# **Vital climate tool or license to pollute? The battle over California's first carbon capture project**

Newstex Blogs

CalMatters

April 16, 2024 Tuesday 12:35 PM EST

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**Length:** 2630 words

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**Body**

April 16th, 2024 ( CalMatters - Delivered by Newstex )

In summary

Rural Latino communities are divided about the project, which would capture carbon from an oilfield and power plant - and allow an ***oil*** company to keep operating as the state struggles to slash greenhouse gases.

In western ***Kern*** County, where rolling hills are punctuated by bobbing rigs, the state's largest ***oil*** and gas producer is betting that a novel technology will stave off the extinction of California's fossil fuel industry.

The proposal has split this region, known as California's ***oil*** country: Some want a future for ***oil*** and gas with less carbon emissions, while others insist that the polluting industries must go altogether.

In a project that would be California's first attempt to capture and sequester carbon, California Resources Corp. plans to collect emissions at its Elk Hills ***Oil*** and Gas Field , and then inject the gases more than a mile deep into a depleted ***oil*** reservoir. The goal is to keep carbon underground and out of the atmosphere, where it traps heat and contributes to climate change.

Around the world, the race to build these carbon capture and storage projects is part of a broader bid by the ***oil*** and gas industry to remain viable in a world struggling to decarbonize.

In California alone, federal officials are reviewing 13 proposals to build projects - most in the Central Valley - that would capture carbon dioxide spewed by ***oil*** operations, power plants and other facilities or remove it from the atmosphere, then inject it underground into wells.

Although California aims to phase out nearly all fossil fuels , Gov. Gavin Newsom's administration said they must rely on carbon capture to eliminate millions of tons of greenhouse gases a year to meet its mandate of carbon-neutrality by 2045 . The state may become even more reliant on this new technology than originally envisioned to stay on track in cutting planet-warming emissions.

'We have a very unique market in California, where you have a state government that's pushing really in favor of an energy transition,' Francisco Leon, California Resources Corp.'s chief executive officer, said during a recent earnings call . 'But we also have a state that has relied on ***oil*** and gas revenues to support the communities and to pave the roads, to pay for libraries and fire stations.'

At its massive oilfield in ***Kern*** County, a few miles from the mostly Latino, low-income community of Buttonwillow , California Resources Corp. is seeking approval to inject 1.46 million metric tons of carbon dioxide a year over a 26-year period into an underground reservoir. That's equivalent to the annual emissions of several hundred thousand gas-powered cars . The company hopes to expand to a second nearby reservoir once operations are underway.

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The company needs permission from both the U.S. Environmental Protection Agency and the ***Kern*** County Board of Supervisors. Both are expected to make their decisions this year, and the company hopes to start its first carbon injections next year.

Many residents and environmental justice groups oppose these projects because they allow oilfields, power plants and other industrial operations to keep emitting dangerous air pollutants in their communities. At the ***Kern*** County project, emissions of fine particles and gases that form smog would be 'significant and unavoidable,' according to the county's environmental impact report.

'You're locking in pollution infrastructure that should be phased out,' said Daniel Ress, an attorney with the Delano-based Center on Race, Poverty and the Environment. 'This was designed by fossil fuel companies so that they can continue to profit off the climate crisis. They set this trap.'

Taft Mayor Dave Noerr, who is standing next to a monument for ***oil*** workers, supports the carbon capture project. Photo by Larry Valenzuela, CalMatters/CatchLight Local

Dave Noerr, mayor of the foothills town of Taft, about 8 miles from the project site, sees the technology as a gamechanger for ***Kern*** County: a way of hanging on to well-paying, middle class ***oil*** and gas jobs as California tackles climate change. The industry employs about 14,000 people in ***Kern*** County , which provides three-quarters of California's ***oil***.

Signs of ***oil*** country are visible throughout Taft, a town of 7,000 people southwest of Bakersfield surrounded by thousands of sentinel-like ***oil*** rigs pumping day and night. A bronze monument depicting early 20th century work in the oilfields rises in a town square. Noerr's office is located on the appropriately named Black Gold Court.

Noerr said California should lead the way with capture and storage technology so that developing countries can eventually adopt it at their high-polluting coal plants. 'If we can learn how to do it, and do it right, on a commercial scale, right here, then we can help those people,' Noerr said.

Sonia Sanchez, who lives a half hour drive to the north, in Buttonwillow, on the other side of the company's oilfields, is more worried about the health of her son than the plight of coal plants overseas. Sanchez owns a notary business that offers document services to farm-laboring Latinos.

California Resources Corp.'s pipelines and injection wells would be built just four miles from the closest home in Buttonwillow, and within 2.5 miles of the closest elementary school, according to the environmental impact report . Researchers have found connections between people living near oilfields and health effects, including respiratory problems , low birthweight babies and premature babies .

Sonia Sanchez of Buttonwillow helps organize local opposition to the proposed carbon capture project in the Elk Hills oilfield near her community. Photo by Larry Valenzuela, CalMatters/CatchLight Local

At a recent government hearing for the project held in Buttonwillow, Sanchez and others sported lime green T-shirts emblazoned with the words 'Stop the Carbon Capture Scam.'

Capturing carbon to extend the life of oilfields would keep endangering children, who 'are still developing, they're young,' Sanchez said. 'We have to protect them.'

Burying carbon more than a mile underground

One of the most productive oilfields in America, the Elk Hills ***Oil*** and Gas Field sits amid  the winding, hilly terrain between Buttonwillow and Taft, some 30 miles west of Bakersfield. On a recent afternoon, trucks bustled in and out of the gated Elk Hills power plant. The plant dominates the remote, industrial landscape, with igloo-like structures rising in the distance.

It's in this oilfield in the heart of the San Joaquin Valley that California Resources Corp. plans to launch the state's first experiment with storing carbon underground.

Carbon capture technology has been in use since the 1970s in other states and countries, often on coal-fired power plants, ventures that have been criticized as costly and complicated . In the United States, much of the carbon injected underground has been by energy companies to extract ***oil*** out wells, a practice banned by California in 2022 .

In many projects, a smokestack is equipped with a filtration system to capture greenhouse gases, which are then extracted and compressed, and then transported and stored, often underground.

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The ***Kern*** County project would remove carbon dioxide from natural gas produced at the company's oilfields before it is burned at the company's medium-sized power plant, which provides energy for Pacific Gas & Electric. Carbon also would be captured from a proposed hydrogen plant and a direct air capture project that would use fans and filters to remove carbon dioxide from the atmosphere.

Richard Venn, a spokesman for California Resources Corp., declined to answer questions from CalMatters or allow company representatives to be interviewed about their project. Information came from EPA and ***Kern*** County documents as well as company materials.

The company will build underground pipelines from the plants to the injection wells , spanning about six miles during the initial phase and about eight miles during a second phase, according to county documents.

The project has received draft permits from the EPA for four injection wells. They are the first in the nation to be issued for a depleted ***oil*** and natural gas field , the company said in a press release. According to the draft permits, the carbon would be buried 6,000 feet below ground - more than a mile deep into the Monterey Formation, a massive geological structure that is a major source of California's ***oil***.

California Resources Corp. has said the gas will be trapped, in part, by a 1,000-foot-thick rock layer called the Reef Ridge Shale, according to the documents.

The EPA will require the company to monitor the wells for the rest of the century to guarantee that no groundwater is polluted. Initial examinations suggest there are no drinking water sources threatened by injecting carbon into the reservoir. But the project would use significant amounts of groundwater in a basin that already is overpumped, according to the environmental impact report.

Left: ***Oil*** wells pump next to the Elk Hills Power Station. The proposed carbon capture project at the site would collect carbon emissions from the oilfield and power plant and then inject them underground. Right: Photos by Larry Valenzuela, CalMatters/CatchLight Local

The company must take out a $33 million insurance policy and enact a number of other measures, including plugging 157 ***oil*** wells to ensure the carbon dioxide remains underground.

Carbon capture and storage could be big business for California Resources Corp., which has the most acres of privately held mineral rights in California.  In 2022 the company, which earned revenues of $2.8 billion last year, announced a $500 million investment from Brookfield Asset Management to pursue carbon storage projects. It has several other proposed capture projects in California and earlier this year it merged with Aera Energy , which had been lobbying for policies promoting carbon capture in California and pursuing its own project.

California Resources Corp. said it plans to offset some of its costs with tax credits provided in the Inflation Reduction Act of 2022 and could qualify for some state subsidies.

Capturing carbon remains expensive and so far is used only on a small scale. Worldwide last year 41 facilities were operating and 351 were under development, according to an annual report by the think-tank Global Carbon Capture and Storage Institute.

Pavel Molchanov, an analyst with investment bank Raymond James, recently called carbon capture 'niche' and said it only reduced greenhouse gases by a 'rounding error,' with 0.1% of global emissions captured and stored last year. He said it's quicker and easier to shut down fossil fuel facilities and shift to cleaner electricity.

Climate experts say the technology can play an important role in reducing emissions. The United Nations' Intergovernmental Panel on Climate Change has said carbon capture can be part of the net-zero energy transition along with significant reductions in fossil fuel use.

Gov. Gavin Newsom, through a spokesman, declined to comment on the California Resources Corp. proposal but he has actively supported carbon capture and storage as a means of lowering the state's carbon footprint.

California plans to eliminate 94% of ***oil*** and gas , mostly by switching to electric vehicles and producing electricity from solar and wind energy. To make up the shortfall, the state will rely on carbon capture to cut 13 million metric tons of carbon from industrial and energy plants annually by 2030 and 25 million by 2045, and remove another 75 million metric tons from the atmosphere through other projects.

These technologies amount to 15% of all of California's planned greenhouse gas cuts . That portion could grow if the state struggles to start up offshore wind and build more rooftop solar . California isn't on track to meet its climate targets - and isn't even close, according to a recent analysis.

When state officials deliberated their 2022 climate plan, they characterized carbon capture as reserved for tough-to-decarbonize industries, such as cement manufacturing . But now the state will need a 'broader application' of the technology, including for natural gas plants, or California will fail to meet its 2045 emissions targets, Air Resources Board spokesman David Clegern said in an email.

Environmentalists are skeptical about the technology's climate benefits, noting that methane, a potent greenhouse gas, can still leak out of natural gas plants. They also worry about carbon dioxide leaking from pipelines.

'Carbon capture has no vital role to play in generating electricityWe don't need it to decarbonize the electricity system,' said David Pomerantz, executive director of the Energy and Policy Institute, an environmental group.

Passionate views in local communities

In ***Kern*** County, the Elk Hills project has pitted ***oil*** and gas companies against residents and activists who want to see these industries closed. While the ***oil*** industry is a big  employer, the company's carbon project won't generate many new jobs: about 80 positions for construction and then only five full-time employees to operate the facility .

***Kern*** County is charging California Resources Corp. $250,000 a year for public safety and between $200 to $400 annually on each acreage of the project's land.

The company must also compensate for fine particles and other pollution that the project would emit into the air by reducing it elsewhere in ***Kern*** County, paying for measures such as electric school buses .

The Elk Hills oilfield is among the nation's largest ***oil*** producers. Photo by Larry Valenzuela, CalMatters/CatchLight Local

On a late weekday evening in February, as the sun dipped below the horizon, casting hues of pink and red into the sky above Buttonwillow, about two dozen people entered Sanchez' storefront. Taking seats, they listened to organizers talk about their opposition to the project. Then they made their way to the community center, where the EPA was conducting a public hearing for the project.

For three hours, people spoke passionately both in favor and in opposition, with about 50 people stepping up to the microphone. The speakers included workers in orange union shirts, farmers in plaid, politicians, ***oil*** industry employees and community residents. Attendees filled folding chairs and the rafters.

Both Sanchez, the Buttonwillow business owner, and Noerr, the Taft mayor, were among those who took their turns at the microphone.

Noerr spoke of his more than 40 years working in the ***oil*** industry in ***Kern*** County and praised its 'emphasis on safety, on quality and efficiency and environmental stewardship.' He said he would never support a project that would put his community at risk.

Earlier in the hearing, with her teenage son and two other local boys at her side, Sanchez told the crowd about her fears that if the project goes through, it would leave polluting oilfields in her community for many more generations to come.

'We cannot afford to compromise the air we breathe, the water we drink and the soil we rely on for the sake of experimental solutions,' she said. 'I refuse to expose my family in any way to unnecessary risksOur town's wellbeing and the health of its residents are nonnegotiable.'

'I support CalMatters because climate change and the environment are important issues for planet Earth. Knowledge should be driving action.'

Leslie, Washington, CA

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**Load-Date:** April 16, 2024

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