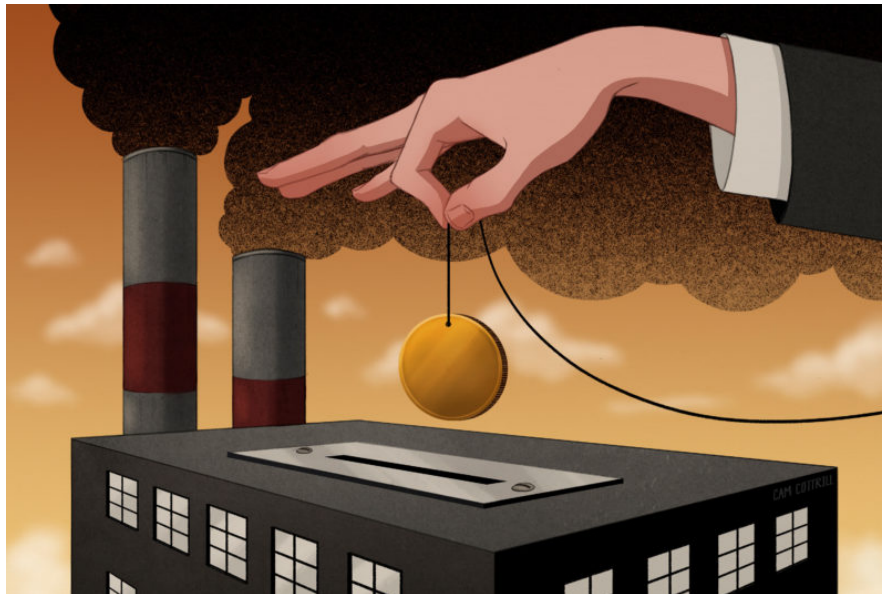


Cap and Trade Is Supposed to Solve Climate Change, but Oil and Gas Company Emissions Are Up

Countries have called California's cap-and-trade program the answer to climate change. But it is just as vulnerable to lobbying as any other legislation. The result: The state's biggest oil and gas companies have actually polluted more since it started.

by Lisa Song, Nov. 15, 2019, 5 a.m. EST



Cameron Cottrill, special to ProPublica

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Gov. Jerry Brown took the podium at a July 2017 press conference to lingering applause after a steady stream of politicians praised him for helping to extend California's signature climate policy for another decade. Brown, flanked by the U.S. and California flags, with a backdrop of the gleaming San Francisco Bay, credited the hard work of the VIPs seated in the crowd. "It's people in industry, and they're here!" he said. "Shall we mention them? People representing oil, agriculture, business, Chamber of Commerce, food processing. ... Plus, we have environmentalists. ..."

Diverse, bipartisan interests working together to pass climate legislation — it was the polar opposite of Washington, where the Trump administration was rolling back environmental protections established under President Barack Obama.

Brown called California's cap-and-trade program an answer to the "existential" crisis of climate change, the most reasonable way to manage the state's massive output of greenhouse gasses while preserving its

economy, which is powered by fossil fuels. “You can’t just say overnight, ‘OK, we’re not going to have oil anymore,’” he said.

But there are growing concerns with California’s much-admired, much-imitated program, with implications that stretch far beyond the state.

California’s cap-and-trade program was one of the first in the world, and it is among the largest. It is premised on the idea that instead of using regulations to force companies to curb their emissions, polluters can be made to pay for every ton of CO₂ they emit, providing them with an incentive to lower emissions on their own. This market-based approach has gained such traction that the Paris climate agreement emphasizes it as the primary way countries can meet their goals to lower worldwide emissions. More than 50 programs have been developed across the world, many inspired by California.

But while the state’s program has helped it meet some initial, easily attained benchmarks, experts are increasingly worried that it is allowing California’s biggest polluters to conduct business as usual and even increase their emissions.

ProPublica analyzed state data in a way the state doesn’t often report to the public, isolating how emissions have grown within the oil and gas industry. The analysis shows that carbon emissions from California’s oil and gas industry actually rose 3.5% since cap and trade began. Refineries, including one owned by Marathon Petroleum and two owned by Chevron, are consistently the largest polluters in the state. Emissions from vehicles, which burn the fuels processed in refineries, are also rising.

Critics attribute these increases, in part, to a bevy of concessions the state has made to the oil and gas industry to keep the program going. They say these compromises have blocked steps that would have mandated real emissions reductions and threaten the state’s ability to meet its ambitious goal of slashing its emissions 40% by 2030.

“There’s no question a well-designed regulation on oil and gas can have an effect,” said Danny Cullenward, a Stanford researcher and policy director at Near Zero, a climate policy think tank. “And that was traded away for a weak cap-and-trade program.”

Experts say cap and trade is rarely stringent enough when used alone; direct regulations on refineries and cars are crucial to reining in emissions. But oil representatives are engaged in a worldwide effort to make market-based solutions the primary or only way their emissions are regulated.

Officials with the state Air Resources Board, which oversees cap and trade, say those fears are exaggerated, that California’s program is doing what it needs to do and they can tweak it over time as needed. They point to the state’s overall drop in emissions since cap and trade began in 2013, even as its economy grew. They tout a host of other, more traditional climate regulations widely considered the best in the country.

But even with all those rules working together, California needs to more than double its yearly emissions cuts to be on track to meet the 2030 target. Meanwhile, the scope of the climate crisis and public pressure for

strong regulations on fossil fuel companies have risen exponentially, even in the past year.

ProPublica delved into the mechanics of California's cap-and-trade program, examining 13 years of political horse-trading, regulatory tinkering and industry lobbying to make sense of rising fears that it will not deliver the emissions reductions it is supposed to.

Five areas of concerns have emerged, some specific to the state's program and some so fundamental that they raise questions about whether market solutions anywhere can do the work that is needed to take meaningful climate action while there is still time.

Cap and trade isn't designed to hold any one company accountable.

It treats every polluting facility as if it were engaged in a giant group project. If enough companies in California reduce their emissions, the entire state gets an A, despite the slackers who didn't pull their weight.

Here's how it works: The state sets a cap, or limit, on CO₂ emissions from major polluters. The emissions under that cap are turned into permits, which each give the owner permission to release 1 metric ton of CO₂. Some are given out for free. Others are sold at auction by the state, and the funds are used for climate programs like electric vehicle rebates. Companies with more permits than they need can sell the extras, enabling other companies to buy the right to emit more, hence the trade.

Supply and demand helps determine how much each permit is worth. The cap gets lowered every year, theoretically applying increasing pressure on polluters to reduce emissions. There were 346 million available permits in 2019.

The program was born of a goal set in an executive order by Gov. Arnold Schwarzenegger in 2005: for the state to lower its CO₂ emissions 25% by 2020. The following year, the Legislature put the Air Resources Board in charge of figuring out how to do it. Europe had already put into place a market solution, and a coalition of northeastern American states followed a few years later. In 2013, California launched its cap and trade program.

In 2016, the state hit its climate target four years early. But a government report concluded that the "cap is likely not having much, if any, effect on overall emissions," and that reductions up to that point could be attributed to the 2008 recession, which slowed manufacturing, consumption and travel, as well as climate rules on renewable energy and vehicle standards.

The board predicted cap and trade would account for 30% of reductions in 2020 — but even after the state met its first benchmark, the board has not calculated how much the program has reduced emissions. This kind of study is hard to do; the only available analysis comes from Chris Busch of Energy Innovation, a climate policy think tank, who estimates that in 2015 and 2016, cap and trade was responsible for only 4% to 15% of the state's reductions.

Erica Morehouse, a senior attorney at the Environmental Defense Fund, said California's climate policy operates "as a team sport," so it doesn't matter how much of the heavy lifting is being done by cap and trade, as long as the state's overall emissions stay under the cap. She said the other regulations alone can't ensure California will meet the 2030 goal.

Now that cap and trade has been extended, the board predicts it will drive 47% of the CO₂ reductions in 2030, but critics wonder how much it will actually deliver. "It's very difficult to have any faith in those projections," given that the board hasn't provided any "quantifiable evidence" of what cap and trade has achieved so far, said Kevin de León, former state Senate president and a candidate running for Los Angeles City Council.

What became most clear about the cap-and-trade program after it hit the first benchmark was how it can mask increases. According to a study from California researchers, almost all the CO₂ savings came from the electricity sector, which cut its use of imported power from out-of-state coal plants. It was low-hanging fruit, cheap savings that will be hard to repeat. The cut was enough to make up for emissions increases even within that sector; pollution from in-state power generation increased.

In fact, most facilities — 52% — increased average emissions within California during the first three years of cap and trade. These include cement and power plants as well as producers and suppliers of oil and gas.

The way market-based climate change solutions are set up provides loopholes and giveaways.

The success of any cap-and-trade program depends on how it is designed, starting with the cap. Experts warn that California set its early caps too high, allowing companies to buy permits and bank them for the future when the cap gets tougher. A peer-reviewed paper co-authored by Cullenward found that by the end of 2018, companies had banked more than 200 million permits — enough for almost as many tons of CO₂ as the total reductions expected from cap and trade from 2021 to 2030.

Though the purpose of the system is to apply financial pressure to industry, California gave away a bunch of free permits to companies they worried would face a competitive disadvantage compared with those outside the state. Those that couldn't feasibly relocate had to buy permits at market price. A dozen industries, including oil and gas drilling, got most of their permits for free through 2020.

Refineries got the same treatment for the first few years, and the board planned to reduce the free permits in 2018. But when cap and trade was extended in 2017, state officials extended the same level of giveaways through 2030.

Cap and trade offers another way for polluters to avoid reducing emissions at their facilities: Many programs allow companies to cancel out some of their CO₂ by purchasing what are called offsets — paying to protect trees or clean up coal mine emissions in another city, state or country.

Studies raise serious questions about whether offsets in California's program are canceling out the emissions they're meant to. A ProPublica investigation highlighted similar concerns involving international forest offsets, which California supports. The biggest buyers of offsets are the worst polluters in the state, with oil companies at the top of the list.

Although state regulators have reduced the number of future allowable offsets, Barbara Haya, a University of California-Berkeley research fellow who studies carbon markets, said they could account for half of all emissions cuts expected to be achieved by cap and trade from 2021 to 2030, making the environmental integrity of the offsets paramount. Her research found that California regulators have oversold the climate benefit of offsets by underestimating how protecting one patch of forest pushes logging into other forests. The board stands by its calculations, and the two sides have continued to debate the issue.

Cap-and-trade programs usually include offsets, and "offset programs largely don't work," Haya said. At this critical moment, when so many people are developing market solutions, "it really worries me that we are going to implement policies that reduce emissions on paper and not in practice," she said.

Among the most fundamental design elements of cap and trade is the price of carbon, ultimately what is supposed to force businesses to change. Economists have tried to find the lowest cost per ton that will move them. A new paper co-authored by Gernot Wagner, an economist at New York University, found that the accepted wisdom on carbon pricing — which aims for an initial cost of roughly \$40 a ton that grows over time — is far from sufficient. His research concluded prices should start much higher, well above \$100 a ton, and get lower over time as technologies improve and uncertainties about the extent of climate damage clear up.

California's price is \$17 a ton. Regulators can strengthen the program by setting a minimum permit price; in California, it's currently \$16. A World Bank report recommends prices of \$40 to \$80 by 2020 to be on track for the Paris climate goals. Only a handful of the world's market programs meet that standard.

Stanley Young, the board's communications director, said that it can take time for cap and trade to affect industries like oil and gas, and that the mere presence of a carbon price impacts corporate decisions in ways that aren't always visible. Rajinder Sahota, an assistant division chief at the board, points to the fact that permit prices are climbing; state data shows they have increased from about \$13 to \$17 over the past three years. Sahota says that alone should serve as a warning signal to industry that one day, the cost to pollute will be unaffordable.

California's oil industry has blocked efforts to make cap and trade tougher on them.

The Western States Petroleum Association, the main oil industry group in California, has lobbied on cap and trade every quarter since 2006, spending \$88 million on it and other regulations. Records show the

industry has advocated on virtually every aspect of its design, including offsets, fees and the allocation of permits.

Its biggest wins happened in 2017, when cap and trade was up for extension. Two bills aimed to make the extension contingent on forcing emissions reductions by restricting offsets and free permits.

One introduced by Sen. Bob Wieckowski tried to force banked permits to expire by 2020 and get rid of offsets. Vox called it “the most important advance in carbon-pricing policy in the U.S. in a decade. Maybe ever.” But it needed a two-thirds majority vote to pass the Legislature, thanks to an oil industry-sponsored ballot measure from 2010 that reclassified many state and local fees as taxes. The measure had a huge impact on environmental regulations; the only viable bills now were those that could gain broad political buy-in. Wieckowski’s bill was viewed as too radical to support and never got a vote. He said he couldn’t even get a meeting with the governor about it.

The other bill, by Assemblywoman Cristina Garcia, proposed using cap and trade to limit the toxic gases that streamed out of smokestacks alongside CO₂. Garcia’s district in Los Angeles was among the most polluted in the state. Her bill made companies with rising CO₂ or toxic pollutants ineligible for free permits. In three months in 2017, Chevron spent \$6.3 million lobbying against her bill and related regulations, while WSPA lobbied against both Garcia’s bill and Wieckowski’s. Each effort had a lobbyist who was a former state legislator.

Garcia’s bill had initial support from a crucial constituency: labor unions representing construction workers. That changed after Chevron promised the unions a five-year contract to retrofit its refineries — the result of a safety bill inspired by a 2012 fire at its Richmond facility, which sent thousands of people to the hospital with breathing problems. Cesar Diaz, who lobbied for the unions, said his organization supports climate regulation. Its opposition to Garcia’s bill had nothing to do with the Chevron deal, he said, but was inspired by fears that it would hurt the economy.

The defeats prompted Brown to step in to save the extension, holding closed-door meetings with moderate legislators and oil interests deep into the night, according to several sources with knowledge of the negotiations.

The industry’s influence became clear after articles revealed how draft language in the emerging bill matched a “wish list” from a lobbying firm working for WSPA. The list included tools to slow rising carbon prices and increased free permits for oil and gas among other industries — all things that ended up in the final bill and subsequent amendments. Brown later testified in a state Senate hearing, where he called it the most important vote of the legislators’ lives.

Brown, whose term ended in January, declined to be interviewed for this story. In response to ProPublica’s inquiries about cap and trade, Brown’s spokesman pointed to the broad coalition of environmental, academic and industry interests that supported the bill, and he emphasized that program is just one part of California’s extensive climate regulations.

Morehouse, the EDF attorney, said the oil industry may have won a few battles with the bill, but it “lost the war.” California has maintained an extremely ambitious 2030 target, she said.

It’s no surprise the oil industry advocates for its own interests, Morehouse said. “First they want no climate policy. Then they want it delayed as long as it can be. Then they want it to be basically meaningless,” she said. By the time the industry starts focusing on something like free permits, “you can actually start negotiating.”

WSPA, which opposes direct regulations, praised the extension’s passage as “the best, most balanced” solution, “the best available path forward for our industry in the toughest regulatory environment in the world.”

Dean Florez, an Air Resources Board member critical of the concessions made, said the industry supports the new program because it “figured out how to game the system.” The industry got almost everything it wanted, he said, leaving it “offset happy and surplus rich.”

More meaningful regulations are being sacrificed.

One of the industry’s biggest victories from the 2017 bill was a provision that prohibits new CO₂ regulations on refineries and oil and gas production. Earlier that year, the Air Resources Board had proposed a regulation to lower refinery emissions 20% by 2030. The bill killed that plan.

The bill also prevented local air districts from imposing regional caps on CO₂, heading off a five-year grassroots effort from Bay Area residents. Incensed by the Richmond refinery fire, they packed into hearings held by the Bay Area Air Quality Management District and waited for hours to speak.



Torm Nompraseurt is a community organizer with the Asian Pacific Environmental Network. His group spent years working with other activists to push for a local cap on CO₂ from the region’s refineries. At times, busloads of activists filled hearing rooms, waiting for hours for a chance to speak. Their efforts were thwarted by political negotiations in the 2017 cap-and-trade bill. (Max Whittaker, special to ProPublica.)

The residents lobbied for a cap on CO₂ as a way to force reductions in other pollutants. Their plan was on the verge of approval, with a draft rule that local regulators hailed as an unprecedented “model for the state and nation to follow.” Then, the state cap-and-trade bill rendered it moot.

For the oil industry, the strategy of embracing market solutions to avoid more direct regulation extends far beyond California.

At an international climate conference last year, Shell Oil executive David Hone boasted he had written a key part of the United Nations’ Paris agreement that makes market solutions the primary way to deal with climate change. “The ideal for a cap-and-trade system is to have no overlapping policies,” he told The Intercept.

In Washington state, oil interests led by BP defeated a statewide carbon tax ballot initiative partly because the proposal didn’t include provisions to preempt other climate rules. InsideClimate News reported that BP helped derail an earlier attempt to pass the tax through the Legislature after the governor wouldn’t make certain concessions, like allowing its refineries to use offsets to lower their tax payments or prohibiting local governments from creating or enforcing their own climate regulations.

On a national level, Exxon Mobil, BP and Shell helped economists, environmentalists and bipartisan former politicians with the Climate Leadership Council design a federal carbon tax of \$40 a ton — one that’s contingent on eliminating all other federal climate regulations on major polluters such as power plants and refineries. The council cites a report by an energy policy group that says the tax would help the U.S. meet its Paris targets.

“Exceeding the U.S.’s Paris goals is, of course, good and a terrific start. But it’s only a start,” Wagner, the NYU economist, said. The Paris targets aren’t stringent enough to avoid the worst impacts of climate change. Wagner said oil companies support the tax because it’s “much too little” for the kind of change that’s needed.

“That is a very clear instance where the single-minded push for a carbon tax gets in the way of ambitious climate policy,” he said. “Why settle for what Exxon wants?”

We’re dependant on fossil fuels.

Just 20 fossil fuel companies — including Chevron, BP and Exxon Mobil — are responsible for a third of all global emissions since 1965. There is overwhelming evidence that ensuring a livable planet requires keeping fossil fuels in the ground, unextracted and unburned.

But fossil fuels are so integrated into our lives that phasing them out would require us to change everything about how and where we live, how we get around and how we make money. Fuel prices affect everyone, and while higher carbon prices help the environment, they can be passed on to consumers. The industry is quick to remind everyone of this of any time an environmental regulation comes up.

When California's Air Resources Board held a hearing last year to discuss the maximum allowed permit price, dozens of speakers turned up to testify, including a group of black pastors from Los Angeles who'd advocated against oil and gas drilling in their communities. One by one, the pastors said the board proposal would hurt low-income, minority families.

The group was organized by the Rev. Jonathan Moseley Sr., who said he heard about the event from a contact at Prime Strategies, a consulting firm that gave him free updates on policy discussions in Sacramento. Moseley said Prime offered to fly the pastors to the hearing, and he believed the money came from a group called Californians for Affordable and Reliable Energy, or CARE.



The Chevron oil refinery in Richmond, California, is among the state's largest CO₂ emitters. For years, Bay Area activists tried to cap CO₂ emissions locally to help control air pollution. Their efforts were thwarted by oil industry lobbying on a 2017 cap-and-trade bill. (Max Whittaker, special to ProPublica)

He said he didn't know CARE was funded by oil interests. CARE's 2017 tax forms, the most recent available, show it raised \$9 million that year. Nearly two-thirds of the money came from Chevron and WSPA, according to lobbying records. CARE also gave Prime Strategies \$53,000 around the time of the hearing.

Robert Lapsley, the chairman of CARE, said the group represents business interests beyond oil and gas. It is led by the California Business Roundtable, a trade group for the state's biggest companies. Lapsley said CARE advocates for regulators to consider how climate regulations affect consumer costs. CARE helped craft and lobby for the cap-and-trade extension and solicited funds from donors like WSPA who had similar goals, he said.

CARE's public campaigns have used the images of blue-collar workers and people of color to argue against initiatives promoting electric cars and other efforts aimed at reducing fossil fuel consumption. Its [homepage](#) features a young man and woman studying a piece of paper. The description, according to a stock images website that sells the [photo](#), is, in

part, “African Millennial stressed married couple sitting on sofa at home checking unpaid bills.” The page also features a photo and quote from Bishop Lovester Adams, another pastor who testified before the board. Adams and Prime Strategies did not return requests for comment.

At the hearing, the Rev. Oliver Buie said, “I’m here to stand and speak for the community which I represent, which is a brown community, which is deeply injured whenever there’s any increase in any cost. ... We need to look at the people more than the corporations.” But he, too, acknowledged he was unaware that oil interests effectively backed his Sacramento trip. “They didn’t tell us they were a wolf,” he said. “We thought they were a sheep.”

The board seemed puzzled by the resistance at the hearing and voted to maintain the maximum allowable price of nearly \$100 a ton by 2030. The effort was mostly symbolic, as regulators assured the crowd they didn’t expect prices to get that high. Instead, Sahota, the assistant division chief, predicted it would hover at the minimum price for the next few years, but rise above it by 2030.

Cullenward said the reality of society’s reliance on fossil fuels leaves regulators in a bind — stuck between knowing what it will take to manage climate change but adopting a market solution that’s too weak by design. Any attempt to seriously strengthen it risks a consumer backlash that makes it “politically toxic,” he said.

“Essentially, what we’re doing is kicking the can,” Cullenward said. “We’re saying, keep prices low, let’s not do a lot, and later, we’ll hope for a miracle.”

Sophie Chou and Lexi Churchill contributed to this report.

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Lisa Song

Lisa Song reports on the environment, energy and climate change for ProPublica.

✉ Lisa.Song@propublica.org [@lisalsong](https://twitter.com/lisalsong) ☎ 917-512-0232

🔒 Signal: 646-712-0120