ClimateWire

CALIFORNIA:

Does cap and trade increase air pollution? It may be too soon to tell

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As California contemplates how to reduce greenhouse gases through 2030, major questions still surround the state's choice of policies to get it there.

One is whether cap and trade, the market-based system that California uses to ensure that it reaches its existing target of cutting CO2 to 1990 levels by 2020, allows emissions of other pollutants to increase.

It's a theory that environmental justice groups have been raising for at least five years. But an initial look at whether California's system is in fact increasing emissions of conventional pollution is inconclusive.

The report, released last week by academics and activists, examines the hard data underlying the theory that market-based emissions programs can increase local air pollutants by allowing businesses to buy carbon credits and offsets rather than reducing emissions on-site. The cap-and-trade program has been operating for four years, and the state has released data for two of them.

The report finds that out of 314 industrial facilities covered by cap and trade, roughly half have increased their direct greenhouse gas emissions since the start of cap and trade in 2013. Meanwhile about 65 — mostly refineries and cogeneration plants — decreased emissions. Electricity, cement manufacturing, hydrogen plants, and oil and gas production all saw an average increase per facility. One of the largest was a Cemex cement plant in San Bernardino County that increased its CO2 emissions more than 834,000 tons in 2013-14 relative to 2011-12.

The report also finds a correlation between greenhouse gas emissions and emissions of fine particulate matter, which causes asthma. It points out that the largest emitters of both pollutants are likely to be situated in neighborhoods with a majority of residents of color. It finds that the highest-emitting facilities were more likely to use large amounts of carbon offsets and that 76 percent of the offsets used were from out-of-state projects. But it stops short of finding that net conventional air pollution has increased at all, let alone as a result of cap and trade.

That's due to differences in the quality of state data on greenhouse gases and conventional air pollutants. While facilities are required to report their greenhouse gas

emissions annually, their conventional pollutants only have to be reported every several years, so it was impossible for researchers to draw a direct link between any given year's increase in greenhouse gases and an accompanying increase in the type of emissions that contribute to asthma and other respiratory ailments.

"What we did was take a cross-section from 2014 and show a pretty tight correlation," said report co-author Manuel Pastor, director of the Program for Environmental and Regional Equity at the University of Southern California.

"Of course our working assumption is the cross-sectional correlation would hold over time," he said. More research and better data are needed, he said, while also cautioning that the report only covers the first two years of the program, which were particularly heavy on reductions from out-of-state electricity imports.

'Hot spot' suspicions

The report comes at a pivotal time. Gov. Jerry Brown (D) signed a bill earlier this month setting a 2030 target of 40 percent below 1990 emissions levels, and his Air Resources Board is already plotting a course to get there. On Thursday, the agency will hold a hearing in Sacramento on its proposal to extend cap and trade past 2020. Environmental justice groups, led by the Center on Race, Poverty and the Environment, are planning a "#YesCapNoTrade" rally beforehand.

"Pollution trading, or cap-and-trade, is not working; it is a mechanism that allows polluters to avoid taking responsibility for their own emissions," CRPE said in a release promoting the rally. "Under cap and trade, industry has actually increased greenhouse gas emissions in California."

Other academics have studied the issue and found no evidence of increased local pollution from cap and trade.

"In principle, a cap-and-trade system can have the effect of resulting in a higher level of some correlated local pollutant than would be in the absence of the cap-and-trade system, but any trade that would result in the violation of ambient air quality standards would not be permissible," said Robert Stavins, director of the environmental economics program at Harvard University. "Furthermore, although there has frequently been concern expressed about localized 'hot spots' when cap-and-trade systems have been considered, I am aware of no empirical evidence of such hot spots having been created by any implemented system anywhere in the world."

Stavins co-authored a paper last year that examined seven existing emissions markets, some of them for conventional pollutants and some for CO2, and found no evidence of hot spots.

While critics point to the Regional Clean Air Incentives Market in Southern California as an example of a poorly administered market system for nitrogen oxides and sulfur oxide — precursors to smog formation — it hasn't been found to have increased local pollution.

Demographics in block groups near California's GHG-emitting facilities

[+] Many of California's residential communities are within 2.5 miles of at least one greenhouse gas-emitting facility, and those communities are home to a higher proportion of residents of color and people living in poverty, according to a recent analysis. Graphs courtesy of the University of Southern California.

"The hot spots question was never really able to be studied," said report co-author Rachel Morello-Frosch, an environmental science and policy professor at the University of California, Berkeley, because other problems with the market overshadowed the issue. Environmental justice groups are now pivoting from the argument that cap and trade is actively harmful to the argument that cap and trade should be more beneficial.

Another report released last week by professors at UC Berkeley and the University of Southern California makes the argument that economic inequality and health problems stemming from conventional air pollutants cannot be ignored as California pursues its 2030 target.

"While we still don't know whether cap and trade is creating hot spots, we know hot spots already exist," said Amy Vanderwarker, co-director of the California Environmental Justice Alliance. "Hot spots are clearly not getting any better with cap and trade."

The report lays out a number of ways that climate policies can take better account of poor and disadvantaged communities, including better data collection and monitoring, labor standards for publicly funded renewable energy and energy efficiency projects, and protections for workers from emissions-heavy industries that are expected to decline. More specific to cap and trade are reforms like "no-trading zones" or price increases for allowances tied to areas that are overburdened by pollution, Pastor said.

"You could pick up some public health benefits along the way without a whole lot of extra work," he said.

Activist movement flexing its muscles

Environmental justice groups' clout has been steadily growing in Sacramento over the past four years as their interests have dovetailed with those of lawmakers seeking to put their stamp on climate policies.

Their latest major victory came Sept. 8 with the signing not only of S.B. 32, the bill that sets the 2030 target, but an accompanying bill, A.B. 197, that specifies ARB must "prioritize" regulations that reduce direct emissions from stationary and mobile sources.

The practical effect of that provision is unclear, but it is viewed at the least as a new restriction on ARB's authority to implement cap and trade.

"The passage of the two bills is a huge victory for the governor and will continue the state's global leadership on climate change," UCLA environmental law professor Ann Carlson wrote in a blog post last month. "A.B. 197 does, however, have the potential to alter fairly significantly the path the state has been on to reduce its emissions."

The author of A.B. 197 is Assemblymember Eduardo Garcia (D), who represents the Coachella Valley, an arid region east of Los Angeles. He said that the linked bills "indicate a turning of the page as it relates to focusing on people."

"I care about climate change," he said. "I have not ever considered myself a climate change advocate, but I know that advocating for the Imperial Valley and the Coachella Valley is my primary responsibility, a place where a child born today is already predetermined to have asthma. Six of 10 children have asthma in our community. A district that has sometimes as high as 28 percent unemployment, prone to economic challenges, that is my priority."

Assembly Speaker Anthony Rendon (D) said Garcia represents the rise of "East-side environmentalists, who will play an increasing role in shaping the state's environmental policy."

"The successful effort behind these two bills is the latest sign of a growing consensus that protecting the environment and improving public health are inextricably linked and that maintaining that link is key to advancing future environmental actions," Rendon added.

Not everyone agrees. The tensions are exemplified by an ongoing debate in California that centers on whether to allow businesses to finance forest preservation efforts in tropical countries as a way of complying with the cap-and-trade program. It's a proposal that environmental justice groups view as a worst-case scenario because it would send any associated health benefits even further afield, as well as pose difficulties in ensuring that the emission reductions actually occur and the payments go to worthy recipients.

"To me as a mom, why would I want offsets somewhere else and not in the communities where my kids were being poisoned?" Mari Rose Taruc, co-chairwoman of ARB's Environmental Justice Advisory Committee and former state organizing director for the Asian Pacific Environmental Network, asked in a debate at Yale University last week.

At the Yale debate, Daniel Nepstad, the executive director of the nonprofit Earth Innovations Institute, acknowledged that California's air pollution is a "huge issue that needs to be fixed." But scientifically, allowing international offsets shouldn't affect it, he said.

"We don't see the evidence that the international offset program would exacerbate that problem," he said. "This is not a greenhouse gas issue, local pollution. ... There are policies and regulations designed to address those issues."

But in California, the tide is turning.

In 2012, Sen. Kevin de León (D) passed a bill to give a quarter of the cap-and-trade proceeds to the top 25 percent of census tracts defined as "disadvantaged," which led to a pioneering evaluation system known as EnviroScreen and hundreds of millions of dollars for low-income housing and rooftop solar, among other expenditures so far. De León, now president of the Senate, has begun fundraising for a potential run for lieutenant governor in 2018, a post seen as a steppingstone to the governorship.

Environmental justice advocates have also won seats on ARB, and the agency is seeking applications for a new assistant executive officer to focus on environmental justice considerations. Meanwhile, four new bills signed into law last week address the link between tackling climate change and helping disadvantaged communities.

"Now, our families will benefit from solutions that reduce fossil fuel pollution, improve the air our children breathe, and secure critical investments for our neighborhoods most deeply impacted by the climate and economic crisis," said Miya Yoshitani, executive director of the Asian Pacific Environmental Network. "We applaud the legislature and the governor for lifting up community-led solutions that bring shared prosperity and a healthier climate."

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