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Getting California's Climate Rules Right



by Dan Lashof



This blog is part 1 of a series on California's climate policies to meet its 2030 pollution reduction target and beyond. Read **part 2** (<https://nextgenpolicy.org/blog/california-cap-trade-price-ceiling-design/>) and **part 3 here** (<http://NXTGN.US/d4n>). Co-written with Colin Murphy and David Weiskopf.

California's air pollution regulators are currently writing the rules which will bring the state's world-leading climate and clean air legislation (<https://nextgenpolicy.org/blog/heres-deal-californias-world-leading-climate-clean-air-legislation/>) into effect. The Air Resources Board (CARB) will determine how the state meets its target to reduce heat-trapping pollution 40 percent by 2030 and whether we are positioned to reach zero net emissions by 2050, as the latest science (<https://nextgenpolicy.org/blog/can-we-hold-global-warming-to-well-below-2-degrees/>) shows is needed to prevent dangerous changes in our climate.

Recent commentary has ranged from a New York Times op-ed (https://www.nytimes.com/2017/12/12/opinion/california-climate-program-emissions.html?_r=0) with a headline screaming that "A Landmark California's Climate Program Is in Jeopardy," to a blog (<https://energyathaas.wordpress.com/2018/01/02/californias-carbon-cap-is-not-in-jeopardy-because-its-not-really-a-cap/>) by University of California economists arguing that the program shouldn't be called a cap at all. Dallas Burtraw, Resources for the Future's veteran climate economist, provides a more balanced (<http://www.rff.org/blog/2017/landmark-california-climate-program-enjoys-new-opportunities>) assessment.

Meanwhile the California Legislature is getting serious about its oversight responsibility. The Legislative Analyst's Office issued a report (<http://www.lao.ca.gov/Publications/Detail/3719>) noting that the Air Board has to make a number of key decisions this year that will determine how effective the program is over the next decade. Last week a hearing held by the Joint Committee on Climate Change Policies and the Assembly Natural Resources Committee delved into

(http://climatechange.policies.legislature.ca.gov/sites/climatechange.policies.legislature.ca.gov/files/Background%20Sheet_2) many of these issues, while the Senate Budget and Environmental Quality Committees are scheduled (<http://sen.v Senate.ca.gov/content/2017-18-informational-oversight-hearings>) to weigh in next week.

This post and the ones that follow provide a summary of some of NextGen California's recommendations (<https://www.arb.ca.gov/lists/com-attach/34-ctoct122017wkshp-ws-WjQHZFvU3RQMQJn.pdf>) for how to get the rules right.

Building on Success

The cap and trade market is one of many tools that the Air Resources Board plans to employ in order to fulfill their statutory requirement to cut carbon pollution in California. Until now, other factors besides the carbon market have done most of the work to drive major pollution reductions here. Polluters have found low cost ways to cut carbon pollution thanks to technological advancements in clean renewable electricity, effective direct regulations on polluters, and changes in our overall economy. That is great news for everyone involved!

But going forward, the Air Resources Board expects the cap and trade market to play a much larger role in driving pollution reductions. The Board recently finalized its Scoping Plan (https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf), which represents their best estimate of how California will meet our ambitious 2030 pollution reduction target. This plan identified a set of tools and measures that will help us get 62 percent of the way there. The Air Board expects the cap and trade market to create a strong enough incentive for polluters to find enough additional, cost effective ways to cut pollution to close the remaining 38 percent gap.

We are building on a great track record here and we have reason to be optimistic, but going forward, we are asking cap and trade to do much more work to drive pollution reductions than any carbon market has ever done before. For the market to succeed at this scale, the Air Resources Board will need to adopt market rules that accelerate the progress we are already seeing in California.

We have a head start. Now what will we do with it?

We are ahead of schedule for hitting our 2020 pollution reduction target, so we have a great opportunity to leverage that head start to help achieve our (much more ambitious) 2030 target. But that also means that a large number of carbon allowances exist that no polluter has any need for: pollution in our economy is lower than the amount allowed by the current carbon market. And those extra allowances (sometimes called “overhang” allowances) could cause problems down the road.

Some economists estimate (<https://www.nytimes.com/2017/12/12/opinion/california-climate-program-emissions.html>) that the overhang is so significant that, if polluters buy them all up and hold onto them for too long, they could effectively erase the effect of the cap and trade market entirely. In a worst case scenario, polluters could buy allowances no one needs today and slowly turn them in later, as the cap tightens, instead of cutting emissions. If enough polluters did this, we could get to 2030 and, instead of being ahead of the game, like we are today, we could end up polluting more than our laws allow, and giving ourselves an even more difficult task cutting carbon pollution after that.

This worst case scenario need not materialize – in fact it is unlikely that it will if California continues to take more bold steps to build our clean energy economy. For example, we could adopt a 100 percent clean energy standard with SB 100 (<https://twitter.com/i/moments/908467790495051777?lang=en>), or we could transition to 100 percent clean cars with AB 1745 (<https://a19.asmdc.org/press-releases/20180103-assemblymember-ting-introduces-clean-cars-2040>). These and other policy changes could reduce the amount of pressure on the cap and trade market to drive additional pollution reductions, and help make reaching our targets more certain. In addition to these policy changes that may come through the legislature, the Air Resources Board also has the ability to strengthen pollution reduction standards and make changes to the cap and trade market rules as we go along.

But decisions we make about the market design today will seriously affect how difficult the challenge is in coming years. And what we do about the overhang allowances may be one of the most consequential of these decisions.

The Board should therefore take steps now to ensure that these extra allowances don't undermine the market's ability to move the needle on pollution later. These changes should include making fewer allowances available at future auctions to compensate for the overhang. In other words, CARB should set lower pollution caps for 2021 through 2030 to ensure that we build on our head start, rather than let it slip away. The rules CARB sets to govern allowance “banking” will also affect the extent to which unused allowances could come back to haunt us, as discussed in the next section.

Regulating the Bank

One important feature of California's cap and trade program is the ability to hold unused emission allowances for use in a future year. In some ways, banking rules are the other side of the same coin as the overhang issue – rules about what you can do with excess allowances matter just as much as how many excess allowances there are in the first place. The ability to bank allowances gives polluters the ability to protect themselves from carbon market volatility and schedule their allowance purchases to match their business cycle. Excessive banking, however,

particularly by speculators who don't need allowances for compliance, could increase carbon market volatility and near-term prices. Excessive use of banked allowances could make it harder for us to hit our 2030 pollution reduction target and divert California from the pathway it needs to follow to get to zero net emissions by 2050.

AB 398 requires CARB to “[e]stablish allowance banking rules that discourage speculation, avoid financial windfalls, and consider the impact on complying entities and volatility in the market.” CARB should meet this obligation by setting banking rules that prevent cap and trade allowances from being used as high-yield/low-risk financial instruments.

One option is to adjust the compliance value of banked allowances by an amount proportional to the rate of increase in the auction floor price. For example, if 100 allowances are purchased in 2017 when the reserve price was \$14, and held until 2022 when the reserve price has risen to \$28, the 100 banked allowances could be surrendered for a compliance value of 50 tons. As Dallas Burtraw of Resources for the Future [points out \(http://www.rff.org/blog/2017/landmark-california-climate-program-enjoys-new-opportunities\)](http://www.rff.org/blog/2017/landmark-california-climate-program-enjoys-new-opportunities), a similar approach was proposed by the Bush Administration in its Clean Air Interstate Rule.

Ensuring Cost-Effective Performance

The premise of any cap and trade market for carbon pollution is that competition in the market, and the desire to make a profit will drive polluters to innovate and develop better, lower-cost ways to deliver the services we rely on that produce less pollution. But the market can only drive cost-effective changes in technology when it creates a clear, strong signal to polluters. The cap and trade market drives pollution reductions by showing polluters that it is in their own financial best interest to develop new, lower-cost ways to cut pollution, rather than buy more pollution allowances in the carbon market.

The law that governs our cap and trade market, AB 398, requires the Air Resources Board to place some limits on how high allowance prices can go, and how quickly prices can change. Specifically, the Board must set a limit on how high allowance prices can go (a “price ceiling”) and establish two other price containment points (sometimes called “speed bumps”) that, if reached, would trigger the release of additional allowances into the market.

Done correctly, these requirements can help ensure that the cap and trade market can operate smoothly over the long term and can help protect Californians and industries from temporary price spikes in the market. But if the price ceiling and the speed bumps are set at too low a price, they can reduce the market's ability to drive technological change and pollution reductions through the price discovery process.

In addition to these measures to limit market prices, the Board also employs a price floor to ensure that polluters are forced to pay at least a portion of the costs their pollution imposes on society.

The Board should use its authority to set the price ceiling and speed bumps at high enough levels to let the market function as effectively as possible, and increase the price floor to a level that reflects the full costs imposed on society by carbon pollution – costs that we all have been bearing on polluters' behalf for the last 150 years. Conservative estimates of these costs range from \$50 to \$60 per ton of carbon pollution between 2020 and 2030 (in 2017 dollars), but the true costs may be between \$145 and \$180, or potentially [much higher \(https://www.nature.com/nclimate/journal/v5/n2/full/nclimate2481.html\)](https://www.nature.com/nclimate/journal/v5/n2/full/nclimate2481.html). The Air Resources Board should set a price floor that reflects a conservative estimate of these costs, and consider a price ceiling that is some multiple of the price floor and reflects a higher-impact estimate of the social costs of greenhouse gases.

Whatever price ceiling the Board adopts, the Board should also carefully analyze whether the ceiling price is high enough to enable the market to incentivize pollution reductions at the levels we will need in order to meet our 2030 pollution reduction targets.

Keeping it Real (as well as permanent, quantifiable, verifiable, enforceable, & additional)

Polluters regulated by California's cap and trade program may use “offsets” instead of emission allowances from within the cap to cover part of their emissions. Offsets are projects to reduce emissions from sources not covered by California's emissions cap that are supposed to represent emission reductions that are “real, permanent, quantifiable, verifiable, enforceable, and additional.”

Offsets are controversial because they can substitute for direct emission reductions from pollution sources that affect local air quality and because determining whether project-based emission reductions are genuinely “additional” to what would have otherwise occurred is an inherently uncertain process. AB 398 restricts the use of offsets for compliance purposes to no more than 4 percent of each covered entity's compliance obligation from 2021 through 2025 and no more than 6 percent from 2026 through 2030, of which no more than one-half may be sourced from projects that do not provide environmental benefits in the state.

The offset provisions adopted in AB 398 reflect concern by the Legislature that the use of offsets could dilute or undermine the benefits of cap and trade in California, particularly in disadvantaged communities. CARB should respond to these concerns not simply by applying the mandated numerical limits, but also by reexamining its offset protocols to increase confidence that offsets are indeed providing benefits to California, and in particular that offset credits represent greenhouse gas emission reductions from uncapped sources that are additional to any