's energy future.
- Ask regulators to decrease existing imports from coal and natural gas-fired power plants.
- Ask the legislature to give the California Energy Commission, and any advisory body on petroleum before it or the legislature, the right to identify and collect necessary data to analyze whether oil companies are manipulating fuel prices.
- Ask regulators to ratchet down sharply the number of free greenhouse gas pollution allowances and revoke the "trade exposed" status of refineries.
- Eliminate cap and trade and replace with direct regulation.

4. Toxics:

Brown can use his executive powers to:

- Houseclean the DTSC of top managers who put corporate interests above public health and the environment.
- Adopt recommendations of the Independent Review Panel, including the creation of an oversight board for DTSC to improve accountability and transparency.
- Require hazardous waste facilities to put aside substantial financial assurances for closure, post-closure, and corrective action.
- Create an interdepartmental strike force to regulate lead, hexavalent chromium, and other heavy metal emissions.
- Adopt a three-strikes-and-you're-out policy of denying permits to, or suspending permits of, serial polluters.

5. The California Environmental Quality Act:

- Brown should desist in efforts to dismantle CEQA, and direct regulators to cease exempting developers and the oil industry from CEQA requirements.

6. Coastal Protection:

Brown could use his executive powers to:

- Support legislation to store radioactive waste from San Onofre at a licensed facility, and direct coastal commissioners to rescind the permit.
- Direct regulators to uphold California's Coastal Act protections for coastline development and to honor CEQA.

7. Water:

Governor Brown can use his executive powers to:

- Stop the Twin Tunnels project and allow the water to stay in the San Joaquin Delta.
- Direct the State Water Resources Board to immediately stop aquifer over-drafting.
- Urge the legislature to enact the recommendations of the State Water Resources Control Board to levy fees on pesticides, fertilizers and/or agricultural products for clean water provision.
- Step up a commitment to long-term water conservation and management goals given the fact that climate change has made supplies far more volatile and unpredictable.
- Work with legislators and regulators to impose mandatory statewide regulations on water conservation, wastewater and storm water recycling, and aquifer recharging.
- Work to develop policies and incentives to scale back agriculture in now permanently arid areas of the state, including the western San Joaquin Valley.

Endnotes

¹ For more on Brown, climate change, and the Paris summit, see: <http://www.latimes.com/politics/la-pol-sac-california-paris-climate-change-delegation-20151104-story.html>

² For an interview with Brown on climate change, see: <http://www.mercurynews.com/2015/12/04/jerry-brown-interview-climate-change-fracking-diablo-canyon-offshore-wind-oil-on-his-family-ranch/>

³ For more on carbon and fossil fuels, see: <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

⁴ For more on the regulators that Brown fired, and for the relationship between steam injection and sinkholes like the one that killed Chevron supervisor David Taylor in 2011, see: <http://www.usnews.com/news/science/news/articles/2015/09/04/fired-regulator-brown-pushed-to-waive-oil-safeguards>

and

<http://www.allgov.com/usa/ca/news/controversies/promised-reform-of-dangerous-steam-injection-oil-drilling-never-happened-151204?news=857975>

and

<http://www.latimes.com/local/california/la-me-oil-steam-20151129-story.html>

⁵ For more on the fight over burying spent nuclear fuel on a San Diego beach, see: <http://www.sandiegouniontribune.com/news/watchdog/sdut-secure-nuclear-waste-2016jun02-story.html>

⁶ For more information on oil and gas production statistics, see: ftp://ftp.consrv.ca.gov/pub/oil/annual_reports/2015/PR03_2015.pdf

⁷ For a Pacific Institute overview of oil and gas production in California, see: http://pacinst.org/app/uploads/2016/02/PI_IssueBrief_FrackinginCalifornia_Overview.pdf

⁸ For how California taxes oil and gas, see: http://www.conservation.ca.gov/dog/for_operators/Pages/assessments.aspx

⁹ To read the official summary of the ballot measure creating an oil severance tax and projected revenue, see: [https://ballotpedia.org/California_Severance_Tax_on_Oil_and_Gas_\(2014\)](https://ballotpedia.org/California_Severance_Tax_on_Oil_and_Gas_(2014))

¹⁰ For coverage of the city of Carson and oil drilling, see: <http://www.dailybreeze.com/business/20140502/gov-jerry-brown-faces-protesters-in-carson-over-oil-drilling-project>

¹¹ For more on Carson, see: <http://www.dailybreeze.com/business/20140430/carson-officials-lift-moratorium-on-occidental-oil-drilling-project>

¹² For more on California Resources and Carson, see: <http://www.labusinessjournal.com/news/2015/jan/26/california-resources-drops-massive-carson-oil-dril/>

¹³ For more on urban drilling in Los Angeles, see: <http://www.stand.la/>

¹⁴ Derek Chernow's declaration is included in a RICO lawsuit brought by R. Rex Parris against Brown, the state, and oil companies for contaminating Kern County aquifers. To read the RICO lawsuit, see:

<http://www.consumerwatchdog.org/resources/ricolawsuit2ndamendedcomplaint.pdf>

¹⁵ To read Chernow's declaration, see Exhibit 8:

<http://www.consumerwatchdog.org/resources/ricolawsuit2ndamendedcomplaint.pdf>

¹⁶ Chevron was fined \$350 for failing to properly warn workers about the dangers of sinkholes opening up during steam injections for oil production. See:

<http://www.allgov.com/news/controversies/chevron-pays-350-fine-after-oil-worker-boiled-to-death?news=844346>

¹⁷ For Brown remarks on indictments and deaths, see minute 15:30 in following video:

<https://www.gov.ca.gov/video.php?id=53>

For coverage of Brown's remarks on drilling permits, see: <http://www.scpr.org/news/2015/02/05/49682/california-permitted-oilfield-discharge-in-protect/>

¹⁸ For a CalEPA review of the underground injection program, see:

http://sntr.senate.ca.gov/sites/sntr.senate.ca.gov/files/3_10_15_cal_epa_review_of_uic_program.pdf

¹⁹ For more on oil waste dumped into California aquifers, see: <http://losangeles.cbslocal.com/2015/02/05/ap-oil-drilling-waste-dumped-into-calif-aquifers-used-for-irrigation-drinking-water/>

²⁰ For more on the need for environmental reviews before resuming wastewater injections, see: <http://www.sfchronicle.com/opinion/editorials/article/There-should-be-no-wastewater-pumping-without-10867118.php?cmpid=gsa-sfgate-result>

²¹ For more on how California aquifers were poisoned, see: <https://www.propublica.org/article/california-epa-poised-expand-pollution-of-potential-drinking-water-reserves>

²² For more on well stimulation, see the California Department of Conservation's Well Stimulation Treatment First Annual Report: <http://www.conservation.ca.gov/index/Documents/Well%20Stimulation%20Treatment%20Report%202015%20-%20FINAL.PDF>

²³ For a search of fracking permits, see: https://secure.conservation.ca.gov/WSTDisclosure/?BeginDate=07%2F01%2F2015&EndDate=12%2F22%2F2016&Chemical=&ChemCASNumber=&CASNumber=&TradeName=&DataBaseSource=Both&wellInfoDataTableID_length=10

²⁴ For more on Governor Cuomo's ban on fracking in New York State, see: <http://www.wsj.com/articles/new-york-gov-andrew-cuomos-administration-moves-to-ban-fracking-1418839033>

²⁵ See Bill McKibben on Brown's support for fracking: <http://www.latimes.com/opinion/op-ed/la-oe-0505-mckibben-california-fracking-20150502-story.html>

²⁶ For more on Brown and fracking, see: <http://www.mercurynews.com/2013/10/29/fracking-and-reducing-climate-change-can-jerry-brown-have-it-both-ways/>

²⁷ For more on California polls on fracking, see: <http://www.ecowatch.com/new-poll-shows-californians-strongly-oppose-fracking-1881782679.html>

²⁸ For more on the fracking poll, see: <http://blog.sfgate.com/energy/2014/05/22/poll-two-thirds-of-ca-voters-want-fracking-moratorium/>

²⁹ For the Senate analysis of SB 4, see the Senate Committee on Natural Resources and Water analysis SB 4 version dated March 11, 2013 on hydraulic fracturing at leginfo.legislature.ca.gov. The bill called for regulations to be adopted on or before January 1, 2015, and prevented hydraulic fracturing from taking place without a valid permit. It stated that, "A permit describing a hydraulic fracturing treatment that presents unreasonable risk or is incomplete shall not be approved."

³⁰ For more on McFadden and Consumer Watchdog's complaint about her to the Fair Political Practices Commission, see: <http://www.consumerwatchdog.org/newsrelease/fppc-opens-investigation-governor%E2%80%99s-top-aide-failure-disclose-timing-stock-sales-pge>

³¹ For Consumer Watchdog's complaint against McFadden, see: <http://www.consumerwatchdog.org/newsrelease/fppc-opens-investigation-governor's-top-aide-failure-disclose-timing-stock-sales-pge>

³² For more information on fracking in state and federal waters, see: https://www.coastal.ca.gov/pdf/W7a-2-2014_Fracking%20Briefing.pdf

³³ For more information on voluntary disclosures, see: <https://fracfocusdata.org/DisclosureSearch/Search.aspx>

³⁴ For public views on offshore fracking, see: https://www.biologicaldiversity.org/news/press_releases/2014/fracking-08-12-2014.html

³⁵ For more on the dangers of offshore fracking, see: Troubled Waters Report: http://www.biologicaldiversity.org/news/press_releases/2014/fracking-09-11-2014.html

³⁶ For information on how public interest attorneys fought off the fracking in Long Beach, see: <http://www.consumerwatchdog.org/resources/longbeachfracking.pdf>

³⁷ For more on Venoco offshore fracking, see: http://www.biologicaldiversity.org/news/press_releases/2015/venoco-pipeline-05-27-2015.html
and <http://www.consumerwatchdog.org/resources/venococoastalsanctuary.pdf>

³⁸ To read the CCST report, see: <http://ccst.us/publications/2015/SB4press-release-070915.pdf>

³⁹ For more facts on crops irrigated with oil wastewater, see: <https://static1.squarespace.com/static/5759bcf82fe1310bef4fc904/t/5789029f197aea3d3e762a88/1468596917287/FactSheet-ProtectCAfood+FINAL.pdf>
and <http://www.latimes.com/local/lanow/la-me-ln-oil-field-water-20160714-snap-story.html>

⁴⁰ For more on irrigation of crops and wastewater, see: <http://www.ewg.org/research/toxic-chemicals-may-contaminate-oil-field-wastewater-used-grow-calif-crops>

⁴¹ For more on safety of wastewater and irrigation, see: <http://civileats.com/2016/08/17/are-you-eating-food-that-was-irrigated-with-oil-wastewater/>

⁴² For information on the generating mix in California, see:

http://www.energy.ca.gov/almanac/electricity_data/system_power/2010_total_system_power.html and http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

⁴³ For more on natural gas power plants, see:

http://www.energy.ca.gov/sitingcases/all_projects.html

⁴⁴ For more on natural gas imports, see: <http://www.forbes.com/sites/judeclemente/2016/04/03/californias-growing-imported-electricity-problem/#47cd2d26e96b>

The last available break out of how much coal and natural gas power is imported into California under the “unspecified power mix” appeared in 2008’s CEC net system power report. See Table A7 here:

<http://www.energy.ca.gov/2009publications/CEC-200-2009-010/CEC-200-2009-010-CMF.PDF>

The latest 2015 data on the unspecified power mix no longer breaks out this information, but the pattern is roughly the same. See:

http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

⁴⁵ For more on renewable energy and the displacement of fossil fuels in California, see:

<http://www.reuters.com/article/us-california-energy-analysis-idUSKCN0YV0BX>

⁴⁶ For more on the state’s more than ample extra generating capacity, see:

<https://www.caiso.com/Documents/2015SummerAssessment.pdf>

⁴⁷ See the California Gas Report prepared by the state’s electric and gas utilities:

<https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf>

⁴⁸ For the NERC report, see:

<http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/2016%20Long-Term%20Reliability%20Assessment.pdf>, Chapter 1, Table 1.1.

⁴⁹ For more on new natural gas projects in Southern California, see:

<http://www.sandiegouniontribune.com/news/environment/sdut-new-natural-gas-projects-spark-debate-2016may23-htlstory.html>

⁵⁰ For more on state requirements of consideration of renewable energy sources prior to fossil fuel sources, see:

http://www.consumerwatchdog.org/resources/10-31-16_carlsbad_amicus_letter.pdf

⁵¹ For more about unnecessary natural gas power plants and efforts to block them, see:

<http://capitolwatchdog.org/article/wanted-court-block-building-la-basin-power-plants-we-dont-need>

⁵² For more on Brown's relationship to the fossil fuel industry and industries that rely on it, see: <http://www.consumerwatchdog.org/resources/BrownsDirtyHands.pdf>

⁵³ For a map of natural gas storage facilities in California, see: http://www.energy.ca.gov/maps/infrastructure/Naturalgas_Pipelines_Storage.pdf

⁵⁴ For more on state regulators' miscalculations on need for Aliso, see: https://www.foodandwaterwatch.org/sites/default/files/technical_assessment_aliso_canyon.pdf and <http://www.consumerwatchdog.org/newsrelease/socalgas-and-california-regulators-cry-wolf-report-claiming-aliso-canyon-needed-meet-win>

⁵⁵ For Brown's Aliso Canyon emergency order, see: <https://www.gov.ca.gov/news.php?id=19263>

⁵⁶ For more on the Brown family and oil and gas, see: <http://www.consumerwatchdog.org/dirtyhands> and <http://public-accountability.org/2015/12/jerry-browns-ties-to-the-oil-and-gas-industry/>

⁵⁷ For more on DOGGR-mandated testing of Aliso wells, see: <http://www.argusmedia.com/news/article/?id=1319340>

⁵⁸ For more on the proposed regulations, and comments filed by the R. Rex Parris law firm, see: <http://www.consumerwatchdog.org/resources/1198101.pdf>

⁵⁹ For more on the state's 2016 ZEV Action Plan and Sustainable Freight Action Plan, see: https://www.gov.ca.gov/docs/2016_ZEV_Action_Plan.pdf and <http://www.dot.ca.gov/casustainablefreight/>

⁶⁰ For more on black carbon law, see: <http://www.latimes.com/politics/essential/la-pol-sac-essential-politics-updates-vowing-to-protect-the-lungs-of-1474312163-htm1story.html>

⁶¹ To read the California Air Resources Board strategy on cutting short-lived climate pollutants, see: <https://www.arb.ca.gov/cc/shortlived/meetings/04112016/proposedstrategy.pdf>

⁶² For more about Brown's negotiations with the oil industry, see: <http://www.latimes.com/politics/la-pol-sac-jerry-brown-oil-climate-change-20160707-snap-story.html>

⁶³ For more on Brown's remarks on the Western Grid, see:

<http://sacramento.cbslocal.com/2016/09/07/governor-brown-pushes-plan-for-western-power-grid/>

⁶⁴ For the TURN analysis, see:

<http://www.consumerwatchdog.org/resources/turn-fed-preemption-memo.pdf>

⁶⁵ For more on the Imperial Irrigation District lawsuit against the University of California, see:

<http://www.sandiegouniontribune.com/news/watchdog/sd-me-grid-lawsuit-20161222-story.html>

⁶⁶ For more on California's clean energy economy, see:

<http://www.triplepundit.com/2016/10/californias-climate-change-leadership-created-500000-jobs/>

⁶⁷ For a discussion on cities and their desire to take over from private utilities, see:

<http://www.nytimes.com/2013/03/14/business/energy-environment/cities-weigh-taking-electricity-business-from-private-utilities.html>

⁶⁸ For more on distributed generation in California, see:

<http://www.greentechmedia.com/articles/read/Getting-California-to-12000-Megawatts-of-Distributed-Generation>

⁶⁹ For more on Jerry Brown's Clean Energy Jobs Plan, see: https://www.opr.ca.gov/s_renewableenergy.php

⁷⁰ For an Edison Electric Institute study on the financial implications and strategic response to a transforming electric business, see:

<http://www.eei.org/ourissues/finance/documents/disruptivechallenges.pdf>

⁷¹ For more on the energy storage technology law, see:

<http://www.power-eng.com/marketwired/2016/09/29/california-passes-energy-storage-bills-allocating-an-additional-187-million-for-new-energy-storage.html>

⁷² For more on Brown and cap and trade, see: <http://capitolwatchdog.org/article/could-jerry-brown-be-washing-his-dirty-hands>

⁷³ For more on emission cuts, see: <http://autoweek.com/article/car-news/california-emissions-standards-will-get-even-tighter>

⁷⁴ For more on California's generating mix, see:

http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf

⁷⁵ For more on California's cap and trade program, see:

<https://www.bloomberg.com/news/articles/2016-08-24/california-passes-toughest-greenhouse-gas-emission-curbs>

and

<http://www.sfchronicle.com/business/article/California-s-cap-and-trade-system-faces-cloudy-9127054.php>

⁷⁶ For more on Lawrence Berkeley Lab estimates, see: <http://www.latimes.com/politics/la-pol-ca-jerry-brown-signs-climate-laws-20160908-snap-story.html>

⁷⁷ For more on Dornsife study, see:

<http://dornsife.usc.edu/PERE/enviro-equity-CA-cap-trade>

⁷⁸ For more on the oil industry and their cap and trade breaks, see:

http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/Pollution-at-Whose-Expense.pdf

⁷⁹ For more on DTSC, Boeing, Governor Jerry Brown, and the Santa Susana Field Lab, see:

<http://www.consumerwatchdog.org/resources/InsideJob.pdf>

⁸⁰ For more on the health effects of the Santa Susana Field Lab and six health studies, including one by the University of Michigan on cancer among people living near the lab, see:

<http://www.rocketdynecleanupcoalition.org/resources/documents/#contamination>

⁸¹ For more on the CARB and disadvantaged communities of color, see: <http://www.latimes.com/politics/la-pol-sac-air-resources-board-concerns-20160422-story.html>

⁸² For an overview of DTSC regulatory failures, see: <http://www.consumerwatchdog.org/golden-wasteland-report>

⁸³ For more on how toxic cleanups will be paid for, see: <http://www.latimes.com/politics/essential/la-pol-sac-essential-politics-updates-californians-will-soon-be-paying-a-new-1474933244-htmlstory.html>

⁸⁴ For more on the Ag Park site, see:

<http://www.sbsun.com/environment-and-nature/20160612/departments-of-toxic-substances-control-flunks-community-relations>

⁸⁵ For more on Paramount, see:

<http://www.latimes.com/local/lanow/la-me-ln-paramount-pollution-history-20161130-story.html>

⁸⁶ For more on DTSC racist emails, see:

<http://www.consumerwatchdog.org/newsrelease/consumer-watchdog-demands-full-investigation-senate-leader-racist-emails-written-staffer>

⁸⁷ To read the Independent Review Panel's reports on the DTSC, see:

<http://www.dtsc.ca.gov/GetInvolved/ReviewPanel/Independent-Review-Panel.cfm>

⁸⁸ For more on how the \$900 million from cap and trade program will be spent, see:

<http://www.latimes.com/politics/essential/la-pol-sac-essential-politics-updates-gov-brown-signs-new-laws-to-boost-1473881012-htmlstory.html>

⁸⁹ For more on Brown's views on CEQA as Mayor of Oakland, see:

<http://www.sfgate.com/politics/joegarofoli/article/CEQA-future-tied-to-Oakland-s-experience-4308007.php>

⁹⁰ For Brown's remarks on CEQA, see: <http://blogs.sacbee.com/capitolalertlatest/2012/08/jerry-brown-calls-ceqa-reform-lords-work-but-noncommittal-on-bill.html>

⁹¹ For more on Brown and CEQA, see: <http://www.caeconomy.org/reporting/entry/ceqa-roundup-a-few-provisions-get-applause-as-governor-quietly-signs-ceqa-r>

⁹² For exemption of drought measures from CEQA, see: <http://www.kcet.org/news/define/rewild/agencies/brown-suspends-environmental-law-in-drought-declaration.html>

⁹³ For more on Brown's approach to affordable housing, see: <http://www.latimes.com/politics/la-pol-sac-governor-housing-failure-20160912-snap-story.html>

⁹⁴ For more on fast-tracking of big development projects, see: <http://www.citywatchla.com/index.php/the-la-beat/11583-jerry-brown-is-trying-to-quash-the-people-s-ability-to-fight-mega-developers-for-him-it-s-personal>

and

<http://www.citywatchla.com/index.php/the-la-beat/11606-not-so-fast-governor-brown-you-re-putting-ceqa-and-your-legacy-in-jeopardy>

⁹⁵ For more on the BAE report, see: <http://capitolweekly.net/ceqa-good-job-law/>

⁹⁶ For more on Lester's firing, see: <http://www.courthousenews.com/CNSNEWS/Story/Index/86829>

⁹⁷ For Lester interview, see: <http://www.latimes.com/local/politics/la-me-lester-interview-20160212-story.html>

⁹⁸ For more on Beland, see: <https://www.laprogressive.com/california-coastal-commission/>

⁹⁹ For more on the designation on Newport Banning Ranch, see: <http://www.latimes.com/local/orange-county/la-me-banning-ranch-20160507-story.html>

¹⁰⁰ For Aguirre's lawsuit over plans to bury radioactive waste from San Onofre on a San Diego Beach, see: http://www.consumerwatchdog.org/resources/memorandum_of_points_and_authorities-conformed.pdf
and
<http://www.sandiegouniontribune.com/business/energy-green/sd-fi-songs-lawsuit-20161116-story.html>

¹⁰¹ For more on the canisters' maker, and the warranty provisions under its contract with SCE, see:
<https://publicwatchdogs.org/wp-content/uploads/2016/09/sce-dr-response-w-attachment-to-a-14-12-007-gilmore-sce-001-follow-up-2-q-09-q-12-OCRd.pdf>

¹⁰² For more on the state's environmental review, see:
<http://www.sacbee.com/news/state/california/water-and-drought/delta/article122434news49.html>

¹⁰³ For more on federal fast-tracking of the tunnels, see:
<http://courthousenews.com/feds-fast-track-review-of-californias-delta-tunnels-plan/>

¹⁰⁴ For more on Brown and the Delta tunnels, see:
<http://www.dailykos.com/stories/2016/12/22/1613692/-Governor-Jerry-Brown-Lauds-Release-of-Documents-for-Delta-Tunnels-Water-Grab>
<http://fishsniffer.com/index.php/2016/12/22/3070/>

¹⁰⁵ The report is based on a new model simulating groundwater dynamics and withdrawals from 1960 to 2100. See: http://news.nationalgeographic.com/2016/12/groundwater-depletion-global-food-supply/?google_editors_picks=true

¹⁰⁶ For more on how to save the Delta without Brown's tunnels, see:
<http://restorethedelta.org/wp-content/uploads/2015/10/Final-Save-the-SF-Bay-Delta-HandOut-combined-with-A-Better-Solution.pdf>

¹⁰⁷ For more on water recycling in California, see:
<http://www.comstocksmag.com/article/great-water-waste>

¹⁰⁸ For more on the 2014 groundwater management law, see: <http://www.latimes.com/local/political/la-me-pc-groundwater-regulation-bills-20140916-story.html> and <http://www.latimes.com/science/la-me-groundwater-20140908-story.html>

¹⁰⁹ Agriculture and related manufacturing of its commodities, accounts for nearly four fifths of all water use by businesses and residences, but make up 2 percent of the state's GDP and 4 percent of all jobs. See: <https://californiawaterblog.com/2012/05/30/water-and-californias-economy/>

¹¹⁰ For more on California's agricultural exports, see: <https://www.cdfa.ca.gov/statistics/PDFs/AgExports2014-2015.pdf>

¹¹¹ For more on the future of the Colorado River, see: <http://www.smithsonianmag.com/science-nature/the-colorado-river-runs-dry-61427169/>

¹¹² For more on farmers and well digging, see: <http://www.sanluisobispo.com/news/state/california/article104251276.html>

¹¹³ For more on over-tapped groundwater basins, see: <http://hydrowonk.com/blog/2015/08/31/report-on-californias-critically-overdrafted-groundwater-basins-has-few-surprises-but-opens-discussion-for-additional-solutions/>

¹¹⁴ For more on premature lifting of water conservation rules, see: <http://www.nytimes.com/2016/10/20/us/as-drought-california-water-use-rises-some-ask-were-limits-eased-too-soon.html>

¹¹⁵ For more on conservation and urban water use, see: <http://www.latimes.com/local/lanow/la-me-ln-water-conservation-20160816-snap-story.html>

¹¹⁶ For more facts on California communities and clean water, see: http://www.communitywatercenter.org/human_right_to_water

¹¹⁷ For more on California's "human right to water" see: <https://www.newsdeeply.com/water/articles/2016/03/10/will-human-right-to-water-resolution-really-help>

¹¹⁸ For state information on drinking water, see: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/dwdocuments/2014/2014_acr_final.pdf

¹¹⁹ For more on California farm communities and pesticides in water, see:

<http://www.sacbee.com/news/state/california/article95534497.html>

and

<http://www.communitywatercenter.org/contamination>

¹²⁰ For how the California water bond money is being spent, see: <https://www.newsdeeply.com/water/articles/2016/09/05/heres-whats-happening-to-all-that-water-bond-money>

¹²¹ For more on the report commissioned by state water regulators, see: http://www.waterboards.ca.gov/water_issues/programs/nitrate_project/index.shtml

¹²² For Brown's remarks on the passage of AB 32, see:

<http://www.wsj.com/articles/climate-change-bills-head-to-gov-jerry-brown-1472078976>

¹²³ To read Consumer Watchdog's report, Brown's Dirty Hands, about his financial relationship to the energy industry, see:

<http://www.consumerwatchdog.org/newsrelease/fair-political-practices-commission-opens-investigation-ca-democratic-party-response-rep>

¹²⁴ For more on Pat Brown, Jerry Brown, and California water, see:

<https://www.washingtonpost.com/news/morning-mix/wp/2015/04/02/gov-jerry-brown-battling-california-water-crisis-created-by-his-father-gov-pat-brown/>

¹²⁵ For more on state requirements of consideration of renewable energy sources prior to fossil fuel sources, see:

http://www.consumerwatchdog.org/resources/10-31-16_carlsbad_amicus_letter.pdf