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## Will California's Cap and Trade Be Fair?



Even when she was a kid, Melissa Cervantes knew something was wrong with the air in Wilmington, a neighborhood next to the ports of Los Angeles and Long Beach where she has lived most of her life. The streets here are verdant with mango, guava and avocado trees. But a brownish haze hangs above the houses. “I kind of figured the refinery was making people sick,” she says. “But when you’re just a little kid, you

don’t put it together as a puzzle.”

Less than a mile away are the ConocoPhillips and Tesoro oil refineries, each a colossal system of pipes, towers, storage tanks and smokestacks. Roughly a mile to the south is Valero’s oil refinery. Two more refineries are within three miles. A few blocks from Melissa’s house, diesel trucks groan down the street, on their way to a storage lot full of shipping containers piled higher than the surrounding roofs. Just stepping outside and inhaling can be enough to give her a headache. “Last year, I knew three people that passed away from cancer. And they lived here all their lives,” she says. Her mother, Mary, has had breast and kidney tumors. Mary now has Stage IV liver cancer. The refineries, cargo ships, diesel trucks and factories clustered near the ports generate enough toxic air pollution to put the risk of cancer near Melissa and Mary’s house 20 percent higher than the average for the south coast of California. Many of their neighbors, especially children, suffer from asthma.

It’s no secret that the refineries often break the laws that limit pollution. The Tesoro refinery in Wilmington, for instance, violated air regulations twenty-eight times from 2008 to 2009. Melissa sometimes calls the companies’ public hotlines when she notices a bad smell or a plume of smoke, but they “give you the runaround,” she says. In the fall of 2010, her boyfriend’s mother, Maria Ramos, told her that Tesoro and Valero were backing a ballot measure that would suspend Assembly Bill 32, the state’s groundbreaking attempt to rein in greenhouse gas emissions.

Ramos has a soft voice and speaks little English, but she’s been campaigning in her neighborhood for decades with a scrappy statewide organization called Communities for a Better Environment (CBE). That fall, she and Melissa and Mary Cervantes knocked on doors, urging their neighbors to vote in support of AB 32. “People saw [the refineries] as powerful giants that are always using their power to

pollute the air,” says Alicia Rivera, a Wilmington-based organizer for CBE. Rivera didn’t have a big campaign budget, but she turned out hundreds of volunteers to fight against the oil companies’ efforts to prevent the law’s implementation. In November 2010, California voters rejected the ballot measure and upheld AB 32.

A coalition of more than 120 groups, including CBE, kept the law alive: organizers reached out to 250,000 households in the counties that are home to three-quarters of the state’s nonwhite residents. Seventy-three percent of voters of color, versus 57 percent of whites, cast their ballots against the industry-backed measure. That’s partly because those voters had more at stake: of the almost 50 percent of Californians who live within six miles of a major greenhouse-gas-emitting industrial facility, most are people of color.

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California has been nearly alone in its efforts to curtail greenhouse gases, after attempts to pass federal climate legislation collapsed in Congress in 2010 and several states abandoned plans to pursue their own regulations. The nation’s only other program, the Northeast and Mid-Atlantic states’ Regional Greenhouse Gas Initiative, regulates power plants alone. But this spring, several Democrats, including Senator Barbara Boxer, are trying to push new climate bills through Congress. AB 32’s success or failure could buoy or sink the prospects for federal legislation—and influence the course of similar initiatives in other countries.

But the state of California is at risk of alienating the law’s core supporters. The state opted to use a cap-and-trade program to cut carbon dioxide and other greenhouse gas emissions from refineries, factories, power plants and other facilities, an approach CBE and other environmental justice groups strongly oppose. Cap and trade puts an annual limit (or cap) on the total amount of greenhouse gas emissions that can be produced by regulated industries in the state, with the allowed emissions shrinking each year. The program lets companies buy and trade rights, called allowances, to emit within that cap. They can also purchase credits, known as offsets, from carbon-reduction projects in California or elsewhere in the United States. Just 17 percent of the state’s total emission cuts will come from the cap-and-trade program; the rest will be achieved through other programs that, for instance, develop rooftop solar panels and push greener building construction. But cap and trade applies to California’s biggest and most notorious polluters. Starting this year, the refineries in Wilmington, for example, will need to acquire allowances or offsets for every ton of greenhouse gases they emit. Each year, they’ll decide whether it’s cheaper to cut carbon emissions at their facilities or buy more rights to pollute.

To many economists and policy-makers, a market-based means of limiting carbon dioxide emissions makes sense, given that they are produced in every sector of the global economy, with impacts felt over the entire planet. “It’s a global pollutant. If you’re just looking at the carbon, the old mantra is ‘A ton is a ton is a ton,’” says Ethan Ravage, the West Coast representative of the International Emissions Trading Association, an industry group.

Carbon dioxide is not making the people in Wilmington (or any other heavily polluted neighborhood) sick—it’s what we all exhale. But it’s also the by-product of fossil fuel combustion, and when a refinery or power plant reduces its greenhouse gas emissions (by becoming more energy-efficient, for example), it also releases fewer smog-forming chemicals like nitrogen oxides, less of the sulfur dioxide and soot that can irritate lungs and cause respiratory disease, and fewer toxic emissions linked to cancer and neurological disorders. To environmental justice advocates in Wilmington and elsewhere in the state, cap and trade sounds like cheating—as if California has given industries leeway to buy their way out of

greening their operations. Many advocates fear that communities now devastated by pollution will miss out on air-quality gains if the state lets these industries trade their emissions.

The text of AB 32 requires the state's Air Resources Board, the agency responsible for implementing the law, to maximize "additional environmental and economic co-benefits for California" and consider "localized impacts in communities that are already adversely impacted by air pollution" in its plan for cutting carbon dioxide emissions. In 2010, CBE joined a coalition that sued the agency, claiming that cap and trade violated the intent of the law and that the ARB had charged ahead with the program before fully considering public comments and alternatives, as required by the California Environmental Quality Act. The plaintiffs won an injunction in March 2011. But an appeals court allowed cap and trade to proceed while the state revised its CEQA analysis. In September 2011, the California Supreme Court also ruled that cap and trade could move forward.

In August 2011, CBE drove its Wilmington members through the night to Sacramento to testify at a public hearing on AB 32. This time, Maria Ramos and Melissa Cervantes showed up to oppose the regulation. "I live close by to five refineries. The toxic emissions affect the health of all my family," Ramos testified. "That's why I worked a lot against Proposition 23 to protect the law, AB 32.... But I don't agree with the method cap and trade, because it would not reduce the toxics that cause asthma, allergies and even cancer."

In the summer of 2012, several of the same petitioners filed a civil rights complaint with the Environmental Protection Agency, arguing that cap and trade "disparately and adversely affects communities of color." The EPA rejected the complaint in January, stating that it's too early to prove these claims. But environmental justice advocates aren't ready to give up their fight. "We will continue to oppose cap and trade," says Jesse Marquez, who runs the Coalition for a Safe Environment, another petitioner in the legal actions.

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The Reagan White House, after conversations with the Environmental Defense Fund, was the first administration to seriously consider the concept of building a market for pollution. One of the chief proponents of cap and trade was C. Boyden Gray, an adviser to both the Reagan and first Bush administrations. (Gray went on to co-chair FreedomWorks, an organization with ties to the Tea Party and oil magnate David Koch.) Cap and trade was first used to remove lead from gasoline and then worked into amendments to the Clean Air Act in 1990 to force power plants to cut back on sulfur dioxide, one of the chemicals that produce acid rain. The cap-and-trade regulations made it through Congress after several attempts to pass more traditional regulations fizzled.

These days, depending on whom you ask, cap and trade is either the best hope for addressing climate change or a boondoggle that will create the next financial bubble. NASA scientist James Hansen, long a vocal critic of cap and trade, has called California's program "half-assed." "You have markets that then collapse, and you don't actually reduce emissions much," he said in December, while receiving an award at the Commonwealth Club in San Francisco.

In theory, cap and trade lets polluters choose the most affordable means of cutting emissions. Defenders of the policy argue that this benefits everyone—including the poor—by preventing unpredictable spikes in energy prices. The cost of the acid rain program was about one-fourth of what the EPA had predicted, and a 2011 report found that power plants made even deeper cuts in emissions than were required by law. But critics wonder whether the regulations were the real cause. "To some degree, it

looks like a lot of those reductions would have happened anyway, for simple reasons of economics,” including the declining price of low-sulfur coal, says legal scholar Lesley McAllister.

Moreover, the acid rain program applied only to power plants; a carbon market is several orders of magnitude more complicated. And offsets introduce even more complexity. When a polluter buys an offset, it pays a company that isn't required by law to curb greenhouse gases—tree plantations, wind farms, eco-friendly cattle ranches and other green ventures—for a promise to reduce a ton of carbon. That promise, in turn, counts toward the polluter's own emissions cuts.

Critics say the offsets are difficult to verify. According to Carbon Market Watch, it's hard to prove that the European Union's offset program is actually creating the kind of emission savings it alleges for a large number of wind, hydropower and biomass energy offset projects. And the offset market in the EU has generated several high-profile cases of fraud.

Carbon Market Watch also reports that the offsets are creating further havoc in the EU's carbon market—the largest such market in the world. Since the global recession caused the EU's emissions to drop on their own, its carbon market has suffered from a surplus—including an excess of offsets. As a result, the price of carbon has plummeted. In late January, a ton of carbon reached a record low of less than \$4 (2.81 euros).

Not every expert agrees that low-cost carbon is a problem. Stanford environmental law professor Michael Wara says it's the cap that's important, not the price. “The goal of a cap-and-trade program is a particular level of emissions, and the program doesn't specify how an economy gets there,” he says. “If it happens to get there by an economic recession, the price of emissions is going to be very low. But the environmental outcome is the same.” According to the Öko-Institut, a German think tank, although the EU will have an oversupply of allowances and offsets until 2024, it is still on track to surpass its goals for reducing greenhouse gases by 2020.

However, many analysts argue that low prices are a problem because a key goal of cap and trade is to make burning carbon more expensive than becoming energy-efficient. This past fall, even the oil giant Shell questioned whether the low price of carbon could undermine the EU's climate goals. When the price bottoms out, industries have little incentive to undertake the technology transitions necessary to make the economy greener.

Some groups fear California may be headed for a similar oversupply: the state is offering industries 90 percent of their carbon allowances for free in 2013 and 2014. The Union of Concerned Scientists estimates that California will give away \$2 billion worth of free emissions permits by 2020. In the first auction of allowances this past November, a ton of carbon sold for \$10.09, just nine cents above the \$10 minimum. At the February auction, the price rose to \$13.62. But the state is still bringing in far less revenue than it projected from cap and trade.

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Environmental justice groups argue that their communities have a lot at stake if cap and trade fails to curb climate change. Study after study shows that poor communities and people of color are likely to face the earliest and worst impacts of climate change. In Los Angeles, African-Americans are nearly twice as likely to die during a heat wave as the average resident, in part because they more often lack access to air conditioning. “[Cap and trade] won't fix the climate.... It won't work, and it will violate

environmental rights,” said Greg Karras, senior scientist at CBE, in comments to the Air Resources Board. “Please, we urgently ask you...do not adopt this flawed, illegal, unjust plan.”

Treating carbon like a global commodity, without regard to the source of the pollution, sounds especially dubious to people in places like Wilmington—after all, greenhouse gases are produced by the same polluters who foul their air and leave behind blight, waste and ill health. Wilmington suffers from “a legacy of land-use practices that didn’t adequately control the development of industrial sources and their relationship to residential areas,” says Alice Kaswan, an expert on air regulations and climate change. Existing air regulations gauge pollution over an entire region and thus miss the concentration of pollution in places like Wilmington. “Or they’re facility by facility,” adds Manuel Pastor, a scholar at the University of Southern California who studies the social inequalities of pollution. “So what that doesn’t account for is these neighborhoods where multiple uses are clustered.”

Addressing climate change could transform places like Wilmington: it means reorganizing transportation systems and revolutionizing industry, production and the energy economy. In 2010, Pastor co-wrote an analysis of 146 of the state’s biggest power plants, cement plants and oil refineries, which together contribute a significant percentage of carbon emissions. He combined data on greenhouse gases and other air pollution and mapped out who lived next to the dirtiest industries in the state, arriving at what he called the “pollution disparity index.” He and his co-authors developed a ranking system that showed which polluters were the most unfair—pumping the most toxic air into communities that were densely populated, low-income and disproportionately inhabited by people of color. On the top ten list were the five refineries that surround Wilmington as well as the notorious Chevron refinery in Richmond, California, which is currently under criminal investigation. The researchers’ conclusion: contrary to the theory behind cap and trade, not all carbon trades are created equal. In 2012, Pastor and economist James Boyce published a similar analysis examining more than 1,500 polluters all over the United States. They found that greenhouse gas reductions in some locations would reduce air-quality problems and improve residents’ health far more than in others. The report cites estimates that the health effects of cutting industrial carbon emissions are actually more valuable, at \$49 per ton of carbon dioxide, than the cost of allowances and offsets.

Pastor says he and his co-authors are “not die-hard opponents of cap and trade.” (He notes that a carbon fee, which would impose a cost on carbon emissions without the trading and is favored by some environmental justice groups, could lead to the same disparities.) He suggests putting a steeper price on the carbon generated by greenhouse gas polluters who rank high in “pollution disparity.” Or the state could restrict trading for those polluters who are wreaking the most havoc on people’s health.

While Pastor and his colleagues believe it’s unlikely that carbon trading would create more “hot spots,” or places with highly localized pollution, it could “make [existing] inequities worse,” says Rachel Morello-Frosch, an author of the 2010 report. For instance, air quality could improve in rural areas and remain poor in urban areas, particularly in neighborhoods next to a refinery or cement plant. Berkeley economist David Roland-Holst’s model predicts that, if industries meet the majority of cap-and-trade requirements through offsets, the state could see an *additional* 2,300 tons of smog-producing nitrogen oxides and 600 tons of soot by 2020. According to a calculation by the Union of Concerned Scientists, as much as 80 percent of the reductions under cap and trade could come from offsets. Offset-trading groups counter that this is unlikely given how few offsets are currently available on the market.

Cap-and-trade proponents often note that the acid rain program didn’t cause hot spots in communities of color. In a widely circulated 2011 study, researcher Evan Ringquist found that acid rain trades made

the air better for many African-Americans and Latinos. But the benefits weren't fairly distributed, either: there was more air pollution in "poorly educated communities." Another report published that year found that under cap and trade, sulfur dioxide pollution traveled from rural to urban areas, where it could enter the lungs of a larger number of people.

In September, the Climate Policy Initiative published a tentative analysis that "suggests air quality around refineries in the EU would have improved more than the average" because of carbon trading, while the Environmental Defense Fund, a staunch supporter of cap and trade, reports that some California refineries are already upgrading equipment and curbing air toxins because of the regulation. Manuel Pastor has questioned the CPI's findings: the data were influenced by the slow economy, and the study doesn't probe whether the pollution clean-up happens where it's needed most. "But it does open up the possibility of positive environmental justice results," he says.

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Back in 2006, when the California Legislature was wrangling over AB 32, then-Assemblywoman Fran Pavley added language that would force regulators to pay attention to those parts of the state suffering from especially poor air quality. According to Angela Johnson Meszaros, a lawyer and veteran environmental justice advocate, "There were lots of things that got incorporated into the language in the service of building a coalition, so they could have environmental justice communities pushing for adoption of AB 32."

Then-Governor Arnold Schwarzenegger was pushing for a carbon cap-and-trade program; still, the law's language allowed the ARB to consider a variety of methods for regulating greenhouse gas emissions, including a tax or fee on carbon dioxide. It also required the state to assemble a committee of environmental justice experts to provide input on the regulations. Among the committee's ten members were Martha Dina Argüello of Physicians for Social Responsibility-Los Angeles, **CBE executive director Bill Gallegos**, and Meszaros, who was a co-chair.

By the time the committee members began meeting in 2007, they had already soured on cap and trade. For one thing, regional pollution-trading rules in Southern California had a poor track record. In the 1990s, air regulators tried letting factories and refineries in the Los Angeles region offset their pollution by paying for programs to scrap old cars. Four refineries—three of them next to Wilmington—bought most of the pollution credits, which let them off the hook for installing pollution control equipment and created a hot spot, according to a 1999 report. A regional cap-and-trade program for smog achieved little in its early years because the emission cap was too high, and in 2000, during the California energy crisis, polluters exceeded emission limits. That experience gave the committee doubts about instituting a large-scale cap-and-trade program to deal with greenhouse gas emissions.

On the ARB's final implementation plan, the committee wrote that the agency "essentially proposes an international free-market trading program with a laundry list of existing activities appended to it, none of which have been analyzed for how they square with the basic principles of AB 32—to develop a program that both maximizes greenhouse gas reductions and maximizes the state's other environmental, public and social goals." The committee and the agency had reached an impasse. "We thought we were basically blown off," says Gallegos. In 2010, several members of the committee decided to sue.

A number of prominent pro-environment voices took the ARB's side. The Environmental Defense Fund became an adviser to the ARB on the case. Grist blogger David Roberts criticized the legal challenge: "It looks to me like a small group of irritated residents are putting their grievances before an extraordinary,

ambitious, comprehensive, and wildly popular state program that will improve a lot of lives, provide reliable markets for clean energy, and possibly influence the course of national or international climate policy.”

The ARB contends that AB 32 is intentionally focused on greenhouse gas emissions. “We have a whole array of programs that deal with a variety of different kinds of contaminants...and we don’t want people to somehow get into a mind-set where they think that AB 32 is the tool they have to use to deal with those,” says ARB spokesman Dave Clegern. The ARB’s own analysis, focused on Wilmington as a case study, asserts that several of AB 32’s programs, including cap and trade, will make the air cleaner by improving fuel efficiency and promoting clean energy. The California Legislature has also required reinvestment of a portion of the millions of dollars in annual revenue from cap and trade in “disadvantaged communities,” so AB 32 could spur economic development in places like Wilmington.

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In many ways, it’s a miracle that AB 32 has survived, especially during an economic recession with high unemployment. In the fall, the Western States Petroleum Association launched a petition drive to stop the carbon auction, calling it a job killer. Now the California Chamber of Commerce is suing the ARB, claiming that cap and trade is an unconstitutional tax. While environmental justice advocates still oppose the cap-and-trade program, they fiercely defend the law itself. “We’re really committed to AB 32. We don’t want it to go away,” says Gallegos. He and Argüello are talking about reconvening their committee in a watchdog role. “What we need...is a really high level of expertise from within the environmental justice and health community that can review the data that’s being produced on what’s happening with the trading program,” Argüello says.

This past summer, the heat waves got people in Wilmington talking about climate change. It was too hot to close the windows and keep out the smells and sounds of industry. To many residents, climate change, the refineries and the brown air all feel like the same problem. Octaviano Vega, a welder from Salamanca, Mexico, who works for an oil company near Wilmington, says climate change worries him. Two years ago, he joined the campaign to defend AB 32 “because of the pollution, and that is related to climate change.” Now he says he fears for his daughter’s future: “Just the heat we’re having, it’s bad enough.”

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