

Obama Pushes More Oil To Clean Up Coal

DINA CAPPIELLO, Associated Press

DE KALB, Miss. (AP) — America's newest, most expensive coal-fired power plant is hailed as one of the cleanest on the planet, thanks to government-backed technology that removes carbon dioxide and keeps it out of the atmosphere.

But once the carbon is stripped away, it will be used to do something that is not so green at all.

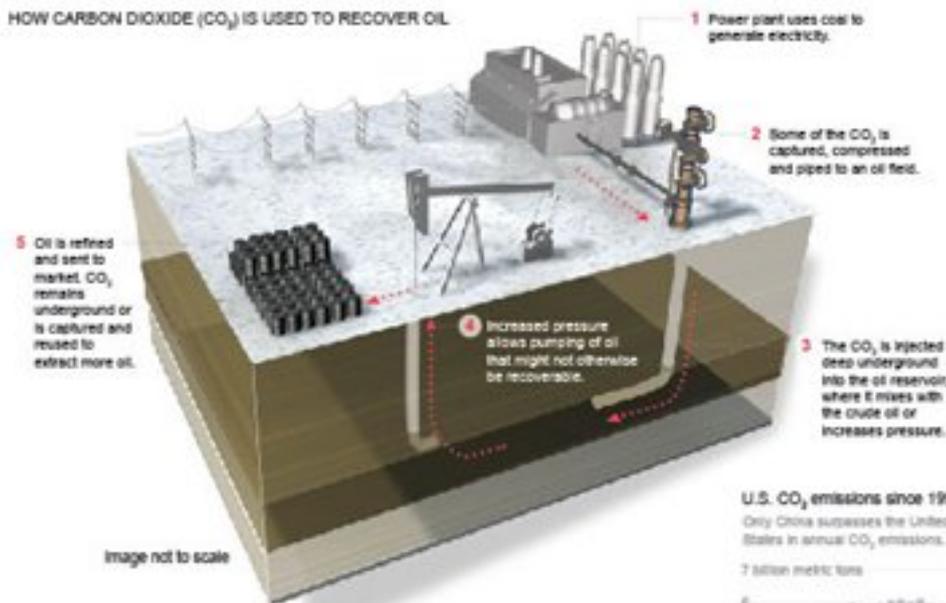
It will extract oil.

When President Barack Obama first endorsed this "carbon-capture" technology, the idea was that it would fight global warming by sparing the atmosphere from more greenhouse gases. It makes coal plants cleaner by burying deep underground the carbon dioxide that typically is pumped out of smokestacks.

Gases in, oil out: The carbon conundrum

Carbon capture and sequestration, touted as a green way to keep carbon dioxide out of the atmosphere by burying it underground, is used by the petroleum industry to extract oil — a trade-off that generates more heat-trapping gases than are stored.

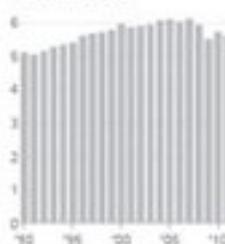
HOW CARBON DIOXIDE (CO₂) IS USED TO RECOVER OIL



U.S. CO₂ emissions since 1990

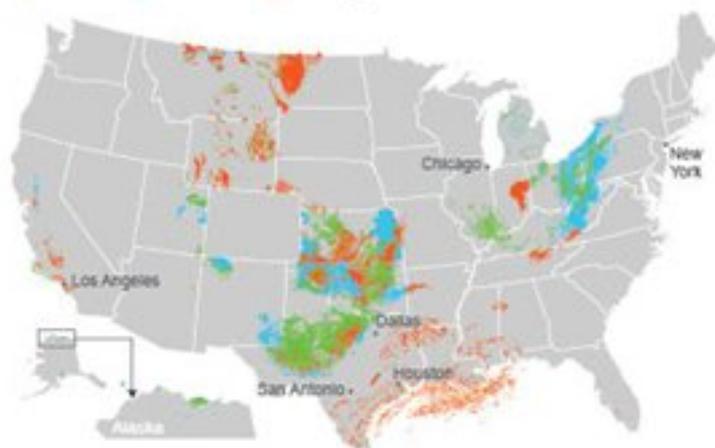
Only China surpasses the United States in annual CO₂ emissions.

7 billion metric tons

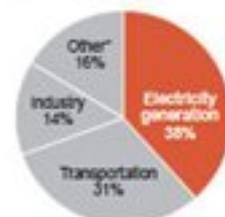


U.S. OIL AND GAS RESERVOIRS THAT MAY BE SUITABLE FOR CO₂ STORAGE

Oil fields Gas fields Oil and gas fields



Sources of CO₂ emissions in the U.S. in 2012



*Residential/commercial emissions and non-fossil fuel combustion

SOURCES: Department of Energy, Environmental Protection Agency, Southern Co.

AP

But that green vision proved too expensive and complicated. So the administration accepted a trade-off.

To help the environment, the government allows power companies to sell the carbon dioxide to oil companies, which pump it into old oil fields to force more crude to the surface. A side benefit is that the carbon gets permanently stuck underground.

The program shows the ingenuity of the oil industry, which is using government green-energy money to subsidize oil production. But it also showcases the environmental trade-offs Obama is willing to make, but rarely talks about, in his fight against global warming.

Companies have been injecting carbon dioxide into old oil fields for decades. But

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the tactic hasn't been seen as a pollution-control strategy until recently.

Obama has spent more than \$1 billion on carbon-capture projects tied to oil fields and has pledged billions more for clean coal. Recently, the administration said it wanted to require all new coal-fired power plants to capture carbon dioxide. Four power plants in the U.S. and Canada planning to do so intend to sell their carbon waste for oil recovery.

Just last week, former Energy Secretary Steven Chu announced he was joining the board of a company developing carbon capture technology.

The unlikely marriage of coal burners and oil producers hits a political sweet spot.

It silences critics who say the administration is killing coal and discouraging oil production. It appeases environmentalists who want Obama to get tougher on coal, the largest source of carbon dioxide.

It also allows Obama to make headway on a second-term push to tackle climate change, even though energy analysts predict that few coal plants will be built in the face of low natural gas prices and Environmental Protection Agency rules that require no controls on carbon for new natural gas plants.

"By using captured man-made carbon dioxide, we can increase domestic oil production, promote economic development, create jobs, reduce carbon emissions and drive innovation," Judi Greenwald told Congress in July, months before she was hired as deputy director of the Energy Department's climate, environment and energy efficiency office.

Before joining the Energy Department, Greenwald headed the National Enhanced Oil Recovery Initiative, a consortium of coal producers, power companies and state and environmental officials promoting the process.

But the environmental benefits of this so-called enhanced oil recovery aren't as certain as the administration advertises.

"Enhanced oil recovery just undermines the entire logic of it," said Kyle Ash of Greenpeace, one of the few environmental groups critical of the process. "They can't have it both ways, but they want to really, really bad."

That has become a theme in some of Obama's green-energy policies. To promote new, cleaner technologies, the administration has allowed companies to do things it otherwise would oppose as harmful to the environment.

For wind power, the government has shielded companies from prosecution for killing protected birds with giant turbines.

For corn-based ethanol, the administration underestimated the environmental effects of millions of new acres of corn farming. The government even failed to conduct required air and water quality studies to document its toll on the

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environment.

The administration wants to make similar concessions to make carbon-capture technology a success.

The EPA last week exempted carbon dioxide injection from strict hazardous waste laws. It classified the wells used to inject the gas underground for oil production in a category that offers less protection for drinking water.

Oil companies using carbon to get oil also aren't subject now to the tougher reporting and monitoring requirements that experts say are necessary to ensure the carbon stays underground, and they're fighting an EPA proposal that would require them to be if the carbon comes from power plants covered by the new federal rules.

"It amounts to looking the other way," said George Peridas, a scientist with the Natural Resources Defense Council, which supports using carbon for oil extraction. The group believes it replaces dirtier oil or oil produced in more environmentally sensitive places and reduces carbon in the atmosphere.

The administration also did not evaluate the global warming emissions associated with the oil production when it proposed requiring power plants to capture carbon.

A 2009 peer-reviewed paper found that for every ton of carbon dioxide injected underground into an oil field, four times more carbon dioxide is released when the oil produced is burned.

"There is no form of energy that is free of impacts. It is always about trade-offs and someone will always be unhappy," the paper's author, Paulina Jaramillo, the assistant professor at Carnegie Mellon University, said in an interview.

Administration officials counter by saying the oil was going to be extracted anyway, so the policy should only be seen as reducing carbon dioxide from coal plants.

The administration also promotes the benefits for energy security. Every barrel of oil produced here will mean one less produced abroad.

"We are taking carbon dioxide that would have gone to the atmosphere in coal plants, storing it and displacing imported oil with domestic oil," said Energy Secretary Ernest Moniz, asking a question posed by The Associated Press on C-SPAN's "Newsmakers" program in September.

In Mississippi, where Southern Company's Kemper County power plant eventually will supply two oil producers with carbon dioxide, Denbury Resources Inc. says it would not be able to produce oil there otherwise.

Denbury is already using carbon dioxide trapped beneath a salt dome near Jackson to produce oil in the state. But it can use more carbon dioxide than nature can provide. That's where the power plant comes in.

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The federal support for Kemper lowers the cost of installing the carbon capture equipment, and ultimately, the cost of carbon dioxide for the oil producer.

The company has entered into a long-term contract with Southern for carbon dioxide. It will permit Denbury to recover a total of between 3.5 million and 4.2 million barrels of oil, a tiny fraction of the 91 million barrels of oil the world consumed daily last month. But for the oil companies, it still means millions of dollars more in revenue.

The nearly \$5-billion project received \$270 million from the Energy Department, prior to the Obama administration, and \$279 million more in federal tax credits.

A member of Mississippi's Public Service Commission, Brandon Presley, bristled over what he described as pressure from Washington to approve the project, which already has meant a 15 percent increase in utility bills for Mississippi Power customers.

Secretary Chu wrote Presley a letter in May 2010 that said without the Kemper County project, the U.S. government might not be able to use the technology anywhere. The commission approved it over Presley's objection.

"The (Energy Department) is knee deep in this," Presley said. "I don't think you'll find anywhere in the country where you've found more heavy-handedness by the federal government or by elected officials than what went on here to try and get this passed."

In an interview with the AP, Chu said pairing oil production with pollution reduction is an imperfect method for "developing the capture and ramping up the technologies."

"It's not one for one," he said. "You are not sequestering all the carbon dioxide."

While Kemper is the first, it's not the only one.

The Energy Department under Obama has provided \$1.1 billion to six projects that capture carbon and sell it to oil companies. Four of those projects are power plants.

The EPA recently highlighted two of those projects, with a combined \$858 million in federal money, as a way to reduce power plant emissions. Both plan on selling the carbon dioxide to oil companies.

"We sold the carbon dioxide immediately," said Laura Miller, a spokeswoman for Summit Power's Texas Clean Energy Project, which is still working on getting the financing needed to break ground on the 400-megawatt power plant in West Texas. "The projects that are still alive are the ones that are selling the carbon dioxide."

Despite billions in federal aid, coal projects that simply stored carbon dioxide failed to take off.

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In 2010, a plan for a \$1.8 billion power plant in Illinois was replaced with a scaled-back project after it couldn't secure private financing. In July 2011, American Electric Power, shelved a project in West Virginia that had received \$334 million in late 2009, in part because a Democrat-controlled Congress failed to enact legislation, backed by the administration, that would have created a marketplace for carbon dioxide.

Oil recovery provided a market for carbon dioxide in the absence of federal legislation or regulations that put a price on it. For power plant operators, it could help offset the cost of the technology to capture it.

But the marriage was rocky from the start.

Oil companies want to use the least amount of carbon dioxide possible to extract oil, not exactly what is desired in a strategy to reduce pollution. Oil producers, no stranger to federal regulations, don't want to deal with any more rules, such as strict and costly monitoring and reporting requirements aimed at verifying that the carbon doesn't escape.

On the coal side, it takes more energy, and thus more coal and more carbon dioxide pollution, to run the equipment needed to capture carbon and compress it to be sent down a pipeline to an oil field.

It's the other environmental effects that have local environmentalists concerned.

There still is a 31,000-acre surface mine, and the other pollutants that power plants emit that could sully the air locally. Southern Co. was recently cited by the state for discharges from its reservoir on site, which the company blames on excessive rainfall and the fact that equipment that draws water from the reservoir for use in the plant was not ready.

"If you add up all the environmental costs, this is not going to be green," said Stan Flint, a Jackson-based consultant who works with environmental groups.

In June, the Energy Department and California Energy Commission raised serious environmental concerns about a California-based carbon capture-enhanced oil recovery project funded by the Obama administration and recognized by the EPA when it released its power plant standards.

In a preliminary environmental evaluation, state and federal officials found the Hydrogen Energy California Project would fail to comply with laws and standards in eight out of 16 environmental areas evaluated. The concerns included whether the project would comply with state landfill rules and its impacts on the blunt-nosed leopard lizard, a protected species.

Other studies have looked at the association between carbon dioxide injection and earthquakes. A peer-reviewed study published in November linked for the first time earthquakes in Texas to the injection of carbon dioxide in oil fields.

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Another potential risk is blowouts. Many oil fields that are ideal candidates for carbon dioxide injection have many old and abandoned wells that may or may not be plugged properly.

Denbury Resources has had a series of uncontrolled blowouts in recent years, as the pressure created by injecting carbon dioxide tests the cement plugs in long-shuttered wells. The largest, and one that was responsible for one of the largest environmental fines in Mississippi in the past decade, occurred in 2011 at the Tinsley Field, one of several old oil fields that will receive carbon from Southern Co.'s power plant.

The company paid \$662,500 for a blowout that vented carbon dioxide, oil and drilling mud for 37 days. So much carbon dioxide came out that it settled in some hollows, suffocating deer and other animals, Mississippi officials said. The company ultimately drilled a new well to plug the old one, and removed 27,000 tons of drilling mud and contaminated soil and 32,000 barrels of liquids from the site.

The company still claims it's green because of the carbon it is storing as part of its oil production process.

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