



Evaluating Experience with the Cost-Containment Reserve & Ideas for the Future

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Resources for the Future

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A LEARNING SESSION TO EVALUATE
THE RGGI COST-CONTAINMENT RESERVE



Why Cost Containment?

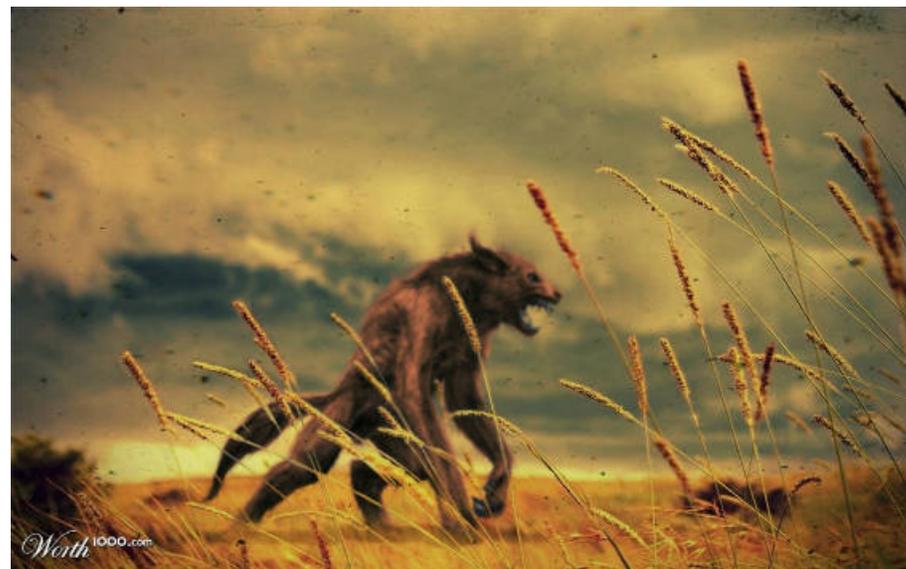
- Prices in a market-based program are uncertain. In RGGI:
 - One finds volatility of natural gas prices and electricity demand.
 - Uncertain operation of existing nuclear fleet.
 - Program investments in energy efficiency help reduce emissions.
 - Federal and state programs provide incentives for development of renewables
- Possibility for a slack cap going forward is real.
- Intuition and economic research indicate that investors, and consumers benefit from avoiding sudden extreme outcomes.
- If cost containment measures are triggered, it serves as a signal to program planners to evaluate program design while the program continues to function.

Design of Cost Containment in RGGI

- Cost containment is two-sided.
- On the *low side* a price floor is implemented with a reserve price in the auction.
 - The reserve price is the minimum acceptable bid. If market prices (and buyer willingness to pay) is below the reserve price, then some portion of allowances will not be sold or enter the market. Tighter supply will support the price.
 - “Just like eBay!”
 - In 2016 the reserve price is \$2.10 and escalates at 2.5% per year.
 - California and Quebec offer an alternative design, with a price floor that increases at 5% per year in addition to inflation.
- On the *high side* a cost containment reserve provides an additional quantity of allowances that can be purchased. That secondary auction has a reserve price also, which serves as a “trigger price” for the additional allowances.
 - The CCR triggers prices: \$4 in 2014, \$6 in 2015, \$8 in 2016, and \$10 in 2017. Each year after 2017, the CCR trigger price escalates by 2.5%.
 - Going forward up to 10 million allowances per year are available and additional to those in the primary auction. If these allowances were exhausted then prices would continue to rise. Thus far the CCR has added 15 million allowances to the market.
 - In contrast, California and Quebec populate their cost containment reserve (if necessary) by borrowing from future years from under the cap.

Cost Management in Trading Programs

Price Spikes are like **Rougarou** – the seldom seen creature from the French Alps



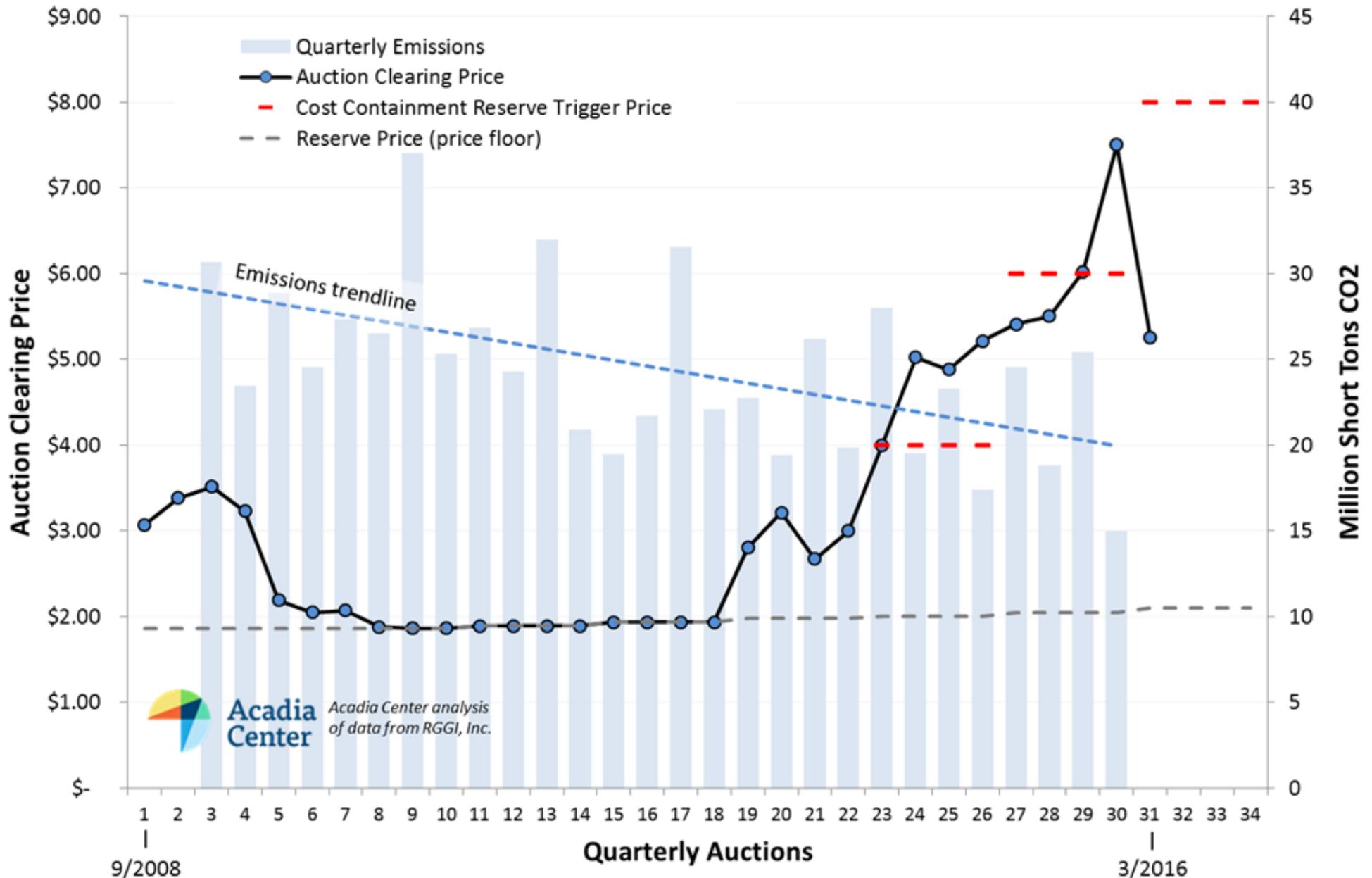
Price Declines are the commonly observed phenomenon. Why?

- Political pressure tends to “over-allocation”
- Program spending may complement goals (EU, RGGI, Alberta)
- In general, “complementary” policies are common *worldwide*
- Incentive-based regulation (carbon prices) lead to innovation!

Experience

- In RGGI both low and high side provisions have been triggered.
- The auction reserve price (price floor) is especially important. It gave the RGGI program buoyancy when there was “over-allocation.”
- RGGI’s price floor was partly a consequence of observing wild price volatility in the EU Emissions Trading System Phase 1, with prices finally falling to zero.
- RGGI’s price floor had historic relevance in the design of Waxman-Markey, in California and Quebec, and now in the proposal from France in the EU.
- In the last program review, the price floor was not adjusted but a 2.5 percent per year escalation factor was added.
- The cost containment reserve was introduced in the 2012 program review.

Experience with Allowance Prices



Perspectives on the Price Floor

- Murray and Maniloff (2015) find the RGGI emissions cap accounts for about half of the emissions reductions in the region since 2009. The other half is due to recession, complementary environmental programs and lowered natural gas prices.
- The price floor played a crucial role in realizing the RGGI program contribution to emissions reductions.
 - Prices may have fallen to zero with the floor and the program architecture may not have survived.
 - Roughly a billion dollars were raised when prices were at the floor, funding program related measures and preserving expectations about future carbon limits.
 - Analysis Group (2011, 2015) show substantial economic benefits in the region resulting from auction revenues.

Perspectives on the Cost Containment Reserve

- The California approach populates its CCR (if necessary) by borrowing allowances from future compliance periods and from allowances unsold in the auction (e.g., due to the price floor).
- While firm-level borrowing may be a problematic idea due to moral hazard (firms may go bankrupt, or gain an incentive to lobby harder for loose caps), program-level borrowing from under the cap appears less problematic.
- Expectations for the Clean Power Plan may have affected prices.
- Question for respondents:
 - Do price collars become focal and shape expectations?
 - Or, do they change potential price dynamics and push prices away from the triggers?

RGGI Trading Options Under the Clean Power Plan

- Trade-ready states can trade if they use the same tracking system.
- RGGI can continue to use its tracking system and license it to states with whom it wants to trade.
- RGGI can use this provision to ensure that its trading partners have similar program designs that reinforce RGGI goals:
 - For example, inclusion of existing plus new sources?
 - Aligned price floor or cost containment reserve?

The Clean Power Plan and the Cost Containment Reserve

- The Clean Power Plan (CPP) is not stringent for RGGI.
- Most observers anticipate that RGGI would use a single compliance instrument for both programs (RGGI allowances = CPP allowances).
- Relevant to the CPP is what are total emissions under RGGI.
 - Let's describe (RGGI cap + CCR) as **total possible emissions**.
- To have a *trade-ready emissions standards* approach under the CPP, then total possible emissions have to be less than the CPP budget.
 - If RGGI's total possible emissions were greater than the CPP budget, then RGGI would seemingly have to use a *state measures* approach under the CPP and indicate backstop measures to guarantee the emissions outcome.
- Questions for respondents:
 - Might broader trading under the CPP reduce the need for cost management?
 - Does the CCR introduce uncertainty for potential CPP trading partners?

The Clean Power Plan and the Price Floor

- Firms may want to purchase CPP allowances from other states if their price is below the price floor.
 - This could cause emissions inside the RGGI region to exceed the RGGI budget.
 - RGGI would lose co-benefits from reduced air pollution.
 - RGGI would lose auction revenue.
- RGGI probably could not interfere with interstate trading of the CPP compliance instrument (CPP allowances)
- Question for respondents:
 - Should RGGI consider eliminating the price floor if it trades with other states?
 - Should RGGI trade only with states that have a price floor?

Preserving RGGI's Design within the CPP

- RGGI could continue to limit emissions in its region by using *two* compliance instruments:
 - RGGI allowances would conform with existing provisions of the program.
 - A tradable CPP allowance would be issued for free and accompany the issuance of every RGGI allowance.
- Emissions in RGGI could not exceed the RGGI cap, but they could be less than the RGGI cap if firms sold CPP allowances to other states.
 - Auction prices in RGGI might increase reflecting the value of the free CPP allowance on the interstate market.
 - If sales to out-of-state occurred there could be additional auction revenue in RGGI.
 - Auction prices in RGGI could not fall below RGGI's price floor.
- Question for respondents:
 - Would two compliance instruments yield benefits for RGGI states and compliance entities under the CPP?

RGGI Leadership in National Policy

- EPA cannot compel states to cover new sources under the Clean Power Plan (although RGGI does so already!).
- Two types of leakage under the CPP may result:
 - Leakage to states that use a rate-based approach.
 - Leakage from existing to new sources.
- RGGI could potentially make its “headroom” under the CPP available to influence program design nationally:
 - RFF modeling indicates that CPP allowance prices in RGGI and other states where policies have promoted emissions reductions already will be less than in states that have not begun to reduce their emissions.
 - RGGI might make its CPP headroom available to other states that adopt an appropriate program architecture (e.g. cover new sources).
 - Making CPP headroom available would constitute “leakage” of emissions reductions achieved in RGGI, but could reduce emissions nationally.
- Question for respondents:
 - Should RGGI consider its potential influence on program design in other states?

Questions for Discussion

- Do price collars become focal and shape expectations?
- Or, do they change potential price dynamics and push prices away from the triggers?
- Might broader trading under the CPP reduce the need for cost management?
- Does the CCR introduce uncertainty for potential CPP trading partners?
- Should RGGI consider eliminating the price floor if it trades with other states?
- Should RGGI trade only with states that have a price floor?
- Would two compliance instruments yield benefits for RGGI states and compliance entities under the CPP?
- Should RGGI consider its potential influence on program design in other states?