



EMMETT CENTER ON
CLIMATE CHANGE AND
THE ENVIRONMENT
UCLA SCHOOL OF LAW

RULES OF THE GAME *RECAP*

Examining Market Manipulation, Gaming and Enforcement in California's Cap-and-Trade Program

In August 2011, the Emmett Center on Climate Change and the Environment at UCLA School of Law examined California's proposed cap-and-trade program for greenhouse gas emissions. Our report found that the program is well-designed and unlikely to lead to market manipulation. We made several minor recommendations for improving the program design. We have since reviewed the program as adopted and find our conclusions still apply: the California Air Resources Board (CARB) has designed a cap-and-trade program that should avoid gaming and market manipulation problems sometimes seen in other programs.

California's cap-and-trade program begins auctioning allowances in November 2012. In reviewing California's regulatory design, we paid special attention to lessons learned from other cap-and-trade and market-based regulatory efforts, including the SO₂ trading program implemented under the Clean Air Act; the RECLAIM program used to trade NO_x and SO₂ allowances in Southern California; and the trading of carbon emissions in the European Union (EU ETS).

The following highlights our report's top conclusions in light of developments in the trading program.

Auctions promote liquidity and fair pricing

CARB's quarterly allowance auctions will help strengthen and stabilize its cap-and-trade program. An auction gives firms a chance to see the value others put on allowances and to form an idea of about how much a ton of emissions will cost them. Without an auction, lack of price transparency increases the risk of market manipulation.

Requiring Investor Owned Utilities (IOUs) to sell all their allowances (which they receive for free) through the quarterly auction ensures that a large proportion of allowances will be auctioned and establishes a liquid, or "thick," market with sufficient buying and selling to help limit price volatility.

Additional allowances intended to cover the transportation fuels market will be auctioned beginning in 2015. Auctioning these allowances is key to maintaining a liquid market.

Public utilities should also be encouraged to consign their allowances to auction, which is currently allowed but not mandated under the regulation.

Penalties are adequate to deter noncompliance

CARB has structured its penalties to discourage underreporting, deter noncompliance, and penalize rule violators. In California's trading program, an entity that does not cover its emissions with allowances must purchase 4x that amount in allowances as a penalty.

Because this penalty rises with the price of allowances, it provides a strong incentive to comply. CARB also reserves the right to assess penalties "for any obligation contained in [the regulations] that result in a violation." This penalty structure compares favorably with those of other successful programs.

Auction purchase limit and entity holding limits will decrease the potential for 'cornering the market.'

Many financial markets use holding limits to assure that participants are not able to manipulate markets. Holding limits typically prescribe a maximum ownership that no market participant can exceed.

We agree with CARB that holding limits are generally a good idea in this context. Holding limits appear to be a good solution to market-power based manipulation.

Once the market is functioning, CARB should, however, assess whether its holding limit is functioning as intended.

Tight security over accounts and individual allowance tracking minimize the risk of fraud and gaming

All accounts in the program are controlled and can be monitored by CARB. Allowances are serialized, allowing for tracking. RECLAIM, in comparison, lacked this key enforcement mechanism. Allowances are generated only by CARB and can be retired only by CARB. Each of these measures serves to tighten the security of the program and minimize the risk of fraud and gaming.

CARB has time to address the future of the program

It is critical that CARB address the future of its trading program (beyond 2020) by the end of the first compliance period (2015).



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Has CARB learned lessons from examples of fraud and noncompliance in other trading programs?

CARB has learned lessons from other trading programs that should help it avoid similar problems.

Fraud in EPA's renewable fuels program depended on participants' ability to generate their own credits, subject only to limited spot checks by EPA. This type of fraud would be difficult in California's program, because CARB controls generation, retirement and trading of credits.

Thieves used a phishing scam to log into company carbon credit accounts in the EU ETS and steal allowances. Although computer security is an ongoing concern, California's tighter control over account registrations and trading will likely limit the potential success for this type of theft.

Reliance on allowance giveaways, instead of auctions, led to windfall profits for certain entities in the EU ETS. California's mix of free and auctioned allowances should mitigate the potential for windfall profits.

During an allowance price spike in 2000–2001, some RECLAIM sources openly violated their allowance limits. These sources found it more profitable to pay penalties than to adhere to their allowance limits. In contrast, penalties in California's GHG trading program scale with the market price of allowances, obviating the potential gains from this type of noncompliance.

CARB has taken strong steps towards enforcement and verification

CARB regulations promote verifiable, consistent and transparent compliance. The definition of a “material fact”—a fact that “could probably influence a decision” by CARB—is appropriately broad, which should strengthen CARB's ability to require accurate reporting by regulated entities.

The definition of “Resource Shuffling” broadly prohibits a variety of schemes that aim to generate “hot air”—counting emissions reductions that have not in fact occurred.

We did identify ways in which CARB could further strengthen its underreporting penalties and its verification and monitoring protocols. See our full report for more details.

The combination of the Reserve Allowances and the auction price floor should help constrain allowance prices within a reasonable range

The quarterly allowance auctions begin with a \$10 auction price floor, which increases each year by 5% plus inflation. Allowances unsold at a quarterly auction are withheld from the market until two consecutive auctions exceed the price floor. By decreasing allowance supply when auction prices are low, this mechanism effectively sets a known minimum value on allowances.

Reserve Allowances can be purchased a few weeks after each auction at fixed price tiers. These fixed price tiers begin at \$40 / \$45 / \$50 and increase each year by 5% plus inflation. Reserve Allowances thus place a soft ceiling on allowance prices.

Market simulation and market surveillance should help address problems with the trading market and improve the market design

The University of California Energy Institute has agreed to establish a market simulation group and a market surveillance committee to study California's GHG trading market. Simulation and surveillance of the trading market helps to identify the potential for market manipulation and gaming, improve market design and assess the impact of market rules on trading. Third party market monitors have been used in the SO₂ and EU-ETS trading markets. Focus on market surveillance is consistent with the recommendations in our report.

The Emmett Center on Climate Change and the Environment at UCLA School of Law was founded as the nation's first law school center focused exclusively on climate change. The Emmett Center is dedicated to studying and advancing law and policy solutions to the climate change crisis and to training the next generation of leaders in creating these solutions. The Center works across disciplines to develop and promote research and policy tools useful to decision-makers locally, statewide, nationally and beyond.

Bowman Cutter, Professor of Economics at Pomona College, and M. Rhead Enion, Ann Carlson and Cara Horowitz, faculty at UCLA Law, authored *Rules of the Game*. For more detail, see our full report at <http://goo.gl/lZox9>.