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# California Tackles Climate Change, But Will Others Follow?

California launched its cap-and-trade program this week. Eventually it will rein in greenhouse gases from all major emitters of carbon dioxide in the state, like this refinery in Rodeo, California.

Photograph by Rich Pedroncelli, AP Images

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**Can California save the planet?**

**The state that has instigated every key U.S. effort to curb fossil-fuel emissions since the 1960s now will tackle the greatest challenge of all—reining in greenhouse gases—with a cap-and-trade system launched this week.**

In a closed three-hour auction conducted online Wednesday, California's energy companies and large manufacturers placed their bids for 62 million permits that essentially give them the right to pollute. Using these chits and a healthy number of free permits California has allocated them, the businesses begin in January operating in a market-based program that officials hope will cut the state's carbon dioxide emissions by 20 percent over the next eight years. (Related: "Pictures: Nine Surprisingly Gassy Cities")

The aim is ambitious, and for advocates of action on climate change, there is a larger goal still. They are hoping that California will lead the way to the kind of broader action on global warming that has been stymied both in Washington, D.C., and in international negotiations. (Related: "Climate Change Talks Hinge on 'Green Growth,' says De Boer")

"I think this will show that you can decouple economic growth from emissions growth," said Tim O'Connor, director of the Environmental Defense Fund's California Climate Initiative. "We think California will be the best of all examples. This is the strongest and boldest move yet in the U.S. to combat climate change."

**A History of Firsts**

California has a knack for spurring broader U.S. environmental action. The state adopted the first automobile tailpipe emissions in the nation in 1966, four years before they were enacted by Congress. After the Arab oil embargo, California acted more quickly than the U.S. government to cut the waste of energy-hogging appliances, with efficiency standards signed into law by Governor Ronald Reagan in 1974. California's standards were the model for the deal President Barack Obama forged with carmakers to double fuel economy to 55 miles per gallon by 2025. (Related Pictures: "A Rare Look Inside Carmakers' Drive for 55 MPG")

The Golden State has been able to act as catalyst because of its impressive market power.

Carmakers and refrigerator manufacturers had to retool their products to keep selling to the largest state economy in the United States. In fact, even in California's current recession-weakened condition, its $1.96 trillion economy surpasses that of all but nine nations.

But California isn't just trying to change a product this time. Cap and trade is an attempt to transform the way business is done. In a lawsuit filed on the eve of the auction, the California Chamber of Commerce blasted the state's plan as a $70 billion hidden tax, unconstitutionally imposed by the fiat of regulators, and "unprecedented in our state's history."

That lawsuit or others might derail the program still. But the original idea of cap and trade was to create a flexible, business-friendly system to tackle the enormous challenge of limiting fossil fuel emissions. Instead of imposing rigid regulations, or an explicit tax on carbon, the government either hands out or sells tradable "permits" that allow power plants and other businesses to emit a certain amount of $CO_2$ into the atmosphere, and no more. Each permit allows the holder to emit one ton of $CO_2$, and the number of permits issued declines over time so that they become an ever-more-valuable commodity. Companies that can cut emissions quickly can profit by selling their permits to companies that are having a hard time. The program aims to create an incentive to operate efficiently and use cleaner energy. (Related: "British Columbia Rethinks Its Pioneering Carbon Tax")

Cap and trade has worked before. A modest market-based system helped drive the last years of the phase-out of leaded gasoline in the 1980s. A cap-and-trade-system instituted under the Clean Air Act of 1990 helped reduce power plant sulfur dioxide emissions, and thus acid rain, at a fraction of the cost initially feared by industry polluters. But business opponents maintain that $CO_2$ emissions are far more difficult and costly to manage, and an effort to enact a U.S.-wide cap-and-trade system died early in President Barack Obama's administration. (Related Quiz: "What You Don't Know About Electricity")

**Going It Alone?**

California's cap-and-trade system will cover any operation in the state that emits more than 25,000 metric tons of carbon annually—a group that includes not only energy companies, but glass and cement makers, fruit and vegetable canners, large-scale breweries, and even the big E.&J. Gallo winery.

Opponents have argued that the additional costs will prompt businesses to flee the state. But California has taken steps to ease the transition. Ninety percent of the initial permits were given away free, with just 10 percent auctioned. By 2020, 50 percent of the permits will be auctioned. The slow phase-in, in theory, would keep the price of emitting carbon low in the early years with a gradual ramp-up. (Related: "IEA Outlook: Time Running Out on Climate Change")

"There is a lot of discussion about companies leaving any region with regulation," says Daniel Kammen, director of the Renewable and Appropriate Energy Laboratory at the University of California, Berkeley. "But anyone wanting to sell a product in California would lose out by leaving, because the California cap extends from power plants to vehicles, and then to goods and services."

In other words, a company not wanting to play by the rules would have to write off California's 38 million consumers. Economic analysis by the California Air Resources Board, which will administer the program, concluded there would not be an exodus of businesses large enough to undermine the program.

Chevron, which has major refining operations in California, has told Wall Street analysts it expects it can manage the early phases of cap and trade thanks to the efficiency of its facilities. But the company maintains the impact of the program will hit California consumers after 2014, when transportation fuels begin to be phased in under the cap.

"By policy, this is designed to drive prices higher and at some point businesses have to confront that, as do the consumers of those businesses' products," said Mike Wirth, executive vice president of Chevron's downstream operations, in a conference call with analysts last year.

**Catalyst for Change**

California officials won't reveal the outcome of the auction until Monday, after the results are certified. But the state set $10 a ton as the opening bid, and analysts expect the price of carbon on the California market will not rise much higher before the program begins in earnest in January.

That would put the price about on par with the going rate for carbon permits on the European Union's emissions market, the world's biggest cap-and-trade experiment so far. The EU program, which began in 2005 and covers 30 countries, has been bedeviled over the years by an oversupply of $CO_2$ permits and a low carbon price that fails to act as an incentive to curb emissions. Early in the program, too many permits were handed out. More recently, the economic downturn has taken a toll. The EU embarked on an effort this week to head off the price collapse, but critics argue that more urgent reform is needed.

(Related: "Coal-Fired Australia, Buffeted by Climate Change, Enacts Carbon Tax")

Among the more fundamental issues Europe has faced is difficulty making a dent in global carbon emissions, when it is responsible for only 11 percent of the total. There have been no binding commitments to reductions in China, with 29 percent of world emissions, or the United States, with 18 percent. California, accounting for less than 2 percent of global emissions, also will have limited impact unless its program proves successful enough to spread.

But California's program may have an advantage over previous efforts. After record drought, floods, and wildfires, the percentage of Americans who believe there is solid evidence of global warming has risen ten points since 2009, to 67 percent. And that was before the unprecedented flooding in New York City and New Jersey in the wake of Hurricane Sandy. Even in its bid to stop California cap and trade, the state's Chamber of Commerce took care to say as part of its complaint: "The lawsuit does not challenge the merits of climate change science."

Another factor that could soften opposition: Governments need to raise revenue. Grover Norquist, Washington's conservative anti-tax crusader, this week briefly allowed that a carbon tax could be configured in a way to help solve America's debt crisis. (Amid pressure, he later recanted.)

One of the most important voices, though, is that of the newly reelected U.S. president, who returned to the subject this week after a campaign in which climate change was scarcely mentioned. "We haven't done as much as we need to," he said at his first news conference since the November 6 election.

Obama said he didn't think Republicans or Democrats would put aside their concern over the economy and jobs to advance action on global warming. "If, on the other hand, we can shape an agenda that says we can create jobs, advance growth, and make a serious dent in climate change and be an international leader, I think that's something that the American people would support."

The president said he planned to hold discussions with scientists, engineers, and elected officials to come up with ideas on what would work. There have been plenty of such talks before, of course. But this time there's a live U.S. experiment in cap and trade they can watch. As in the past, Washington's eyes are on California.

(Related blog: "On U.S. Greenhouse Gas Emissions and Cognitive Dissonance")

(Related interactive: "Personal Energy Meter")

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