

Why California's Cap-and-Trade Program Works

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When just 11 percent of available permits were sold at a recent auction of emissions allowances in California, detractors of the state's cap-and-trade program argued that it deserved a failing grade. To the contrary, California's cap-and-trade program has been working as designed and intended since its launch in early 2012.

Remember, the goal of a cap-and-trade program is to reduce pollution. Ideally, the economy would respond to such a program by using less fossil fuels and emitting less greenhouse gases—and that's what has been happening in California. In fact, carbon emissions are falling faster than anticipated, and the state has been lauded as an international leader in pioneering smart and workable environmental solutions that produce results. Ultimately, this means that the demand for emissions allowances decreases, which is what we've seen in the state.

So the reduction in demand for allowances observed in the recent auction is in part a result of the program's success. Other factors are state and local government companion policies that aim to reduce carbon emissions from specific technologies and recent uncertainty about the future of the program. Pending legal challenges cast doubt on the longevity of the program, further dampening the demand for emissions allowances.

Of course, a decline in the sales of emissions allowances also results in a decline in revenue that is directed to programs that reinforce the state's climate policy. For example, these missing revenues would fund

direct customer dividends in the electricity sector, energy efficiency programs for low-income households, and also California's high-speed rail. Although revenue is not the main goal of the cap-and-trade program, detractors have cited the decline in revenue as a failing. However, if the legislature wanted to fund these related programs, it could do so directly. Further, when uncertainty about the program's future is resolved, it is likely that revenues from allowance sales will bounce back. And if they don't, that means the emissions in the state have continued to fall. Who can argue with that kind of success?

Companion Climate Policies

California's climate policies that serve as companions to carbon pricing under cap and trade contribute importantly to achieving emissions reductions. These programs certainly deserve ongoing scrutiny to ensure that they are effective and not too expensive. So far, they not only have helped reduce emissions in the short run but also promote innovation and infrastructure investment in the long run by targeting activities that may not be responsive to carbon pricing policies. This is especially necessary and evident in sectors with substantial long-lived infrastructure requiring coordination and planning that are not triggered by a modest carbon price. Overall, such companion policies to carbon pricing as described below are imperative to achieving emissions reduction goals.

» **Renewables:** Whereas the concern in the electricity sector 15 years ago was that the cost of renewables might make even a 5 percent market penetration difficult, the current worry is about how to integrate

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50 percent or more penetration—a nice problem to have. The issue of coordinating traditional and renewable electricity systems could not be seriously imagined or addressed until penetration of renewables became substantial. Today, the Renewable Portfolio Standard has made the role for renewables evident and revolutionized the future of the electricity system in California and throughout the West.

» **Fuels:** A moderate carbon price does not affect the life cycle impacts of transportation fuels or justify substantial investment in technology and new infrastructure, so the Low Carbon Fuel Standard addresses the long-run challenge of fuel innovation and infrastructure coordination. It provides an economic justification for research and deployment of electric vehicles and alternative liquid fuels. It also requires new infrastructure to be in place so that consumers can reliably change their transportation habits, incentivizing infrastructure investment.

» **Planning:** Electricity and transportation overlap through electrification of the transportation sector as well as land use planning and building standards to reduce transportation and electricity energy needs. The provisions of the Sustainable Communities and Climate Protection Act (SB 375) give incentives for local governments to incorporate greenhouse gas impacts in their long-run planning activities.

Spurring Infrastructure Development

Policies related to infrastructure development, such as creating a network of electric vehicle charging stations, promote innovation and initiate and guide strategic investments in California's low-carbon economy. Because of the persistent underpricing of climate change externalities, such policies are necessary to reinforce and amplify the signal given by the carbon price.

Infrastructure policies coupled with other narrowly prescribed measures and standards aimed at the performance of specific

technologies help shape the physical performance of the economy and alter the investment environment in the western United States. For example, funding for high-carbon projects is more expensive because those investments become more risky, and funding for innovative, low-carbon technologies becomes less expensive because of infrastructure-level policies.

Moving Ahead

In the end, California's cap-and-trade program works because it was designed well. It provides decisionmakers flexibility in choosing creative measures to reduce emissions, and it addresses long-term needs that support a healthy economy. It was crafted to include a price floor, or minimum price for emissions allowances, to help ensure the efficacy and stability of the program. (Note that some such programs, as in the European Union, were not designed with a price floor, and there unbridled falling prices have threatened the future of the carbon pricing mechanism.)

All existing carbon pricing programs today, including California's, rely on a carbon price that is well below the US government's social cost of carbon or the price that most economists think is necessary to spark a transformation of the economy. Yet California's cap-and-trade program, with its reliance on companion policies and focus on the future, is arguably the most well designed in the world and serves as a template for other new programs. ●

FURTHER READING

Burtraw, Dallas. 2016. The Fertile Middle Ground. Policy brief 16-05. Washington, DC: RFF.

Burtraw, Dallas. 2016. Forget Cap and Trade's Detractors, California's Carbon-Pricing Works. *Los Angeles Times*, June 23.

Burtraw, Dallas. 2016. To Lead on Climate California, Needs Its Whole Arsenal. *Sacramento Bee*, July 3.